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Information for Society:
Towards a Critical Theory of
Intellectual Property Policy

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_____ (July 1999). American Association of Law Libraries. Annual Meeting Conference Panelist. "Information Policy at the Crossroads: The Challenge of Globalization." (Washington D.C.).

_____ (2000). "Organizational Theory in Library and Information Science Education," *Journal of Education for Library and Information Science* 41(2): 129-142

_____ (2001). "Jurisdictional Disputes and the Unauthorized Practice Of Law: New Challenges for Law Librarianship," *Legal Reference Services Quarterly* 20(4): 1-18.

_____ (2001). "When is a Use a Fair Use? University Liability for Educational Copying," *portal: Libraries and the Academy*, 1.1: 47-57.

_____ (2001). "Standpoint Epistemology as an Alternative Methodology for Library and Information Science." *Library Quarterly* 71 (3): 360-382.

_____ (July 2001). American Association of Law Libraries. Annual Meeting Conference Panelist, "New Realities in Data Protection: The Trans-Atlantic Debate." (Minneapolis, Minnesota).

_____ (November 2001). Canadian Digital Libraries Symposium, "Anti-circumvention Rules and Their Impact on Digital Libraries." (Toronto, Ontario).

_____ (March 2002). Baldy Center, University at Buffalo, Workshop On Technology, Legal Information, and Legal Knowledge "The Database and the Fields of Law: Are There New Divisions of Labor?" (Buffalo, New York).

_____ (2002). "The Future of Fair-Use in the Electronic Environment" In Sigrun Klara Hannesdottir [Ed.], *Global Issues in 21st Century Research Librarianship* (pp. 463-483) Helsinki: NORDINFO.

ABSTRACT OF THE DISSERTATION

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by

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Current trends in intellectual property policy are examined as part of the broader social theory relating to information and society. The underlying framework that informs intellectual property policies are rooted in a set of assumptions about the nature and character of information, information technology, and information work that relies on notions of economic efficiency, and which results in pressures for heightened levels of commodification and proprietary restrictions on the use and dissemination of information. Because information can now be used and distributed without the previous limitations of its physical container, the current economic model of copyright that is premised on scarcity and physical limitations needs to be reconceptualized. While

advances in information technology enable the enhanced production, dissemination, and use of information resources, proprietary restrictions constrain the potentialities of these advances.

The drive towards *sui generis* legislation for databases is presented as a case study that exemplifies the expansionary nature of the contemporary intellectual property policy environment. The economic efficiency model that informs current policies is explained and critiqued, and a critical theory of intellectual property policy is proposed in its place. The alternative theory is rooted in Marxian political economy, and is centered on an analysis of the commodity form as applied to information. The contradiction between use-value and exchange-value, present in any commodity, is particularly acute in the case of the information commodity because of the non-rivalrous nature of information. The proposed theory also applies the labor theory of value and the concept of surplus value to information production, considers the contradiction between the forces of production and the relations of production in advanced informational capitalism, and argues for the need to decouple the notions of innovation and economic incentives. Relying on the commodity exchange theory of Evigeny Pashukanis, the critical theory of intellectual property policy seeks to avoid the limitations associated with both liberal pluralist and orthodox instrumentalist theories of policy analysis.

Concluding that the proprietary trend in intellectual property policy, as exemplified by the drive towards *sui generis* database legislation, acts as a fetter on the productive forces of society, an alternative set of copyright rules is proposed.

Introduction

I. Problem Statement

Recent advances in information technology have enabled the enhanced production, dissemination, use, and transformation of information resources to an extent unimaginable a quarter of a century ago. The convergence of computers and telecommunications, the proliferation of networks, and the broad diffusion of the basic tools of information technology facilitate the transfer of information and the production of new knowledge. Crucial to this process is the emerging ability of information resources to be created, stored, accessed and reutilized without the physical limitations of their traditional containers. The resulting benefits to the process of research, innovation, and creativity in all branches of the arts and sciences flow, in no small part, from the accessibility of a vibrant informational commons, a vast pool of information resources that may be accessed and used by the public without diminution.

But while advances in information technology enable the enhanced production, dissemination, and use of information resources, intellectual property laws impose restrictions that constrain the potentialities of these advances. Contemporary intellectual property policy is rooted in a particular set of assumptions, about the nature and character of information, information technology, and information labor, that relies on notions of economic efficiency and which results in pressures for heightened levels of commodification and proprietary restrictions on the use and dissemination of information. These tendencies have been evidenced by a series of policy initiatives designed to enhance the ability of intellectual property owners to impose the logic of the

market in an ever-widening number of instances, further enclosing the informational commons. While the historical justifications for intellectual property restrictions, largely rooted in utilitarian considerations of efficiency, show increasing signs of strain in the digital age, the predominant policy response has been to broaden proprietary rights in information at the expense of the traditional rights of users. Furthermore, contemporary intellectual property law has been outpaced by a technology that undermines both the legal framework and the underlying economic theory it is based upon.

Therefore, a new theoretical framework is needed in order to inform the development of an intellectual property policy appropriate for a society that is both technologically advanced and just. In place of market-based efficiency analysis, an approach rooted in neo-Marxian political economy and critical social theory would provide a better match between the rules governing the use and dissemination of information with the developing productive forces in society.

II. Justification

This study is particularly timely because a wide range of information policies are now under consideration that will have long-term effects on how information is conceptualized, created, organized, retrieved, used, disseminated, and transformed in society. These policy outcomes will have an enormous impact over issues such as promoting high levels of technological innovation, providing equitable access to information resources, and encouraging the transformative uses of information into new sources of knowledge. These elements may be thought of as constituting a society's "collective symbolic capacity."¹ If it is evident that contemporary society is experiencing

a period of rapid technological, economic and social transformation, then this awareness should heighten policy makers' sensitivity to the need to understand more about rapidly shifting phenomena.

But the opposite has been the case. While policy decisions are now being considered that will have serious long-term implications, the policy process itself seems devoid of significant critical analysis about the nature of the transformations that are occurring and the essentially social character of these processes. The current policy environment, that has been characterized as an “intellectual property epidemic” (Litman, 1994) and as a “legal feeding frenzy,” (Halbert, 1999) is reviewed in chapter 2.

This theoretical impoverishment, along with the reification² of information, is manifest in a failure to challenge, indeed to promote, the rampant commodification and proprietary enclosure of information and ultimately of knowledge. The celebratory market-based rhetoric of the new millennium needs to be tempered with a more self-conscious policy analysis before socially destructive policies are enacted. In particular, intellectual property law needs to be reconceptualized in a critical mode. But a prerequisite for such reflexivity is the recognition of the inter-relationships between public policy and an underlying set of social theoretical values.

III. Theoretical Framework

A three dimensional theoretical framework is employed. The first dimension focuses on two conflicting theories about the relationship of information and society—the *information society model* and the *information-for-society model*. Given these alternative frameworks, the second dimension of the study uncovers the empirically observable

developments, trends, similarities and differences that flow from the assumptions of the two models; and ultimately mediates which model is better suited in its ability to promote innovation, ensure democratic access to information, and increase the collective symbolic capacity of society.

The theoretic bridge required to traverse between these two dimensions is presented in chapter 4, which seeks to articulate a critical theory of intellectual property policy. The theory is rooted in four core components and a methodological approach derived from critical Marxian theory:

- an analysis of the commodity form as applied to information;
- an analysis of the labor theory of value as applied to informational or intellectual labor;
- an analysis of the mode of production in advanced capitalism, focusing on the interaction between the relations of production and the development of productive forces in the contemporary networked environment;
- an analysis of the concept of alienation as applied to informational or intellectual labor;

The introduction of these categories within the context of a critical theory of intellectual property policy follow a methodological approach rooted in Marx's concept of the dialectic. The appropriateness of this method for this particular study will be addressed in the methodology section below.

IV. Objectives and Research Questions

The overarching goal of this study is to explain the current trends in intellectual property policy as part of the broader social theory relating to information and society. To accomplish this goal, it is necessary to look beneath positive legal texts for the underlying framework and assumptions that inform contemporary intellectual property policy. Such policy is rooted in a particular set of assumptions (about the nature and character of information, information technology, and information work) that relies on notions of economic efficiency, and which results in pressures for heightened levels of commodification and proprietary restrictions on the use and dissemination of information. Because information can now be used and distributed without the previous limitations of its physical container, the current economic model of copyright that is premised on scarcity and physical limitations needs to be reconceptualized. While advances in information technology enable the enhanced production, dissemination, and use of information resources, proprietary restrictions constrain the potentialities of these advances.

A new theoretical framework is needed in order to inform the development of an intellectual property policy appropriate for a society that is both technologically advanced and concerned about broad access to information resources. In place of market-based efficiency analysis, an approach rooted in neo-Marxian political economy would provide a better match between the rules governing the use and dissemination of information with the developing productive forces in society.

While many scholars have sounded alarms about the expansionary trends in intellectual property policy, the proponents of increased proprietary interests argue they are proposing incremental changes only insofar as they are necessary to update an outmoded legal regime for the digital age. A deeper comprehension of the essential nature of these policy shifts needs to be developed. To facilitate this understanding, the six objectives of this study are:

- to identify a body of empirical evidence that demonstrates the nature and extent of the expansionary tendencies in contemporary intellectual property policy;
- to identify the underlying theoretical assumptions that historically have informed intellectual property policy;
- to situate these developments and assumptions within a broader social theoretical framework that reflects the dominant assumptions of the *information society* model, and to contrast this relationship with the alternative *information-for-society* model;
- to construct an alternative theoretical model of intellectual property policy that is rooted in concepts of political economy that is able to explain shifts in intellectual property policy as an instance of changing relations of production in advanced capitalism;
- to show that these shifting relations of production, visible as a proprietary drift in the commodification of information, comes into increasing conflict

with the goals of promoting innovation, ensuring access to information, and therefore acts as a fetter on the productive forces of society;

- to identify and construct a set of policy alternatives that is consistent with the goals of promoting innovation and ensuring access to information, and utilizing advances in information technology towards the attainment of these goals.

To accomplish these six objectives, the following research questions are posed:

- What empirical evidence can be gathered that demonstrates how contemporary intellectual property policy may be characterized as expansionary?
- What are the underlying theoretical assumptions have traditionally informed intellectual property policy?
- How are these developments and assumptions related to a broader social theoretical framework that reflects the conflicting assumptions of the *information society* and *information-for-society* models?
- What are the components of an alternative theoretical model of intellectual property policy that is rooted in concepts of political economy and that is able to explain shifts in intellectual property policy as an instance of changing relations of production in advanced capitalism;
- As a particular example of the proprietary drift in intellectual property policy, how would *sui generis* database legislation conflict with the goals

of promoting innovation and ensuring access to information, thereby acting as a fetter on the productive forces of society?

- How would the alternative theoretical model of intellectual property policy be implemented in the case of copyright law in a manner that is consistent with the goals of promoting innovation and ensuring access to information?

As areas for further research beyond the present study, the critical theory of intellectual property policy may be applied to various issues within copyright law (*e.g.*, technological protections, term extension, licensing, and the tension between moral and economic rights), as well as to issues in patent, trade secret and trademarks.

V. Thesis

The general thesis of this work is that:

Contemporary intellectual property law has been outpaced by a technology that undermines both the legal framework and the underlying economic theory it based on, requiring a new theoretical framework rooted in political economy to harmonize the use and dissemination of information with the developing productive forces in society.

The general thesis gives rise to a research program that seeks to develop a materialist account of intellectual property policy centering on the contradiction between the developing productive forces in society and the developing relations of production. To illustrate an application of this broader research program, this work will consider the general area of copyright law with a particular focus on the issue of *sui generis* database legislation.

As a particular application of the alternative theoretical framework, a specific thesis of this work is that:

Sui generis database legislation, as an instance of shifting relations of production, would hamper the goals of promoting innovation and ensuring access to information, thereby acting as a fetter on the productive forces of society.

VI. Methodology

This study is situated within the critical-historical research paradigm and consists of empirical and theoretical components. This critical research strategy is consistent with a research logic that Morrow and Brown (1994) characterize as *intensive explication* and *comparative generalization*.³ The interrelationships between ideas and data, and between the theoretical and the empirical, are important elements of this research strategy.⁴

An empirical investigation of the contemporary intellectual property environment will begin with a general overview of recent developments, followed by an intensive case study of the attempts to extend statutory copyright-type restrictions to databases and factual compilations. The case study will rely on analysis of domestic and international policy documents, court decisions, legislative materials, news accounts, organizational websites, and other texts reflecting the positions of the various stakeholders and policymakers.

A. What is a “Case Study”

Charles Ragin (1992, pp. 7-8) argues that while “the precept of case analysis is fundamental to the conduct of social science,” various social scientists have fundamentally different answers to the question “What is a case?” In order to provide “a

conceptual map for linking different approaches to the question of cases” (*id*, p. 11), Ragin divides case research into four categories based on two dichotomies: (1) whether cases are seen as involving empirical units or theoretical constructs; and (2) whether they are understood as specific or general (1992, p. 8). Ragin associates the first dichotomy (empirical units *v.* theoretical constructs) with the ontological distinction between realism and nominalism. He argues that while realists believe there are empirically verifiable cases “out there,” nominalists think cases are theoretical constructs are theoretical constructions that exist primarily to serve the interests of investigators. While the realist sees cases as either given or empirically discoverable, the nominalist sees cases as the consequences of theories or of conventions” (*id*).⁵

The second dichotomy, relating to the generality of case categories, contrasts instances of general categories that are external to the research process with specific case designations that are developed in the course of research. Ragin associates this second dichotomy with the quantitative *v.* qualitative distinction in the social sciences: Cases in quantitative research exist as conventionalized, generic categories independent of any particular research effort while cases in qualitative research coalesce as specific categories in the course of the research (*id*, p. 9).

However, the strategy of inquiry underlying the proposed case study does not fit neatly under either the nominalist/realist or qualitative/quantitative dichotomies. The critical research paradigm adopts a critical realist ontological perspective and rejects the qualitative/quantitative split as a false dichotomy (Morrow and Brown, 1994).⁶

Yet as Ragin is careful to qualify his dichotomies as rough categories used merely to develop a conceptual map, his classification scheme is still helpful to the definition of case studies utilizing critical perspectives. In terms of his four-quadrant categorization, the present study is most analogous to the construction of theoretical categories understanding that specific cases are constructed. The subject case study is more of a theoretical construct than a study of a discrete empirical unit, coinciding with Ragin's third quadrant and his observation that "researchers in this quadrant see cases as specific theoretical constructs which coalesce in the course of the research" (1992, p. 10). Following this approach, Michel Wieviorka (1992) emphasizes the close relationship between theory and observation that exists within a case:

"For a 'case' to exist, we must be able to identify a characteristic unit, whose unity is given (at least initially) in concrete historical experiences. This unit must be observed, but it has no meaning in itself. It is significant only if an observer can refer to an analytical category or theory. It does not suffice to observe a social phenomenon, historical event, or set of behaviors in order to declare them to be 'cases.' If you want to talk about a 'case,' you also need the means of interpreting it or placing it in a context" (1992, p. 160).

By emphasizing how the 'case' brings theory and practice together Wieviorka distinguishes his conception of case research from both the purely empirical study, and pure philosophy.

B. The Case Study as Dialectical

This emphasis on the close relationship between theory and practice along with the need to avoid purely empirical research, on the one hand, and purely speculative philosophizing, on the other, is closely associated with the Marxian dialectic approach. Bertell Ollman (1993, p.10) characterizes dialectics as "a way of thinking that brings into

focus the full range of changes and interactions that occur in the world,” and he rejects the notion that dialectics is “a rocked-ribbed triad of thesis-antithesis-synthesis that serves as an all purpose explanation” (*id*). Ollman's distinction between dialectical and non-dialectical research is also useful to show why the dialectical method is appropriate for this study. With non-dialectical research, “one starts with some small part and through establishing its connections tries to reconstruct the larger whole” (*id*). But with dialectical research, “one starts with the whole, the system, or as much of it as one understands, and then proceeds to an examination of the part to see where it fits and how it functions, leading eventually to a fuller understanding of the whole from which one has begun” (*id*, p. 12).

The theoretical framework for this study is premised first on the juxtaposition of two conflicting theories about the relationship of information and society; and second, on an investigation of empirically observable phenomena flow from the assumptions of the two models. Inasmuch as the resolution of the tension between the two models requires traversal between the whole and the parts, the dialectical approach seems particularly well suited to this inquiry.⁷

C. Casing: Operationalizing the Study from Whole to Part

The dialectical movement from the whole to the part may be operationalized in a case study through a process that Ragin calls “casing:”

“...consider cases not as empirical units or theoretical categories, but as the products of basic research operations. Specifically, making something into a case or “casing” it can bring operational closure to some problematic relationship between ideas and evidence, theory and data. Casing, viewed as a methodological step, can occur at any phase of the research process, but occurs especially at the beginning of a project and at the end. Usually a

problematic relation between theory and data is involved when a case is declared” (1992a, p. 218).

Ragin points to Wievorka’s research as an example of how casing proceeds within a case study in a top down manner.⁸ In the present study, the procedure of casing may be conceptualized as follows:

- The first casing involves building two competing ideal typical models, the *information society* model and the *information for society* model.
- The second casing involves an inquiry into the general intellectual property policy environment.
- The third casing involves detailed analysis of *sui generis* database legislation, a subset of the problem discussed in the second casing.
- The fourth casing involves the theoretical bridge, the development of a critical theory of intellectual property policy.
- The fifth casing considers the policy implications and implementation of the critical theory of intellectual property policy as an aspect of the *information-for-society* model, an instance of returning to the whole from the parts.

VII. Organizational Plan

In order to accomplish the objectives and answer the research questions, this study will proceed according to the following organizational plan.

Chapter 1 will review the origins of the idea of the *information society* and ask how these social and historical concepts relate to the notion of the *post-industrial society* and other attempts to describe the transformations of the late 20th century? In particular,

the chapter will look at the question of how the term “information” became central to the project of labeling and defining a new era. The two theoretical models, the *information society* and *information-for-society* models identified in the introduction, will be constructed by analyzing each of the seven strands of the model.

The three primary purposes of chapter 2 are to investigate the contemporary intellectual property policy environment, to show how it is situated within the *information society* model, and to provide an empirical basis for the theories that will be developed in the following chapters. It will begin with a general overview of recent developments in the area of copyright law, and then focus on the extension of statutory copyright-type restrictions to databases and compilations of facts. This case study will provide a detailed analysis of proposed *sui generis* database legislation in terms of its causes as well as its anticipated effects, *i.e.* how will its various provisions affect the work of users of information resources engaged in scholarly, artistic, scientific and other innovative activities. Chapter 2 will conclude by placing these developments within the context of the *information society* model outlined in chapter 1.

Chapter 3 will review the “efficiency model” of intellectual property policy, and make the argument that it is in need of a critical reformulation. The efficiency model, rooted in the theories of positive economic analysis, has become the predominant conceptual framework that drives contemporary intellectual property policy. The chapter will then consider recent intellectual property literature (often referred to as “cyberlaw”) and make the argument that while much of this work has been critical of the expansionary intellectual property regime; it stops short of breaking with positive

economic analysis. This discussion will be followed by a brief overview of the theoretical conflicts between competing theories of law, and the introduction of an alternative to the efficiency model, the commodity-exchange theory. The chapter will conclude by situating the debate over database legislation within the various theories of law reviewed.

In Chapter 4, the critical theory of intellectual property policy⁹ will be constructed. The theory is based on the premise that the contemporary proprietary drift in intellectual property law is contrary to the goals of promoting innovation, ensuring access to information and enlarging society's collective symbolic capacity, and hence unsustainable. This chapter provides the theoretical bridge, using the observations from the case study in a way that can mediate between the two competing conceptual models. The theory is generally situated within the tradition of Critical Legal Studies and is specifically rooted in the commodity-exchange theory. The chapter will conclude by situating the theory within the *information-for-society* model. By way of conclusion, Chapter 5 will consider the policy implications of the critical theory of intellectual property policy, and how the theory may be implemented.

Endnotes to Introduction

- ¹ Manuel Castells (1989, p. 15-16) points to the close relationship between a society's symbolic capacity and its developmental process in what he terms the informational mode of development: "The more a society facilitates the exchange of information flows, and the decentralized generation and distribution of information, the greater will be its collective symbolic capacity. It is this capacity which underlies the enhancement and diffusion of information technologies, and thus the development of productive forces."
- ² Reification may generally be defined as "the act (or the result of the act) of transforming human properties, relations and actions into properties, relations and actions of man-produced things which have become independent and which are imagined as originally independent of man and which govern his life" (Petrovic, 1983).
- ³ Morrow and Brown explicitly reject the qualitative/quantitative dichotomy. By *intensive*, they refer to the case study of individuals, mediations or systems. By *explication*, they mean "empirically lifting into view the underlying semantic, sociocultural and structural relations that are constitutive of such actors, mediations and systems" (1994, p. 212). The patterns disclosed through such intensive explication are in turn compared across a set of historically comparable actors, mediations, or systems so that limited generalizations may be made. By "actors, mediations, or systems," Morrow and Brown are referring to three levels of analysis, the social psychological analysis of individuals, the systemic analysis of social structures and the sociocultural analysis of mediations or social practices (*id*, p. 215). The current study is concerned with the second and third levels of analysis. At each of these three levels, the authors account for the differences between extensive accounts of causation (rooted in the logic of social engineering), and intensive accounts consisting of individual explication coupled with comparative generalization (rooted in the logic of social theorizing).
- ⁴ Brown and Morrow's approach is derived from C. Wright Mills' (1953) distinction between macroscopic and molecular research. Using Mills' work as a foundation, Morrow and Brown distinguish the underlying normative logic of a model based on *social engineering* from a model of inquiry based on *social theorizing*. While the former represents the predominant variable based methodology, the later is expressed as the desire to not only comprehend, but also to transform the social relations constituting society. The current study is rooted in the later viewpoint.
- ⁵ Burrell and Morgan (1979) situate the differences between the realist and nominalist viewpoints as the first element of the subjectivist/objectivist dichotomy that frames debates in social science and provide a similar description of the difference between the realist and nominalist positions. The realist, or objective view, sees the social world as external to the individual. This external world is real, is composed of structures that exist as measurable entities, and exists independent of any human perception of it. On the other hand, the nominalist or subjective view admits reality as the result of individual cognition. The individual creates the social world and gives names to phenomena in a metaphoric sense to help negotiate and make sense of this socially constructed world. To the nominalist, the objective view of reality makes the error of reifying these constructs by taking the metaphors literally.
- ⁶ Morrow and Brown argue that the "predominant distinction between quantitative and qualitative methods in sociology serves primarily to conceal and confuse theoretical positions" (1994, p. 207). The distinction focuses attention on the "*techniques* through which social life is represented in the course of research, as opposed to the process of representing social reality" (*id*). They argue that

the dichotomy is false and lacks face validity, pointing out that ethnographers do count things and that quantitative research is based on constructed meanings. The primary difference between the two poles is the language of research, and this, they argue, is not an adequate criterion for such an absolute differentiation of research forms (*id.*, p. 208).

⁷ Ollman (1976, p. 61) also points out that the dialectic is a way to organize and present findings as well as a method of inquiry and a way of viewing the world. This dialectical approach to the presentation of findings also informs the Organizational Plan, discussed below.

⁸ Wieworka worked on a research project, directed by Alain Touraine that began with the objective of studying social movements (the first casing). The specific interest was “new social movements of post-industrial society” (the second casing defines the study as a subset, distinguishing the new social movements from the social movements of industrial society) in the post-industrial era. The third casing limiting the movement to be studied to “terrorist groups,” since this presents the conflicts of post-industrial society in its most extreme form. The fourth casing limited the type of terrorist group to be studied and the fifth casing narrowed the type of specific empirical evidence to be collected. The sixth casing emerged from the analysis of the structured evidence gathered as a result of the fifth casing and involved an inductive formulation of a theory about the terrorists studied. Ragin points out that in each of the casings, ideas and evidence interact. However, “in each casing more and more of the empirical work was pruned from the analysis” 1992a, p. 224).

⁹ The broader concept of “policy” is emphasized instead of the term “law.” For reasons that will be developed throughout this chapter, intellectual property “law” should be considered a component of the broader concept of intellectual property “policy.” And the latter is a component of the yet broader concept of information policy. For the relationship between information policy and public policy, see Braman (1990) and Burger (1993).

Chapter 1: The Information Society and Information for Society Models

Contested Visions of the "Information Society"

It is becoming a truism to say that society is undergoing rapid technological, social and economic change. Such transformations necessarily raise important issues of public policy, and indeed often outpace the ability of policymakers to comprehend emerging phenomena, much less purposively intervene in their development in an appropriate manner. Public policies do not exist in a vacuum, nor do they arise *a priori* in the minds of enlightened legislators. Rather policymaking is imbedded in an interconnected matrix of social, economic, political and technological factors; it is a socially constructed phenomenon.

Much of contemporary society's discourse is premised on certain unquestioned assumptions about the relationships between information technology and social and economic changes. The basic assumption is that society has passed into the *information age*, a manifestation of Daniel Bell's theory of *post-industrial society* based on a transformation caused by dramatic advances in information technology. The terms *information society* and *information economy* have also entered into popular usage, indicating a generally held belief that a new type of society is emerging. Rapid technological advances centered on the convergence of computers and communications and the resulting growth of digital networks fuel this belief. The popular acceptance of these terms is similar to that of the *atomic age* or *space age* of an earlier generation. As historian Theodore Roszak (1994, p.19) observed, "[e]very historical period has its godword. There was an Age of Faith, an Age of Reason, an Age of Discovery. Our time

has been nominated to be the Age of Information.” The popular notion is that we live in the information age and the attendant worldview can be termed the *information society model*.

While not always explicitly stated, the assumptions underlying the idea of the *information age* or the *information society* have important consequences for information policy. These assumptions can be identified along various strands and constitute an ideal-typical formulation of mainstream information society theory:

- (1) Methodological and epistemological commitments based on a scientific, positivistic, and value-neutral outlook;
- (2) An over-simplistic account of the nature of information that privileges information as a quantifiable thing;
- (3) An uncritical acceptance of information technology as a neutral and autonomous force acting as an independent determinant of other social processes;
- (4) A sharp break with the industrial past in a way that privileges the present period as overly exceptional;
- (5) An uncritical acceptance of the “free market” as the ideal allocative mechanism for the production and distribution of information, leading to the imposition of a broad range of new technological and legal restrictions for proprietary interests in information goods and services;
- (6) An unduly optimistic account of how new information technologies will affect social stratification, the division of labor in society and individual work processes;

(7) An implicit assumption, best characterized as the “End of Ideology Thesis,” that negates the need for critical inquiry and leads to the uncritical acceptance of the above strands of what may be called the mainstream ideology of the information age.

Yet when these underlying assumptions are critically interrogated, they each turn out to become contestable. The uncritical acceptance of this *information society model* is based on a particular reading of social history that also results in policy outcomes that are highly problematic. In particular, the *information society model*, when applied to the area of intellectual property, yields policy outcomes that exacerbate the tension between the private ownership of information and knowledge resources and the promotion of innovation. This tension also threatens democratic access to information and the growth of society’s “collective symbolic capacity.”¹⁰

Thus, an alternative framework must be posited in order to enable and inform public policies that will continue to promote innovation, ensure democratic access to information and enlarge society’s collective symbolic capacity, thereby pointing to what Pamela Samuelson (1996b, p. 2042) calls the need for “a social theory of the information society.”

A set of corresponding assumptions may be juxtaposed to those of the *information society* model, providing a critical alternative to mainstream information society theory:

- (1) Positivistic and scientistic outlooks are rejected in favor of a critical epistemological and methodological framework that recognizes the value-laden nature of the production of knowledge.

- (2) The over-simplistic account of the nature of information is rejected in favor of a broader definition that emphasizes meaning, knowledge and understanding. Information is seen as a socially constructed phenomenon, not as an engineering concept.
- (3) The instrumental theory of technology is rejected in favor of the normative theory that views technology as reflective of other social, cultural, economic and political relations. Rather than privilege technology as an independent determinant of other social processes, it is seen as but one of several mutually dependent factors that influence social change.
- (4) Rejecting the view of the information age as in sharp rupture with the industrial past, informatization is viewed as a reflection of the logic of capitalist relations and as an outgrowth of global restructuring of production. Notwithstanding rapid technological advances, this approach emphasizes continuity with the past.
- (5) An unwavering reliance on the “free-market” allocation model is rejected in favor of an approach rooted in the tradition of Marxian political economy. The public provision of information goods is viewed as a social goal while the current trend towards expanding proprietary interests in information is viewed as problematic.
- (6) A critique of the widening stratification in the ‘information society’ accompanies a less optimistic viewpoint of the impact of technology on the

labor process. The question of antagonistic class relations in society, and how they may be shifting, is explicitly recognized.

- (7) Rejecting the “End of Ideology Thesis” the critical model explicitly recognizes the dominant “ideology of the information age” as a form of hegemony.

These seven pairings (summarized in Table 1.1) give rise to two competing theories, the *information society model* and the *information-for-society model*. Inasmuch as these conflicting models are rooted in fundamentally contradictory assumptions about the nature and characteristics of information and its role in society, their juxtaposition provides a useful lens for information policy analysis.

Table 1.1: A Comparison of the Assumptions of the *Information Society* and *Information-for-Society* Models

	Information Society Model	Information-for-Society Model
Metatheoretical Assumptions	Methodological and epistemological commitments are based on a scientific, positivistic, and value-neutral outlook. Normative logic is based on social engineering.	Positivistic and scientific outlooks are rejected in favor of a critical epistemological and methodological framework that recognizes the value-laden nature of the production of knowledge. Normative logic is based on social theorizing.
The Nature and Characteristics of Information	An over-simplistic account of the nature of information privileges information as a quantifiable thing. Information is an engineering concept.	A broader definition of information emphasizes meaning, knowledge and other non-quantifiable factors. Information is a social construction.
Philosophy of Technology	Instrumental theory sees technology as a neutral and autonomous force acting as an independent determinant of other social processes along with a tendency towards technological determinism.	Substantive/normative theory sees technology as deeply imbedded in social, cultural economic and political relations. Technology is not an independent determinant of other social processes, but is part of a broader ensemble of social relations.
Historical Viewpoint	The discontinuity of history thesis sees a sharp break with the industrial past and has a tendency towards information-age exceptionalism.	The continuity thesis sees advances in information technology and related transformations as reflective of existing capitalist relations present under industrial society.

Table 1.1 (continued)

	Information Society Model	Information-for-Society Model
Economic Aspects of Information	The “free-market” is accepted as the ideal allocative mechanism for the production and distribution of information. The public goods nature of information is viewed as problematic instance of market failure. This problem is remedied through the imposition of a broad range of new technological and legal protections for proprietary interests for information goods and services	Reliance on the “free-market” allocation model is rejected in favor of an approach rooted in political economy. The public provision of information goods is a social goal that is consistent with the public goods nature of information. The trend towards expanding proprietary interests in information is viewed as problematic.
Stratification and Class	Optimistic accounts of the impacts of information technology on the division of labor in society and individual work processes accompany a de-emphasis of questions of stratification. Class as a viable social category is contested.	A critique of the widening stratification in society accompanies a less optimistic viewpoint of the impact of technology on the labor process. The question of antagonistic class relations in society, and how they may be shifting, is explicitly recognized.
Ideology	The <i>End of Ideology Thesis</i> negates the need for critical inquiry and leads to the acceptance of the above strands as the ideology of the information age.	A dominant ideology of the information age is recognized as a form of hegemony.

What are the origins of the idea of the *information society*? How are these social and historical concepts related to the notion of the *post-industrial society* and other attempts to describe the transformations of the late 20th century?

James Beniger (1986) points out that dozens of social commentators have tried to label this current period. But it is the term “information” that has stuck and become what historian Theodore Roszak (1994) calls the “godword” of our age. Most accounts of the information society begin by attributing the concept to Daniel Bell, whose 1973 work, *The Coming of Post Industrial Society: A Venture in Social Forecasting*, was a culmination of more than a decade of writing and research on the subject.¹¹ But four years earlier, a 1969 work by Alain Touraine, *La Societe Post-Industrielle*, presented a different account of the historical transformations then underway. Even though both works bore the title “Post-Industrial Society,” Bell focused on technical rationality and stability while Touraine emphasized growing uncertainty and conflict. Even after Touraine’s work was published in English in 1971 with the subtitle, *Tomorrow’s Social History: Classes, Conflicts and Culture in the Programmed Society*, it received little attention compared to Bell’s opus. As Bell’s work is central to the *information society* model, Touraine’s is foundational to the *information-for-society* model.

Initially, Bell downplayed the idea that he was describing an existing social reality. In his introduction to *The Coming of Post-Industrial Society*, he described the work as “an essay in social forecasting” (1973, p. 3), particularly a “social forecast about a change in the social framework of Western society” (*id.*, p. 9). To achieve this result, he employed the notion of a conceptual schema:

“Social frameworks are not ‘reflections’ of a social reality, but conceptual schema... A conceptual schema selects particular attributes from a complex reality and groups these under a common rubric in order to discern similarities and differences. As a logical ordering device, a conceptual schema is not true or false but either useful or not” (*id*).

Later in the introduction, Bell repeated his assertion that he was writing about a future scenario, not describing reality:

“I am writing what Hans Vahinger called an ‘as if,’ a fiction, a logical construction of what *could* be, against which the future social reality can be compared in order to see what intervened to change society in the direction it did take” (*id*, p. 14).

But as Bell lays out his five dimensions of post-industrial society, these claims become tenuous. It becomes clear that he is attempting to describe an existing reality, one based on an inevitable trajectory determined by advances in information technology. The five dimensions of post-industrial society were first given as:

- “1. Economic sector: the change from a goods-producing society to a service economy;
2. Occupational distribution: the pre-eminence of the professional and technical class;
3. Axial principle: the centrality of theoretical knowledge as the source of innovation and of policy formulation for the society;
4. Future Orientation: the control of technology and technological assessment;
5. Decision-making: the creation of a new ‘intellectual technology’” (*id*).

Regardless of Bell’s intent, his portrayal of post-industrial society has taken on substantive meaning going well beyond the “venture in social forecasting” that was the

subtitle of his 1973 book. Harris and Hannah (1993, p. 25) argue that Bell was successful in “molding” the future as well as “predicting” it:

“ . . . part of the reason for his success has to be situated in the uncommon ability of the ‘astute social theorist’ to state his vision in ways that would at once appear to offer solutions to major problems facing a society gripped by ‘severe self-doubt’ while at the same time offering a reasoned explanation that, despite its contradictions and faults, appeared to resonate with the experience of vast numbers of people.”

In a subsequent essay entitled “The Social Framework of the Information Society,” Bell (1980) explicitly linked post-industrialism to what he now termed the *information society*. But in the 1980 essay, only three fundamental dimensions are identified. First is the change from a goods-producing to a service economy. The second dimension is the centrality of the codification of theoretical knowledge as a driving force in society. Bell calls this dimension the “axial principle” of the post-industrial society, noting that when theoretical knowledge is “codified” it becomes the “director of social change” (1980, p. 501).

The third fundamental dimension is the creation of “intellectual technology” as the key tool of production. By “intellectual technology,” Bell refers to methods that seek to substitute an algorithm, or decision rules, for intuitive judgments. These algorithms represent a “formalization” of judgments and their routine application to varied situations. Bell says that to the extent that intellectual technology is becoming predominant in the management of organizations and enterprises, it is as central a feature of postindustrial society as machine technology was in industrial society (1980, pp. 504-505).

By the end of the 1970's, post-industrial theory was taking on a new tone, one more responsive to the growing rightward drift, and this change was reflected in the shift to the notion of the *information society* (Dyer-Witheford, 1999, p. 21). Whereas postindustrialism had defined the new era in terms of its departure from the crises of industrialism, information society theory gave the shift a more substantive content, one more attuned to the climate of Thatcherism and Reaganism. Nick Dyer-Witheford argues that symptomatic of the new tone is the way Bell recast his earlier arguments about postindustrialism, dropping two of the five original "dimensions of the post-industrial society," those relating to the professional class and to the enlarged scope of government planning and public policy. Dyer-Witheford suspects this deletion was a reflection of the rightward political shift and growing hostility to the role of government (1999, pp. 21-22, n. 30). David Lyon (1988, p. 2) observed that while the postindustrial thesis had been subject to intense criticism, "its resilience is shown by the fact that it can be re-cycled as 'the information society.'"

By the late 1980's any pretext of Bell's claim to scenario building (as opposed to describing reality) was gone. In 1989, Bell writes that "post-industrial society is not a projection or extrapolation of existing trends in Western society; it is a new principle of socio-technical organization and ways of life" (1989, p. 167).

Another seminal work defining the information society model is Zbigniew Brzezinski's (1970) *Between Two Ages: America's Role in the Technetronic Era*. The author explicitly adopts an analysis rooted in technological determinism:

"The transformation that is now taking place . . . is already creating a society increasingly unlike its industrial predecessor. The post-industrial

society is becoming a "technetronic" society: a society that is shaped culturally, psychologically, socially, and economically by the impact of technology and electronics - particularly in the area of computers and communication" (1970, p. 9).

Brzezinski distinguishes the role of knowledge in the industrial and technetronic societies. In the industrial society, technical knowledge was applied primarily to the end of acceleration and improvement of production, with social consequences a secondary concern. But in the technetronic society:

"scientific and technical knowledge, in addition to enhancing production capabilities, quickly spills over to affect almost all aspects of life directly. Accordingly, both the growing capacity for the instant calculation of the most complex interactions and the increasing availability of biochemical means of human control augment the potential scope of consciously chosen directions and thereby also the pressures to direct, to choose, and to change" (1970, p. 10).

While crediting the earlier work of Daniel Bell as pioneering, Brzezinski preferred the terminology *technetronic* to *post-industrial* since it conveys more directly the "character of the principal impulses for change in our time" (*id*, p.9). But unlike Bell, Brzezinski made no pretext that he was doing anything but describing an emerging social reality. Bell tries to distance himself from Brzezinski on the grounds that the "shaping nature or primacy of the 'technetronic' factors implies a technological determinism which is belied by the subordination of economics to the political system" (1973, p. 38). But despite such differences, Bell and Brzezinski share a general vision of the relationship between information and society.

Like Bell and Brzezinski, Alain Touraine (1971, p. 3) acknowledged the formation of a new type of society:

“These new societies can be labeled post-industrial to stress how different they are from the industrial societies that preceded them, although – in both capitalist and socialist nations –they retain some characteristics of these earlier societies. They may also be called technocratic because of the power that dominates them. Or one can call them programmed societies to define them according to the nature of their production methods and economic organization. This last term seems to me the most useful because it most accurately indicates the nature of these societies’ inner workings and economic activity.”

But unlike Bell and Brzezinski, Touraine emphasized the potential social conflicts in the new society:

“There are new social conflicts peculiar to the society we observe being formed. Rather than simply a conflict between capital and labor, the new conflict is between the structures of economic and political decision-making and those who are reduced to dependent participation. We could use other terms and say that the conflict is between those segments of society which are central and those which are peripheral or marginal” (*id*, p. 9).

In a review of the 1976 edition of Bell’s *Coming of Post-Industrial Society*, Touraine (1977, p. 471) criticizes Bell’s purposeful indifference to the role of social actors:

“[Bell] speaks of economy, politics, and culture, but society itself is an empty stage, without actors. We hear about institutions, not about power; about cultural works, not about movements; about production or inflation, not – or almost not – about about transnational corporations, generals, unemployed workers, women, blacks, or old people. Such an absence is not a consequence of indifference or ignorance. It is purposeful.”

In a subsequent work, Touraine (1988, p. 25) identifies social actors as the source of growing conflict:

“I believe that we are entering into a type of social situation defined by the growing ability of collectivities to act upon themselves, especially in those places where power no longer resides in the imposition of forms of work but primarily, and mostly, in the setting of a way of life, forms of behavior and needs. One could speak of a hyperindustrial society in the sense that large

organizations, beyond the realm of production, slowly assert their domination over nearly all aspects of social life, from information to health, from research to urban planning. If this hypothesis is correct, we must expect the emergence of new actors and new social conflicts everywhere.”

Jorge Schement and Leah Lievrouw (1987, p. 1) made the observation that the information society concept has been powerful because it lends itself to broad social theorizing. In order to show how theorists diverge on these issues, Schement and Lievrouw point to essays in their collection by Herbert Dordick and Herbert Schiller as exemplars of different social theoretical approaches to information society research. Dordick (1987, p. 19) presents an optimistic assessment of how the convergence of computers and communications is creating a new “network marketplace.” Dordick comments that, “[m]any societies throughout the world, and especially in the United States, seem to be ready for this transformation. Driven by human nature and abetted by technological opportunities, we seem to be moving towards a highly privatized way of life” (*id.*).

Herbert Schiller (1987) presents a less optimistic account of these changes, pointing out that information channels are increasingly in the hands of large corporations. For Schiller, the commercialization of information weakens the public's access to information and deepens information inequality in society (1987, p. 30). Schiller spoke of increasing information equality a decade before the term “digital divide” became a widely discussed concept.

In response to the disparate analysis of Dordick and Schiller, Schement and Lievrouw (1987, p. 38) offered a “middle ground perspective:”

“We propose a third interpretation of the origins of information society, in which we describe a social structure that is capitalist and industrial, but distinctly oriented to information. We see the information phenomena as historically significant, but reject the notion that the social patterns in an information society represent a break from those of the industrial period. Instead, we propose that the information phenomena reflect the continuing evolution of industrial capitalism, which has resulted in an information-oriented society in the United States.”

While Schement and Lievrouw present their analysis as a "third view," their analysis also stands as a precursor to the *information-for-society model* presented here as an alternative to mainstream information society theory. The disparate visions of post-industrial society presented by Bell, Brzezinski and Dordick, on the one hand, and Touraine, Schiller, Schement and Lievrouw on the other, are foundational to the two competing paradigms of social theories of information and society that are considered in this chapter.

Schement and Lievrouw (1987, pp.159-60) summarized their work by posing the question: “What is the pervasive logic of information-oriented industrial society?” They state that what remains to be done is to identify how, and to what extent, the logic of industrial capitalism has been modified. The construction of the *information-for-society model* is an attempt to address various aspects of this issue.

I. The First Strand: Meta-Theoretical Assumptions of the Models

A. Burrell and Morgan's Metatheoretical Framework

What are the meta-theoretical assumptions underlying the two models of information and society? This question will be answered using the framework developed by Gibson Burrell and Gareth Morgan (1979).¹² They present a two-dimensional framework for social science based on certain assumptions about (1) the nature of social

science, and (2) the nature of society. The nature of social science is conceptualized as four sets of assumptions, each located along a subjective/objective dimension. The nature of society is conceptualized along an order/conflict continuum.

1. Assumptions about the Nature of Social Science

The first set of assumptions about the nature of social science are ontological concerns about the nature of reality and are framed in what is termed the nominalist-realist debate (1979, p. 4). The realist, or objective view, sees the social world as external to the individual. This external world is real, is composed of structures that exist as measurable entities, and exists independent of any human perception of it. On the other hand, the nominalist or subjective view admits reality as the result of individual cognition. The individual creates the social world and gives names to phenomena in a metaphoric sense to help negotiate and make sense of this socially constructed world. To the nominalist, the objective view of reality makes the error of reifying these constructs by taking the metaphors literally. To the realist, the subjective view of reality makes the error of ignoring these constructs.

The second set of assumptions are epistemological, and are concerned with the nature and grounds of knowledge. Burrell and Morgan call this issue the anti-positivism/positivism debate (*id.*, p. 5). Under the positivist view, knowledge is real and capable of transmission in tangible form. What happens in the social world may be predicted and even controlled based upon empirical observations grounded in the scientific method of inquiry. The more subjective view rejects the standpoint of the observer in favor of that of the participant. The utility of searching for laws or underlying

regularities, an understanding from the outside, is rejected in favor of understanding from the inside.

The third set of assumptions relates to the essence of human nature, characterized by Burrell and Morgan as the “voluntarism-determinism” debate (*id*, p.6). The deterministic view sees human activities as determined by situations and the environment. This view leads to the positioning of phenomena, such as technology, as independent variables that determine human responses. The more subjective, or voluntarist, position sees humans as autonomous agents endowed with free will. In this view, human will drives other social phenomena.

Finally, assumptions about methodology concern the manner in which one attempts to identify, gather and record knowledge of reality. Methodology may be seen as the bridge between the ontological and epistemological realms. The nomothetic, or objective view, utilizes the methods and procedures of natural science with an emphasis on quantitative analysis, standardized research instruments and the construction of clinical experiments as the tools of analysis of the social world. This view favors a deductive approach to inquiry. The more subjective, or ideographic, view attempts to get “inside” situations by attempting to understand the experiences and flow of the subject. Qualitative inquiry based upon personal history, interviews and case studies allows the subject to unfold in an individual manner. This view favors an inductive approach to inquiry and is not concerned with the testing of hypotheses.

2. Assumptions about the Nature of Society

Burrell and Morgan's second dimension, regarding the nature of society, is conceptualized as a debate between sociological approaches that emphasize order and equilibrium on the one hand, and those that emphasize change, conflict and coercion on the other (*id*, p. 10). They characterize these differences as between the "sociology of regulation" and the "sociology of radical change" (*id*, p.16-17).

The sociology of regulation is concerned with explaining the underlying cohesiveness of society. Its focus is the need to understand why society is maintained as an entity, *i.e.* why does society tend to hold together rather than fall apart? In contrast, the sociology of radical change is more concerned with the process of change, which is associated with conflict, domination, and contradiction:

“[It is] concerned with man's emancipation from the structures which limit and stunt his potential for development. The basic questions which it asks focus upon the deprivation of man, both material and psychic. It is often visionary and Utopian, in that it looks towards potentiality as much as actuality; it is concerned with what is possible rather than with what is; with alternatives rather with acceptance of the status quo” (*id*, p. 17).

Burrell and Morgan utilize these two dimensions to construct four distinct paradigms. While there are differences within each paradigm, Burrell and Morgan stress the underlying unity based on their location along both the objective/subjective and regulation /radical change dimensions.

The functionalist paradigm has been the dominant framework for most western social science. It is rooted in sociological positivism and the tradition of scientific inquiry.¹³ Theorists working in this tradition are concerned with providing explanations for social order and maintaining stability. The interpretive paradigm is concerned with

understanding the social world based upon subjective experience.¹⁴ The functionalist and interpretive paradigms differ in their ontological, epistemological and methodological approaches as well in their conceptions of human agency. However, neither seriously questions the status quo nor problematizes the role of social conflict induced by stratification and differential power relationships.

The radical structuralist paradigm utilizes an objectivist approach to social science towards the ends of radical change.¹⁵ In this view, historical laws determine structural relationships of the material world, a position characteristic of scientific Marxism. The radical humanist paradigm, also centered on social change, conflict, and a critique of the status quo, takes a more subjective stance.¹⁶

For Burrell and Morgan, the crucial difference between the radical structuralist and radical humanist paradigms is a paradigm shift between the philosophical works of the young Marx and the economism of the mature Marx. This duality between the young and mature Marx has been emphasized by numerous authors (Bell, 1959, 1973), but has also been highly contested by others who see continuity in his work (Fromm, 1961; Nicolaus, 1968, 1973; Gouldner, 1980). Alvin Gouldner makes the distinction between *Scientific Marxism* and *Critical Marxism* and argues that it is the proponents of the former who argue a break between the young and mature Marx (1980, p. 39). Instead of locating the split between these two paradigms in the period of Marx's writings, Gouldner locates the differences in the tension between determinism and voluntarism, and in their respective epistemological and ontological assumptions:

“Critical and Scientific Marxisms differ, then, in their most basic background assumptions: in their epistemologies, especially with respect

to the role of science as against critique, and with respect to their domain assumptions concerning the fundamental nature of social reality (i.e., their social ontologies). Critical Marxists stress an historicism that emphasizes social fluidity and change, a kind of organicism calling for the contextual interpretation of events; Scientific Marxists search out firm social structures that recur and which are presumably intelligible in decontextualized ways” (39-40).

Like Gouldner, Erich Fromm (1961) clearly rejects the notion of a discontinuity in Marx's work. He locates the impetus for the discontinuity view in the work of Russian communists but also quotes extensively from Daniel Bell (1959) as a non-communist example of this tendency. In the next section, the *information society* and *information-for-society* models are situated within Burrell and Morgan's general framework.

B. Situating the Two Models in the Framework

Table 1.2 summarizes the general assumptions of the two models in terms of where they are situated in Burrell and Morgan's meta-theoretical framework.

	Information Society Model	Information- for- Society Model
Ontological Assumptions	Realist	Critical realist
Epistemological Assumptions	Positivist	Anti-positivist
Assumption about Human Nature	Determinist	Voluntarist
Methodological Assumptions	Quantitative / Social engineering	Critical / Dialectical/ Social theorizing
Assumptions about the Nature of Society	Sociology of Regulation Order	Sociology of Change Conflict

Table 1.2: Situating the Two Models in the Meta-Theoretical Framework

The *information society* model is premised on methodological and epistemological commitments to a scientific, positivistic, and value-neutral outlook. It is oriented toward describing reality in a way that adopts a realist ontological approach.¹⁷ It adopts a determinist view of human nature, insofar as it elevates technology to an autonomous and independent force. This viewpoint is best illustrated by Brzezinski's (1970, p. 9) observation that the post-industrial, or technetronic society is shaped culturally, psychologically, socially, and economically by the impact of technology and electronics.

In terms of the nature of social science, the *information society* model is premised on the assumption that abundant information resources will promote stability and order.

This emphasis on calculability and order is best illustrated by Bell's comment that "[t]he goal of the new intellectual technology is, neither more nor less, to realize a social alchemist's dream: the dream of 'ordering' the mass society" (1973, p. 33). Conflicts associated with differential access to information are not considered a serious problem. As such, the *information society* model would be situated within Burrell and Morgan's dominant functionalist paradigm.

In contrast, the *information-for-society* model adopts a critical-realist ontological outlook and a non-positivist epistemological and methodological framework that recognizes the value-laden nature of the production of knowledge (Harding, 1998; Hess, 1997; Morrow and Brown, 1994; Mills, 1953). It takes a view of human nature that is decidedly voluntarist. As David Lyon points out, "the fact that human beings are reflexive creatures has to be incorporated within any pattern of human relationship" (1988, p. ix). Lyon expresses this agency-centered view in contrast to accounts "where technology apparently has the capacity to shape society in some autonomous fashion. . ." (*id.*).

In terms of the nature of social science, the *information for society* model is premised on a critique of the status quo; the emphasis is on how informatization is associated with conflict, not in how it generates stability. As such, this model is situated within what Burrell and Morgan would consider the radical humanist paradigm.

However, the critical research paradigm places less emphasis on the qualitative/quantitative dichotomy than do Burrell and Morgan. Morrow and Brown argue that the "predominant distinction between quantitative and qualitative methods in

sociology serves primarily to conceal and confuse theoretical positions” (1994, p. 207). The dichotomy focuses attention on the “*techniques* through which social life is represented in the course of research, as opposed to the process of representing social reality” (*id*). They argue that this dichotomy is false and lacks face validity, pointing out that ethnographers do count things and that quantitative research is based on constructed meanings. The primary difference between the two poles is the language of research, and such a difference, they argue, is not an adequate criterion for such an absolute differentiation of research forms (*id*, p. 208).

As an overall research program, this methodological outlook is based on a logic that Morrow and Brown (1994) characterize as *intensive explication* and *comparative generalization*.¹⁸ An important element of this logic is the relationship between ideas and data, between the theoretical and empirical. Brown and Morrow’s approach is derived from C. Wright Mills’ (1953) distinction between macroscopic and molecular research.

Mills points to Marx, Weber, Simmel and Mannheim as key macroscopic researchers:

“[They] like to deal with total social structures in a comparative way; their scope is that of the world historian; they attempt to generalize types of historical phenomena, and in a systematic way, to connect the various institutional spheres of a society, and then relate them to prevailing types of men and women” (1953, p. 554).

In contrast, molecular researchers work on small-scale problems using statistical models of verification:

“Molecular work has no illustrious antecedents, but, by virtue of historical accident and the unfortunate facts of research finance, has been developed a great deal from studies of marketing and problems connected with media

of mass communication. Shying away from social philosophy, it often appears as technique and little else” (*id*).

Mills emphasized that the differences between the two approaches are social as well as logical:

“Molecular work requires an organization of technicians and administrators, of equipment and money, and, as yet, of promoters. It can not proceed until agencies of research are sufficiently developed to provide detailed materials. It has arisen in definite institutional centers: in business . . . among marketing agencies; . . . in the polling agencies; in academic life at two or three research bureaus; and in research branches of government” (*id*, p. 555).

Using Mills’ work as a foundation, Morrow and Brown distinguish the underlying normative logic of a model based on *social engineering* from a model of inquiry based on *social theorizing*. While the former represents the predominant variable based methodology, the later tries not only to comprehend, but also to transform existing social relations.

The methodological outlook of the *information-for-society* model is closely associated with the Marxian dialectic approach. Bertell Ollman (1993, p. 10) characterizes dialectics as “a way of thinking that brings into focus the full range of changes and interactions that occur in the world,” and he rejects the notion that dialectics is “a rocked-ribbed triad of thesis-antithesis-synthesis that serves as an all purpose explanation” (1993, p. 10). Ollman's distinction between dialectical and non-dialectical research is also useful to show why the dialectical method is appropriate for this study. With non-dialectical research, “one starts with some small part and through establishing its connections tries to reconstruct the larger whole.” But with dialectical research, “one starts with the whole, the system, or as much of it as one understands, and then proceeds

to an examination of the part to see where it fits and how it functions, leading eventually to a fuller understanding of the whole from which one has begun” (p. 12).

II. The Second Strand: The Nature of Information

A. The Meaning of Information in the *Information Society*

In the *information society* model, information is seen as an engineering concept, something that is capable of quantitative representation within a formal system. In the *information-for-society* model, the over-simplistic account of the nature of information is rejected in favor of a broader definition that emphasizes meaning, knowledge and understanding. Information is seen here as a socially constructed phenomenon, not as an engineering concept. This difference has serious implications for information policy.

It is well recognized by most observers that great changes have occurred in the past few decades and that these have something to do with the importance of information and information technology in society. As Renate Holub (1992, p. 152) notes:

“The social and cultural organization of the contemporary USA [and other western nations] seems to be increasingly constituted by processes of informatization and technologization which radically transform the nature of our societies.”

But there is an increasing tendency to provide oversimplified accounts for these changes, beginning with how the term *information* itself is conceptualized. Carl Shapiro and Hal Varian's (1999, p. 3) definition of information provides an instructive example of this tendency:

“We use the term *information* very broadly. Essentially, anything that can be digitized - encoded as a stream of bits - is information. For our purposes, baseball scores, books, databases, magazines, movies, music, stock quotes and Web pages are all *information goods*. We focus on the value of information to different consumers. Some information has

entertainment value, and some has business value, but regardless of the particular source of value, people are willing to pay for information.”

But this definition is not broad. It is, in fact, extremely narrow in that it is limited to a specific type of format through which information may be conveyed. It assumes that all informational phenomena are capable of being expressed through binary logic. It also assumes that information is necessarily a commodity, capable of quantification in terms of money for purposes of exchange, an issue to be treated in depth in chapter 4.

Another definition worthy of note is Daniel Bell's attempt to define knowledge. Bell reviews Fritz Machlup's (1962) five-part classification of knowledge,¹⁹ rejecting it as overbroad for his purposes. He distinguishes between the need for a definition able to express societal change and a definition needed for purposes of social policy:

“An effort to deal with comprehensive societal change would need to take [definitions of knowledge such as Machlup's] into account. For the purposes of social policy, however -- the need to determine the allocation of societal resources for some specific purpose of social utility -- I would propose a restricted definition.” (Bell, 1973, p. 176).

This distinction between a definition suitable for "comprehensive societal change" and one for the purposes of "social policy" is curious inasmuch as Bell is presenting knowledge as the new driving force in society. Why would a narrower definition of knowledge suffice in the policy process? Does Bell envision the policy process as somehow disconnected from the broader process of social change?

Bell goes on to provide this restricted definition:

"Knowledge is that which is objectively known, an *intellectual property*, attached to a name or group of names and certified by copyright or some other form of social recognition (e.g. publication). This knowledge is paid for -- in the time spent in writing and research; in the monetary compensation by the communication and educational media. It is subject

to a judgment by the market, by administrative or political decisions of superiors, or by peers as to the worth of the result, and as to its claim on social resources, where such claims are made. In this sense, knowledge is part of the social overhead investment of society; it is a coherent statement, presented in a book, article, or even a computer program, written down or recorded at some point for transmission, and subject to some rough count" (*id*). (emphasis in original)

Bell acknowledges that “such a utilitarian definition . . . shuns the relevant questions of a 'sociology of knowledge': the social setting of ideas, their interconnections, their relation to some structural foundation, and the like.” But these questions, he says, "are outside my purview here" (*id*, p. 176-77).

Bell's definition of knowledge bears much in common with Shapiro and Varian's definition of information because it stresses an objectified thing that is capable of quantitative expression and ownership. These definitions provide a useful point of reference, as the words of these authors are symptomatic of a wider tendency within mainstream *information society* theory.

Information theory, with its roots in the hard sciences, was designed to provide a mathematical theory for electronic communication systems, particularly signal transmission. But this notion was generalized to include instances of human communication as well and thereby contributed to the foundation for later discussions about the “information society.”

Bell's notions of the “codification of theoretical knowledge” and his emphasis on the “centrality of intellectual technology,” are two crucial underpinning of his theory of post-industrialism. The notions of rational decision-making are rooted in mathematical conceptualizations of information and communications phenomena. Bell (1980)

explicitly links post-industrial theory to the idea of an “information age” in his essay, *The Social Framework of the Information Society*.

Proponents of the commodification of information as an aspect of post-industrialism have been strongly influenced by the formal information theory. Shannon and Weaver (1949) suggested a formalized definition of information capable of expression as a mathematical formula. But they were working only at a technical level, concerned primarily with the transmission of electrical signals. Nonetheless, their technical usage was soon applied to information problems in the realm of human communications and even became extended to questions of meaning. While many information theorists have since recognized this application as an over-extension of mathematical information theory, the concept retains some influence, especially where the values of technical rationality are dominant. This construction of information is rooted in what has been characterized as the logic of social engineering (Mills, 1953; Morrow and Brown, 1994).

Such influences are present in Shapiro and Varian’s definition of information as well as in Bell’s definition of knowledge. Indeed, this influence permeates the work of post-industrial/information society theorists. Two of the central tenets of Bell’s post-industrial thesis are the centrality of the codification of theoretical knowledge and the creation of intellectual technology as the key tool of production. By intellectual technology, Bell refers to methods that seek to substitute an algorithm, or decision rules, for intuitive judgments. These algorithms represent a “formalization” of judgments and their routine application to varied situations. Bell says that to the extent that intellectual

technology is becoming predominant in the management of organizations and enterprises, it is as central a feature of postindustrial society as machine technology was in industrial society (1980, pp. 504-505).

Those aspects of information that are rooted in the logic of social engineering, the technical and quantifiable, have tended to crowd out context-dependent meanings of information. Notions of information associated with personal knowledge and meaning have not fared as well in the predominant information paradigm. In discussing how logical empiricism treated social science as part of the logic of natural science, Giddens and Turner (1987, p. 2) observed that even though the subject matter of social science revolves around interpretative processes of culture and communications, “the notion of *Verstehen*, the understanding of meaning, received short shrift.” This general observation remains applicable to the construction of information in the *information society model*. The next section will highlight the gulf between the constructions of information in the two models by attempting to construct a definition of information.

B. Towards a Working Definition of Information

Starting from the premise that the meaning of the term *information* has been ambiguous, Michael Buckland (1991, p. 351, 1991a: 3-4) identifies three principal uses of the word. First, *information as process* by which is meant the action of informing. Second, *information as knowledge* is that which is imparted in the process of informing. Finally, *information as thing* constitutes objects such as data and documents. While this conceptual framework provides a useful classificatory tool, it is only a nominal definition. In order to create a true propositional definition and avoid circularity, it is

necessary to extract some essence or generalization that applies to all three of the forms of Buckland's *information*.

Another useful conception of information, and its relationship to knowledge, is provided by Bertram Brookes' (1980) fundamental equation of information and knowledge. In this equation, $K(S) + \Delta I = K(S + \Delta S)$ an existing knowledge structure $K(S)$ becomes a new knowledge structure $K(S + \Delta S)$ by a change in information (ΔI). In this regard, it is useful to think of knowledge as a stock and information as a flow that acts to change the stock.²⁰

From the foregoing analysis, a working definition of information may be suggested:

Information is that which has the potential for changing the knowledge structure of one or more persons.

The components of the definition are further explained:

that which: connotes both information as process and information as thing. *That which* is used instead of *anything that* or *something that* in order to avoid the use of the word *thing*, in the general definition since information as thing is only one of the three senses of information.

potential to change knowledge structure: the use of the term "potential" is to broaden the reach of the definition. ". . . that which changes the knowledge structure..." would be more limiting in that there are many factors which could account for information *not* changing a knowledge structure.

of one or more persons: the plural is used instead of “. . . of a person.” in order to avoid an overly individualistic approach. Accordingly, information may change the knowledge structure of an individual, a group, a community or an organization.

This definition is also consistent with Brookes' (1980) fundamental equation of information and knowledge, $K(S) + \Delta I = K(S + \Delta S)$, which indicates that an existing knowledge structure becomes a new knowledge structure on account of a change in information.

This approach to defining information provides a multi-faceted conceptual framework that stresses the great diversity contained within the meaning of information. It spans the dualities of stock and flow, subjective and objective, as well as qualitative and quantitative. But the tendency to try to boil information down into something much more simplistic continues to persist. This oversimplification is most evident when one considers the problem of information as a commodity.²¹ While information as a commodity is an instance of Buckland's *information as thing*, this particular aspect of information has come to be an overarching principle in the information economy. In this regard, the important aspects of *information as process* and *information as knowledge* have taken a back seat to the more privileged status of *information as thing*.

The importance of the definition of information is emphasized by Sandra Braman (1989, p. 234): “[t]he argument over how to define information is critical because that definition is central to the just emerging information policy regime. . . Battles over the nature of the regime to dominate are still being fought with the conflict over operational definitions a key battleground.”

Recognizing the highly contestable nature of the definitional problem, Braman offers a hierarchy of definitions of information that fall into four groups (from bottom to top of the hierarchy):

information as a resource,
information as a commodity,
information as perception of pattern; and
information as a constitutive force in society (*id*, p. 235).

This pluralistic approach to defining information is preferred by Braman because if only one type of definition is permitted, she fears that “economic value may well destroy other types of value inherent in social, cultural, religious and aesthetic information” (p. 237). Braman concludes that from this hierarchy that "the definitions that provide the deepest levels of analysis and should be used first are those that treat information as a constitutive force in society (p. 242). She argues that, "the first decision that must be made is about the shape of the society that is desired. The next step is to determine what information policy principles are most likely to produce or support the desired society" (*id*). In later stages of analysis, other definitions of information (*i.e.*, as a resource, as a commodity, as perception) can also be used. But Braman provides an important caveat for invoking these secondary definitions:

"Second or subsequent steps of analysis may choose to use other definitions of information as appropriate. Each such use, however, should bear in mind the fact that information treated - as a commodity or as a resource- does so with effects that must be understood of information as a constitutive force in society. This definition provides the context, and ultimate analytical standard, of any decision made using other definitions of information" (p. 242).

Braman ends her analysis by saying that if information is to be viewed as a commodity, certain questions need to be asked:

- What happens when the governor of a process is potentially controlled by a subset of participants in a process?
- Are there different types of information, some of which can be treated as a commodity and some of which cannot?
- Should information critical to the governing of a process be held as a good common to all participants in that process? (*id*).

Proponents of the *information-society* model do not ask these questions, and as a result, definitions stressing *information as a commodity* tend to crowd out other meanings. This tendency has serious implications for the information policy process, as evidenced by the case study in the next chapter.

III. The Third Strand: The Philosophy of Technology

This section considers the philosophical question of how a social theory for the information age should view the nature of information technology. It is first necessary to identify various perspectives within the philosophy of technology, to contrast their differing assumptions, and then to consider their disparate implications for contemporary information policy discourse. Two divergent approaches will be considered in this section, the instrumental theory of technology and the substantive (or normative) theory of technology.

A. The Instrumental Theory of Technology

Andrew Feenberg (1991) describes the *instrumental theory of technology* in which technology, as an instrumental tool, is devoid of intrinsic evaluative content; it can

be used for whatever ends desired by the user. Feenberg notes that under the instrumental theory, an unreserved commitment to the employment of a particular technology is the typical response if it suits an instrumental purpose. If someone takes exception to the employment of a particular technology on moral or ethical grounds, it will be, so the instrumentalist argument goes, at the price of reduced efficiency (1991, p. 6).

Mainstream post-industrial / information society theory views information technology as a neutral and autonomous force acting as an independent determinant of other social processes. This construction is a form of technological determinism that sees information technology not only as an important enabling factor for social, economic and political transformations, but as the crucial independent variable that acts on other processes, structures and institutions to cause change. Daniel Bell's (1973, 1980) theory of *post-industrial society as information society* stands as a significant contemporary exemplar of the instrumental theory of technology. Bell places considerable emphasis on the new role of intellectual technology, by which he means methods that seek to substitute an algorithm, or decision rules, for intuitive judgments. These algorithms represent a formalization of judgments and their routine application to varied situations. Bell says that to the extent that intellectual technology is becoming predominant in the management of organizations and enterprises, it is as central a feature of postindustrial society as machine technology was in industrial society (1980, pp. 504-505). But while many authors have pointed to the importance of new technology in the production process, Bell goes so far as to identify rational social ordering as the goal of the new intellectual technology:

“The goal of the new intellectual technology is, neither more nor less, to realize a social alchemist’s dream: the dream of “ordering” the mass society. In this society today, millions of persons daily make billions of decisions about what to buy, how many children to have, whom to vote for, what job to take, and the like... If the computer is the tool, then decision theory is its master. Just as Pascal sought to play dice with God, and the physiocrats attempted to draw an economic grid that would array all exchanges among men, so the decision theorists seek their own *tableau entier* -- the compass of rationality, the “best” solution to the choices perplexing men” (1973, p. 33).

This passage is one of the clearest indications of Bell’s adherence to the instrumentalist school. It exemplifies what Neil Postman (1993) calls the deification of technology and what Herbert Marcuse (1964) calls the reification of technology.

B. Normative Theories of Technology

In contrast, the *information-for-society* model employs a normative theory that views technology as a reflection of other social, cultural, economic and political relations. Normative theories are rooted in the works of philosophers of technology such as Martin Heidegger (1977) and Jacques Ellul (1964) as well as in strands of Marxian and critical theory. Marx’s own writings on technology and writers associated with the Frankfurt School of Critical Theory (Marcuse, 1964) stand in sharp contradiction to the instrumental school. Contemporary writers such as Langdon Winner (1977, 1980, 1986) and Bruno Latour also continue to develop wide ranging critiques of depoliticized, dehistoricized and decontextualized accounts of science and technology.

Karl Marx’s conception of technology runs directly counter to the notion of neutral and value-free technology. Yet Marx has often been read as a technological determinist. This account is based on two often-cited passages from the *Poverty of Philosophy* and the Preface to the *Contribution to a Critique of Political Economy*. In the

former, Marx said, “the handmill gives you society with the feudal lord, the steam-mill with the industrial capitalist.” In the Preface, he says “. . . in the social production of their life men enter into definite relations that are independent of their will, relations of production which correspond to a definite stage of development of their material productive forces.”

But Marx saw purposeful production as the basic activity of man and the manner in which production is organized is a question of social relations. The relationship between human agency and production technologies is explicitly stated in Marx’s *Grundrisse* (1973, p. 706). Here, Marx's account is decidedly not technological determinist:

“Nature builds no machines, no locomotives, railways, electric telegraphs, self-acting mules, etc. These are products of human industry; natural material transformed into organs of the human will over nature, or of human participation in nature. They are organs of the human brain, created by the human hand; the power of knowledge objectified.”

Nick Dyer-Witheford (1999, p. 39) argues that in the technological determinist account, “the forces of production [are seen as] technological, and only the relations of production are social, with the former having primacy over the latter.” Dyer-Witheford emphasizes how other readings of Marx reverse the technological determinist account:

“For it is social relations --capital's requirement for total control over the valorization process-- that shapes machines, not vice versa. From the reading of such passages flows a different line of analysis the exponents of which run from Georg Lukacs through to Harry Braverman and David Noble, who insist that machinery is only a moment in forces of production whose constitution is itself a matter of social power” (*id*, p. 40).

The tradition of critical Marxism carried on by theorists associated with the Frankfurt School continued the critique of the role of technology in advanced industrial

society. In *One Dimensional Man*, Herbert Marcuse (1964, p. xv) argues that the technical apparatus of production and distribution has become “totalitarian to the extent to which it determines not only the socially needed occupations, skills and attitudes but also individual needs and aspirations.” Technology thus serves to institute more effective and complete forms of social control. As a result of these totalitarian features, Marcuse asserts that “the traditional notion of the ‘neutrality’ of technology can no longer be maintained. Technology as such cannot be isolated from the use to which it is put; the technological society is a system of domination which operates already in the concept and construction of techniques” (*id*, xvi).

Marcuse stresses the point that while advanced industrial society is a *technological universe*, it is at the same time a *political universe*. He refers to the oft-cited passage in Marx's *Poverty of Philosophy* to confront the notion of neutral technology:

“One may still insist that the machinery of the technological universe is ‘as such’ indifferent towards political ends -- it can revolutionize or retard a society. An electronic computer can serve equally a capitalist or socialist administration; a cyclotron can be an equally efficient tool for a war party or a peace party. This neutrality is contested in Marx’s controversial statement that the ‘hand-mill gives you society with the feudal lord; the steam-mill society with the industrial capitalist.’ And this statement is further modified in Marxian theory itself: the social mode of production, not technics is the basic historical factor. However, when technics becomes the universal form of material production, it circumscribes an entire culture; it projects a historical totality -- a ‘world’” (1964, p. 154).

This passage suggests that technology, when it reaches a certain level of development in a society, becomes effectively able to cloak the actual interests for which it acts. Indeed, in a subsequent passage, Marcuse (*id*, pp. 168-169) says:

“The universal effectiveness and productivity of the apparatus under which [man and nature] are subsumed veil the particular interests that organize the apparatus. In other words, technology has become the great vehicle of *reification* -- reification in its most mature and effective form. The social position of the individual and his relation to others appear not only to be determined by objective qualities and laws, but these qualities and laws seem to lose their mysterious and uncontrollable character; they appear as calculable manifestations of (scientific) rationality.”²²

Notwithstanding his strong critique of technology, Marcuse understood its liberatory potential. Douglas Kellner (1984, p. 330) notes that when “[Marcuse] speaks of the 'abolition of the terrors of capitalist industrialization,' he is not harking back to an idyllic pre-industrial world, but insists on utilizing to the fullest the best productions of science and technology.” Kellner points to opening passages in *One Dimensional Man* to emphasize the point that Marcuse fully appreciated the liberatory potential of technology: “The very structure of human existence would be altered, the individual would be liberated from the work world's imposing on him alien needs and alien possibilities. The individual would be free to exert autonomy over a life that would be his own” (Marcuse, 1964, p. 2).

This position should not be confused with the viewpoint that holds that technology itself is neutral. Kellner continues: “Marcuse does not, however, have faith in the emancipatory potentialities of the forces of production alone, as if their unfettered development would automatically bring about social progress and would rebel against - and eventually explode - restrictive relations of production. . . . Marcuse is aware that forces of production are themselves shaped, structured and even constituted by relations of production” (Kellner, 1984, p. 330-31).

David Hess (1997) groups a number of social theorists concerned with technology under the category of Critical Technology Studies. He includes such here such influential theorists as Jacques Ellul (*Technological Society*, 1964) and Lewis Mumford (*Technics and Civilization*, 1964). Ellul wrote that technology (technique) was operating under its own inner logic and that mankind was submitting to its imperatives in a suicidal manner. Mumford distinguished between large system-centered technologies that are unstable and weaker yet resourceful human-centered ones. Hess also includes Langdon Winner in this group. Winner (1977) noted that while in the past, technology had seldom been seen as a primary subject matter for political or social inquiries, this condition was beginning to change. This previous neglect of technology was turning into what Winner called a “virtual obsession,” the interest being fueled by rapid developments in the technical sphere that outpace the ability of individuals and social systems to adopt.

Winner directly confronts the notion of “technics out of control,” a major concern expressed by Ellul and others. But in contrast to Ellul’s sense of resignation and pessimism, Winner calls for a sustained examination and critique of the uncritical embrace of new technologies. He especially stresses a critique of the notion that technological design choices are not politically driven. In subsequent works (1980, 1986) he asks the question: “Do artifacts have politics?”²³

Rather than privilege technology as an independent determinant of other social processes, normative theorists see it as but one of several mutually dependent factors that influence social change. Critics of post-industrial theory have emphasized the problematic nature of the instrumental view of technology. Jennifer Slack (1984, p. 146)

argues it is vital to abandon ideas of neutrality of technology. Instead, she sees technology as both “causes and effects that are integrally related to the environment.” Carolyn Marvin (1988, p. 4) notes that “instrumental-centered” approaches to technology overlook how technologies are a “series of arenas for negotiating issues crucial to the conduct of social life.”

Herbert Marcuse (1964) asserts that: “the traditional notion of the ‘neutrality’ of technology can no longer be maintained. Technology as such cannot be isolated from the use to which it is put; the technological society is a system of domination which operates already in the concept and construction of techniques” (*id*, xvi).

C. Definitional Problems: What is Technology?

One explanation for the vast divergence of opinion on this issue is the definitional problem; what is meant by the terms *technology* and *neutrality of technology*? Just as opinions differ on the underlying question of the *neutrality* of technology, so too they differ on the *definition* of technology. At the risk of oversimplification, these differences may be thought of as extremes on a continuum. At the narrowest end, technology is simply the physical tool, implement or machine. But in its broadest sense, technology could be viewed as not only the physical components of a system, but their relationships with each other and those who use them. At the narrow end, technology is simply a physical thing. At its broadest, it is a complex system consisting of things, relationships and processes. At the narrow end, technology is a relationship with things. At its broadest, relationships between people are involved as well

Rejecting the narrow “implement” view of technology, Norman Balabanian (1993) proposes five dimensions to technology. First is the physical dimension of hardware (tools, instruments and machines), structures (buildings, roads, networks) and materials. The second dimension is the “know-how” consisting of procedures, processes and methods. The third consists of the personnel who have been provided with the procedural know-how necessary to manipulate the objects of the physical dimension. The fourth dimension is an organizational structure, a mechanism of management and control that involves a series of relationships and linkages between physical objects, processual know-how and personnel. This dimension of technology adds a degree of complexity that is often overlooked in more simplistic definitions. Balabanian includes as a fifth dimension of technology political and economic power. While this issue is implicit in the organizational dimension, Balabanian explicitly acknowledges power as a component of technology.

Langdon Winner also takes a broad approach to the definition of technology and distinguishes between *technology* and *apparatus*. The latter are “. . . the class of objects we normally refer to as technological --tools, instruments, machines, appliances, weapons, gadgets -- which are used in accomplishing a wide variety of tasks” (1977, p. 11). He also notes that “technology” applies to some forms of social organization such as factories, workshops, armies and bureaucracies. James Beniger (1986, p. 9) defines technology as “roughly equivalent to that which can be done, excluding only those capabilities that occur naturally in living systems.”

It seems intuitive that proceeding upward through the progressive layers of Balabanian's scheme, as the definition of technology becomes more complex, the assertion of the "neutrality of technology" becomes less plausible. But what does the "*neutrality of technology*" mean? Balabanian (1993, p. 23) identifies various aspects of "neutral technology." Primarily, neutral technology is a passive tool in which no values are embedded and it is apolitical in that it is not concerned with relations of power or domination. Neutral technology exists as an inanimate object waiting to be used, for better or worse, by a human, and if it is used harmfully, it is the human operator's fault.

D. Framing the Problem of Neutrality

It should be noted that though conceptually distinct, the notions of neutral technology and autonomous technology are closely related and both indicative of the instrumental as opposed to substantive theory of technology. This section considers the implications of the *neutrality of technology* debate for contemporary policy discourse and decision making. First, it is important to emphasize that the question of the neutrality of technology is part of the broader question of neutrality that permeates social analysis at various levels. In various disciplines, the neutrality debates take different forms and consider different phenomena. In political science, for example, theorists argue about the role of the state. Pluralists view the state as a neutral arena for the negotiation of different interests. In contrast, critics of pluralism emphasize an asymmetry of power relationships and deny the neutrality of the state apparatus and policy-making processes. In librarianship, the concept of neutrality has historically been a foundational principle of library service. But critics argue that the ideal of political neutrality in American

librarianship creates a vacuum that is filled by the most powerful and influential elements in society and causes the profession to be manipulated by the ruling elite (Blanke, 1989). In economics, the idea of the market as a neutral and self-regulating allocative mechanism is a central concept of the neo-classical model. This idea is challenged by the more normative viewpoint of political economy that emphasizes the value-laden aspects of economic processes.

Framing the *neutrality problem* in broader terms helps make the articulation of its policy implications more explicit. What cuts across all of these fields, and what is particularly evident in the instance of technology, is that neutrality is illusory. It is an ideological mask that effectively keeps difficult questions from being raised.²⁴

E. Conclusion

Heidegger (1977, p. 4) warned: “. . . we remain unfree and chained to technology, whether we passionately affirm or deny it. But we are delivered over to it in the worst possible way when we regard it as something neutral.”

One’s viewpoint on the question concerning the “neutrality of technology” is directly relevant to the ongoing discourse surrounding information policy. The question of design of technological systems cannot be divorced from their political, economic and social effects. Looking at the issue from the broadest possible vantage-point as suggested by Balabanian helps keep the totality of these relationships in mind. But the view that technology is neutral only masks this relationship and acts as a justification for the continuation of policies that will only bring Ellul’s worst fears closer to reality.

IV. The Fourth Strand: Historical Continuity versus Discontinuity

A. Historical Discontinuity and the Information Society

The *information society* model is premised on a historical viewpoint that emphasizes a sharp break between the industrial era and the subsequent post-industrial, information age. In 1989, Daniel Bell wrote that “post-industrial society is not a projection or extrapolation of existing trends in Western society; it is a new principle of socio-technical organization and ways of life” (1989, p. 167).

This notion of a sharp break with the industrial past is most evident in Bell’s (1980, p. 506) rejection of the labor theory of value in favor of a knowledge theory of value since in the post-industrial society, the crucial variables are information and knowledge, not labor and capital: “[w]hen knowledge becomes involved in some systematic form in the applied transformation of resources (through invention or social design), then one can say that knowledge, not labour, is the source of value.” This approach tends to privilege the present period as overly exceptional. For historian Mark Poster, claims of a massive break with the past “reduces to insignificance those social dimensions that proceed the break” (1990, p. 22).

But while critics of post-industrialism emphasize a strong continuity with the existing capitalist relation of production, they do not mean to rule out alternative conceptualizations or theoretical frameworks that account for the massive technological and social changes brought about by rapid diffusion of information technology.

Whatever weaknesses may be found in Bell’s work, it remains important not to over-react to the point of denying that some important changes have indeed been taking place and

that these changes are enabled by advances in computer and communications technologies. The historical frameworks used by Manuel Castells and David Harvey are reviewed in the next section as examples of schema that seek to reconcile rapid technological advances as well as the accompanying social, cultural, political and economic changes, without resorting to a totalizing break with the past. These works, with their emphasis on historical continuity, view informatization as a reflection of the logic of capitalist relations and as an outgrowth of global restructuring of production.

B. Historical Continuity: Alternative Frameworks

An alternative historical framework to the post-industrial / information age theory is provided by theorists influenced by the *Regulation School*. These writers ask how capitalism is able to remain stable and continue to secure the conditions for capital accumulation given increased tension and uncertainty. They attempt to identify a predominant *regime of accumulation* as well as its *mode of regulation*. The former looks at how production and consumption are organized, how income is distributed, and how the economy is calibrated; the latter looks at how social control is achieved through rules, norms, regulations and laws. *Regulation School* theorists generally argue that since the early 1980's a new regime of accumulation has emerged to replace that in place since World War II. They argue that the "*Fordist*" regime of accumulation, which provided stability and growth until the mid-1970's, became increasingly unsustainable and has given way to a "*post-Fordist*" regime of accumulation.

The first chapter of Manuel Castells' (1989) *Informational City* and Part II of David Harvey's (1990) *The Condition of Postmodernity* present similar frameworks that

are useful as alternatives to the dominant post-industrial thesis and as historical frameworks for situating the analysis of current changes in intellectual property policies.

While Castells (1989, 1996) is primarily concerned with understanding the relationship between economic restructuring, information technology and spatial issues within an urban-regional setting, his theoretical framework is readily generalizable to other contexts. He begins the *Informational City* (1989) by identifying two phenomena that together form the fundamental matrix of institutional and economic organization in contemporary society. First is the emergence of a new mode of socio-technical organization, which he names the *informational mode of development*. Second is the restructuring of capitalism in the late 1970's and 1980's in response to the structural crises of the 1970's. These two elements form the basis of Castells' theoretical framework that is used to communicate his hypothesis that "*the interaction between modes of production and modes of development is at the source of the generation of new social and spatial forms and processes*" (1989, p. 7).

Central to this framework is the distinction between *modes of production* and *modes of development*. Castells' conception of the *mode of production* is essentially Marxian:

"Production is organized in class relationships that define the process by which the non-producers appropriate the surplus from the producers... Capitalism is oriented toward profit-maximizing, that is, toward increasing the amount and proportion of surplus appropriated on the basis of the control over means of production" (1989, pp. 8-9).

While the mode of production, particularly the social relations of production within it, determines how the surplus is appropriated and distributed, the level of the

surplus is a separate issue. The later is determined by the productivity of the process of production, which is characterized by technical relationships. Castells' notion of *modes of development*, are those technological arrangements through which labor acts on matter to generate the product, thereby determining the level of surplus. It is significant to note that Castells uses the term "matter" in a broad sense to include intangibles such as symbols and communications codes, which he argues are themselves material forces.

Castells differentiates various modes of development by looking at "the element that is fundamental in determining the productivity of the production process." (1989, p. 10). For example, Castells points to quantitative increases in land and labor in the agrarian mode and new energy sources in the industrial. For the informational mode of development, the quality of knowledge is fundamental to productivity. Avoiding the trap of information age exceptionalism, Castells acknowledges that "knowledge intervenes in all modes of development, since the process of production is always based on some level of knowledge" (*id*). But in the informational mode of development, knowledge intervenes on knowledge itself, thereby posing a significant difference with previous modes of development. Tessa Morris-Suzuki (1997) points out another difference. She agrees that knowledge has long been an essential element of the production process. But she adds, "for much of history, its significance has been obscured by the fact that it could play a part in production only when embodied in the worker or in the machine" (1997, p. 16).²⁵

In Castells' framework, *modes of production* and *modes of development* interact; they do not overlap. Accordingly, the conclusion that post-industrial society (or the

informational mode of development) replaces or somehow supersedes capitalism is rejected. Castells recognizes a dual nature in the relationship between *modes of development* and *modes of production*. On the one hand, the former are said to evolve according to their own logic, they do not respond mechanically to the demands of the latter. But on the other hand, Castells recognizes that technical relationships are historically subordinate to social relations of production,²⁶ and so are molded in their structure and orientation by the restructuring process. While at first glance this dualism may seem contradictory, it is a subtle recognition of the open and shifting possibilities in the relationships between *modes of production* and *modes of development*. By way of example, Castells points to how dominant social interests may seek to spoil their technical potential through an orientation to narrow and secretive military applications of technology. Another example of the relationship is the hampering of the information transfer process through censorship or restrictive intellectual property rules.

In the *informational mode of development*, information processing becomes a key component of new productive forces.²⁷ In such a case, Castells points to a close relationship between a society's symbolic capacity and its developmental process:

“The more a society facilitates the exchange of information flows, and the decentralized generation and distribution of information, the greater will be its collective symbolic capacity. It is this capacity which underlies the enhancement and diffusion of information technologies, and thus the development of productive forces” (1989, pp. 15-16).

Castells is here relying on a central principle of Marx's dialectical view of history.

In his preface to *A Contribution to the Critique of Political Economy*, Marx states that:

“[a]t a certain stage of their development, the material forces of production in society come into conflict with the existing relations of production, or –

what is but a legal expression for the same thing – with the property relations within which they had been at work before. From forms of development of the forces of production these relations turn into their fetters.”

The literature on the information society is replete with references to how information technology is an important determinant of technological progress (i.e., Brzezinski, 1970; Bell, 1973). But by examining forces of production in isolation from a consideration of the relations of production, the *information society* model tends to reify information technology. By considering information technology as a productive force not as a phenomena in itself, but as it is in tension with existing relations of production, the *information-for-society* model is able to avoid the reification of information technology that led Herbert Marcuse (1964, pp. 168-169) to observe that:

“The universal effectiveness and productivity of the apparatus under which [man and nature] are subsumed veil the particular interests that organize the apparatus. In other words, technology has become the great vehicle of *reification* -- reification in its most mature and effective form. The social position of the individual and his relation to others appear not only to be determined by objective qualities and laws, but these qualities and laws seem to lose their mysterious and uncontrollable character; they appear as calculable manifestations of (scientific) rationality.”

The other major component of Castells’ framework is the restructuring of capitalism:

“When social systems experience a structural crisis, as a result of historical events acting on their specific contradictions, they are compelled either to change their goals, or to change their means in order to overcome the crisis. When the system changes its goals (or structural principles of performance), actually becoming a different system, there is a process of social transformation. When the system changes the institutionalized means by which it aims to achieve its systemic goals, there is a process of social restructuring.” (1989, p. 21).

This distinction, between the restructuring of a social system and the transformation of the social system itself, is missed by many advocates of post-industrialism who argue that a full-scale social transformation has indeed occurred. (Bell, 1980).

Marxist theorists have recognized that significant shifts take place within the capitalist mode of production:

“As a theory of history, Marxism is more than an application of dialectics to the transition from one mode of production to another; it encompasses, too, the historical changes that occur within the life of each mode. Capitalism, like other modes, is conceived as progressing through distinct stages; instead of moving along a smooth curve as its internal contradictions mature, it follows a broken path with distinct segments.” (Harris, 1983a, p. 365)

Laurence Harris reviews the different stages offered by various theorists. It is generally agreed that capitalism today is in a distinct stage from when Marx wrote. Most writers accept the difference between the competitive capitalism of the 19th century and later stages, variously termed monopoly capitalism, state monopoly capitalism, or late capitalism (Mandel, 1978). The dividing line between these different stages, Harris argues, is based on changes in the laws of accumulation that reflect the change in market structure faced by firms.

Castells notes that a restructuring leads to a new manifestation of the system with new institutional rules which in turn induce another set of contradictions, potentially leading to another restructuring. He argues that such a restructuring occurred as a result of the Depression and World War II, leading to a new form of capitalism that was different from the earlier laissez-faire model. This transformation was characterized by

three structural modifications: (1) a social pact between labor and capital; (2) increased intervention of the state in the economic sphere in the form of regulation and the stimulation of demand; and (3) control of the international economic order through the creation of a new set of institutions. This form of “state-regulated capitalism” resulted in strong economic growth into the early 1970’s. By the mid-1970’s these same structural elements became intertwined with a series of crises which ultimately called for yet another restructuring.

Castells describes this emerging phase of capitalism, which had come to characterize most of the international economic system by the late 1980’s, as having three essential elements. First, the social pact, which formed the basis of the previous restructuring, was negated. This negation was accomplished via “the appropriation by capital of a significantly higher share of surplus from the production process,” and is manifest through higher productivity derived from technological innovation, lower wages, reduced social benefits, decentralization of production, the weakening of unions and the restructuring of labor markets (1989, p. 23-25). The second element in the new transformation was the trend toward deregulation accompanied by privatization of the public sector, regressive tax policy changes and the stimulation of a high-technology defense sector. These changes are characterized as a shifting emphasis “from political legitimation and social redistribution to political domination and capital accumulation” (*id*, p. 25).

While the first two elements take on different forms and demonstrate national differences, the third element, commonly referred to as “globalization,” is arguably the

most significant because it cuts across national boundaries. “The accelerated internationalization of all economic processes to increase profitability” (*id*, p. 26) is an aspect of globalization that has been a driving force in the restructuring of the intellectual property law regime in recent years.

David Harvey (1990), who characterizes the transition as one from Fordism to a regime of flexible accumulation, presents a closely related analysis also rooted in the Regulation School. Harvey argues that there has been a “sea-change in the surface appearance of capitalism since 1973, even though the underlying logic of capitalist accumulation and its crises-tendencies remain the same” (1990, p. 189). Flexible accumulation is characterized by Harvey as:

“...a direct confrontation with the rigidities of Fordism. It rests on flexibility with respect to labor processes, labour markets, products and patterns of consumption. It is characterized by the emergence of entirely new sectors of production, new ways of providing financial services, new markets, and, above all, greatly intensified rates of commercial, technological, and organizational innovation” (1990, p. 127).²⁸

The emphasis on the restructuring of capitalism (in contrast to the post-industrial emphasis on supersession) is consistent with the views of various Marxian who have recognized that significant shifts take place within the capitalist mode of production (Harris, 1983a; Mandel, 1978, Harvey, 1990). By stressing a continuity with existing capitalist relations, albeit under circumstances of rapid technological change, the *information-for-society* model is able to provide a lens for policy analysis that helps situate the changes taking place in the current policy environment within a broader historical framework.

V. The Fifth Strand: The Economics of Information

In terms of economic viewpoint, the *information society* model promotes the “free market” as the ideal allocative mechanism for the production and distribution of information. The law of intellectual property governs private property rights in information and traditional intellectual property theory is deeply rooted in a set of assumptions that are derived from economic analysis.

The first assumption is that the free market system is the appropriate allocation mechanism to guide the creation and dissemination of socially useful information and knowledge based products and services. The second is that information and knowledge based products and services will be under-produced without a guarantee of sufficient market-based financial incentives to creators and owners. The third, and most recent assumption, is that an expansion of property rights is necessary in order to protect these market-based interests from being undermined by acts of appropriation made possible by the nature of digital technology. These assumptions underlying the *information society* model provide the justification for a broad range of new technological and legal restrictions on the use and transfer of information, which will be described in Chapter 2.

In contrast, the *information-for-society* model rejects the “free-market” allocation model and favors an approach rooted in the tradition of Marxian political economy. Edmund Phelps (1985) defines political economy as the study of society’s operation of its economy and the structure of rewards available to the participants in the social economy. Political economy has both a positive and normative side. While the positive side studies the system of rewards as they are:

“the normative side studies the structures of rewards ... as they would be if the society introduced different economic institutions or government policies, ...or if society implemented this or that moral standard for choosing among alternative feasible reward structures, in the desire for some brand of justice.” (1985, p. 27).

Phelps notes the critical nature of normative political economy; prevailing reward structures and underlying economic mechanisms are not taken as given. They are instead inspected to see if they fall short by society’s standards. This inquiry is purposeful as “the driving idea behind normative political economy is the belief that societies can change their economic institutions...in response to persuasive objections to the prevailing mechanisms and compelling arguments for different ones.” (*id*, p. 28)

Historically, economic analysis has played a crucial role in informing intellectual property policy, In their often-cited formulation of the economic justification for intellectual property law, William Landes and Richard Posner (1989) develop a positive economic model of copyright protection.²⁹ Their model attempts to explain copyright law as a means for promoting the efficient allocation of resources, and is based on the presence of a trade-off between (1) limiting access to works, and (2) providing incentives to create works. The model is guided by the assumption that the law’s “principal legal doctrines must, at least approximately, maximize the benefits from creating additional works minus both the losses from limiting access and the costs of administering copyright protection” (1989, p. 326).³⁰ This trade-off is often referred to as the traditional “balancing” of interests between the rights of owners and users.

Stanley Besen and Leo Raskind (1991) reiterate this justification for intellectual property laws in economic terms; government needs to support innovation and encourage

creative activity. They define the objective of intellectual property rights as the creation of incentives that maximize the difference between the value of the intellectual property that is created and used and the social cost of its creation, including the cost of administering the system (1991, p. 5).

But there is disagreement as to how much intervention into the market is necessary to accomplish the goal of providing incentives. The general formulation assumes first that private producers have an incentive to invest in innovation only if they receive an appropriate financial return, and second, that there is an optimal balance between the creation and dissemination of intellectual property. While Besen and Raskind acknowledge that “the less that innovation depends on the resources invested and the potential economic rewards, the more limited is the case for granting substantial rights to creators,” (*id*, at 6) their analysis remains primarily focused on the issue of economic incentives. The possibility that there may be motivations for innovations beyond economic incentives becomes lost as does the possibility that economic incentives may accrue through legal mechanisms other than property rights.

The positive economic model typifies the reliance placed on an efficiency-centered, cost-benefit analysis. But in practice, the losses from limiting access are not as susceptible to precise quantitative measurement as are the financial benefits accruing to the owners of the information commodity. Indeed, cost benefit analysis as a mode of policy analysis has come under increased criticism for the very reason that it fails to account for qualitative factors. As Margaret Radin (1996, p. 85) observes:

“Reasoning in market rhetoric, with its characterization of everything that people value as monetizable and fungible, tends to make it easy to ignore

these other ‘costs.’ Money costs and easily monetizable matters are at the center of the map, and personal and community disruption are at the edges. Because it tends to ignore ‘costs’ that are not readily monetizable, commodification-talk tends to err on the side of alienation.”

A further level of analysis is needed that admits a normative evaluation, and this gap is filled by an alternative analysis rooted in political economy. Proponents of what is often termed “radical political economy” have begun to present such an alternative.

Ronald Bettig (1996, p. 44) questions the foundations upon which the traditional economic analysis of copyright law is based. Bettig’s analysis goes beyond efficiency considerations:

“I question the validity of the two basic philosophical justifications for granting private intellectual property rights: first, that these rights encourage the production and dissemination of artistic and intellectual creativity through pecuniary rewards to actual creators; and second that they stimulate the dissemination of this work to the benefit of society as a whole.”

Bettig argues that the intellectual property system results in an unequal distribution of the rewards for creativity, resulting in detriment to actual creators. Similarly, James Boyle (1996) discards the “romantic entitlement theory of authorship” because it leads to too many intellectual property rights in the wrong hands and devalues many collective efforts. Boyle emphasizes the need for a social theory suited to democratic values in the information age.

While the information society model views the “public goods” nature of information as a problematic market failure that needs to be corrected,³¹ the *information-for-society* model views the public provision of information goods as a social goal. The relationship between economic analysis and intellectual property policy will be

developed in greater detail in Chapter 4, where a critical theory of intellectual property policy will be presented as an alternative to the traditional model rooted in positive economic analysis.

VI. The Sixth Strand: Class, Stratification the Work Process

The *information society* model presents an overly optimistic account of how new information technologies will affect social stratification, the division of labor in society and individual work processes. The promises of a more democratic world that values knowledge and provides full employment, more leisure time, and higher productivity are powerful mechanisms. This vision has been shaped, in large part, by the work of Daniel Bell, but his popular counterparts such as Alvin Toffler's *Third Wave* (1980) provide an exemplar of how information society enthusiasts present optimistic visions of a better world. For Toffler, the computer chip will lead to a "third wave" society marked by local control and increased democracy, all without the need for mass uprisings or questioning capitalism. Bill Gates' (1995) more recent prognosis of "boundless enthusiasm" also encapsulates this viewpoint. This optimistic vision has not been limited to the United States. Yoneji Masuda's (1981) work also provides an exemplar of the vision of computopia, a new type of society in which creativity replaces material consumption as a driving force.

In contrast, the *information-for-society* model is concerned with the widening stratification in the 'information society.' This viewpoint is accompanied by a less optimistic account of the impact of technology on the labor process (Braverman, 1974; Thompson, 1989; Edwards, 1979). The issue of *deskilling vs reskilling*, sometimes

referred to as the “Bell-Braverman debate” (Harris and Hannah, 1993) has continued to frame issues about the nature of work in contemporary society:

“The stage was set for a major confrontation between Braverman and Bell, for Braverman’s work directly contradicted Bell’s scenario in almost every particular. That is, where Bell forecast a significant reorganization of the workplace in the new ‘game between persons,’ Braverman saw only further centralization and management authoritarianism. Where Bell projected a workforce that would be considerably ‘upskilled,’ Braverman insisted that the workers would be further ‘deskilled.’ Where Bell glimpsed only more regarding and fulfilling work, Braverman noticed intensifying worker alienation and the steady ‘degradation’ of ‘work’ (Harris and Hannah, 1993, p. 113).

In fact, both are probably true in different circumstances and in different contexts.

The deskilling vs reskilling question needs to be asked in the context of particular locations in the occupational hierarchy, is deeply interwoven into questions of race and gender, and is constantly shifting. As Manuel Castells (1996, p. 272) points out, there is an increasing polarity between a core work force of information managers and a disposable labor force subject to being hired, fired, offshored, outsourced, or replaced by automation whenever core management finds it necessary to do so. There is, as Castells puts it, a dialectical relationship between deskilling and reskilling.

On a related issue, *information society* theorists downplay the question of class conflict; they see class as an increasingly irrelevant social category. In contrast, the *information-for-society* model is concerned with questions of antagonistic class relations in society, and how they may be shifting. David Lyon (1988, p. 4) notes that “Bell’s attempt to find a thoroughgoing alternative to Marxian class analysis underestimates both the resilience of some familiar features of modern societies, and the extent to which new conflicts and struggles could arise within this ‘information society.’” Several authors

have explored the possibility that a new class may be emerging. Szelényi and Martin (1988, p. 646) hypothesized that the twentieth century can be interpreted as a history of how different groups of the highly educated seek to gain ultimate power. They claim that new class theory is useful as it addresses the relationship between knowledge and power and ask “What are the indications, if any that a new type of domination based on monopoly of knowledge is challenging or replacing domination based on ownership of wealth or on bureaucratic position?” (*id*, p. 648). These new class theorists ask: “whether knowledge can provide the principle for social hierarchies and stratification, for the formation of class structure, for the distribution of chances of social and political influence and for the nature of personal life, and, finally, whether knowledge may also prove to be a normative principle of social cohesion and integration” (Bohme and Stehr, 1986, p. 9).³²

For Alvin Gouldner (1979), a prominent “new class theorist,” the interests of the new class are (1) to produce and reproduce the conditions enabling them to appropriate a larger share of the incomes produced by their cultural capital, (2) to maintain control over their work and work-settings, and (3) to increase their political power to accomplish these goals. In order to accomplish these goals they may oppose other social systems that allocate privileges and incomes on the basis of holding stocks of money or property. For this reason, while Gouldner characterizes the new class as elitist and self-seeking, he also says “the New Class may be the best card history has given us to play” (1979, p. 7).³³

To understand the new class contest, Gouldner says that one must understand how the privileged and advantaged, not just the poor and suffering, come to be alienated from

the same system that gives them privilege (*id*, p.18). Since the “non-negotiable” objectives of the old class are to reproduce capital for accumulation, they must increasingly rationalize their production in order to remain competitive and they become increasingly dependent on the expert skills of the members of the new class (*id*). In this way, the new class arises out of the material conditions created by the old class. But it becomes autonomous from the old class; this autonomy is grounded in the specialized knowledge or cultural capital transmitted by the educational system. Gouldner explains this grounding in cultural capital as being part of a speech community, what he calls the “culture of critical discourse” (*id*, p.28).

While Daniel Bell dismisses new class theory as “a linguistic and sociological muddle,” (1979, p. 144) this school of thought represents an alternative to the premature scuttling of class as a relevant social category. Such dismissal of class as a relevant social category is characteristic of the *information society* model. At the same time, new class theory avoids the rigidities of orthodox Marxist analysis that center attention on the industrial proletarian class.

VII. The Seventh Strand: The Ideology of the Information Age

The *information society* model is based on an implicit assumption, best characterized as the “*End of Ideology Thesis*,” that effectively negates the need for critical inquiry and leads to the uncritical acceptance of the above strands of what may be called the mainstream ideology of the information age. In contrast, the *information-for-society* model explicitly recognizes an ideology of the information age as a form of hegemony and seeks to develop counter-hegemonic strategies.

A. The "End of Ideology" as Ideology of the Information Age

This section explores the role of ideology, ideological critique and hegemony in what has come to be known as the age of information. The widespread and popular usage of terms such as the information age, information society and the information economy indicate a generally held belief that a new type of society is emerging. Based on rapid technological advances, particularly the convergence of computers and communications and the resulting growth of digital networks, the basic assumption that we are now living in the *information age* and that we have shifted into an *information economy* has been taken as a given.

The various components of these assumptions have been discussed throughout this chapter. But a consistent, yet unspoken, theme running throughout all of these threads is a lack of critical analysis, a lack of questioning the possibilities enabled by rapid technological advances. This blindspot necessarily constrains not only policy options themselves, but also the discourse surrounding policy. Despite the democratic potentials promised by the rapid diffusion of the Internet, it seems as if the model of e-commerce is coming more and more to dominate the new media, pushing alternative models for its development to the side in the process. These constraints may together be seen as constitutive of a dominant ideology of the information age. But it is a surreptitious ideology that does not portray itself as such. Indeed, a crucial component of the ideology of the information age is a denial of its status *qua* ideology, an aspect of Daniel Bell's (1962/1988) and Seymour Lipset's (1963) "*End of Ideology*" formulation.

While the *End of Ideology* thesis was rapidly discredited by the turmoil of the 1960's, it has staged a comeback, albeit in disguised form, through Bell's post-industrial / information society thesis. Jennifer Slack (1987, p. 3) argues that a dominant ideology of the information age can be identified and she seeks to identify its “theoretical underpinnings, its reach, its mechanisms of reproduction and its consequences.” Slack claims that in much of the existing literature, the information age is assumed as a set of social practices that are mirrored in their description. There is a correspondence between reality and descriptions of it. In contrast, the articles in her collection show how the descriptions of the information age are themselves constitutive aspects of the information age. She argues that “descriptions of the information age are ideological, and ideology permeates what the information age is, how it is lived, how it is experienced, and what it will become” (*id*, p. 2). Rather than assume a correspondence between social practices and their descriptions, she sees ideology as intervening in this relationship.

The dominant ideology of the information age has been popular because it promises a more democratic world that values knowledge, provides full employment, permits more leisure time, and creates higher productivity. These are powerful arguments. For example, Alvin Toffler's *Third Wave* (1980) provides an exemplar of how the dominant ideology presents optimistic visions of a better society. Here, the computer chip will lead to a *Third Wave* society marked by local control and increased democracy, all without the need for mass uprisings or questioning capitalism. Yet, as T.R. Young (1987) notes, “Toffler’s vision is historically, sociologically, and politically naïve.” While Toffler ignores questions of power, Young argues that “any knowledge

process mediated by an existing social structure will tend to reproduce that structure” (*id.*). Young's analysis of the reception of the *Third Wave* presents a case study in how hegemony operates through media institutions such as newspapers, magazines, book clubs and press agencies, all of which enthusiastically hailed the arrival of Toffler's work.

When the underlying assumptions of the “post-industrial society as information society” thesis are made explicit and critically interrogated, then various issues will come into view and percolate to the surface. Then, as previous sections have argued, technology need not be viewed as an autonomous, neutral and determining force; perhaps, to the contrary, it has substantive values that are constituted through social and political arrangements. The commodification of information need not be accepted as an inevitable outcome; perhaps the “public goods” nature of information means that the social provision of information goods and services remains desirable. Nor must the rapid growth and diffusion of information technology necessarily result in “information age exceptionalism;” perhaps these changes may be historically situated in a more continuous relationship with the industrial past, indeed within capitalist relations itself. However, this redefinition of the underlying theoretical framework, which is needed to make sense of a rapidly changing society, must include an explicit recognition of the role of ideology.

B. Towards a Counter-Hegemonic Ideology of the Information Age

The construction of an alternative framework for the role of information and technology in contemporary society must begin by recognizing the prevailing ideology of the information age, which can then be subjected to ideological critique. A brief review

of the concept of ideology will be presented, showing how elusive the notion has been. Antonio Gramsci's (1971) concept of hegemony will then be considered as an enhanced framework for ideological critique, and counter-hegemony as a conceptual tool for the construction of alternative frameworks.

1. Ideology as an Illusive Concept

David McLellan (1986, p. 1) describes ideology as the most elusive concept in the whole of social science, an essentially contested concept.³⁴ He attributes this situation to an ongoing oscillation between a positive and negative connotation that became characteristic of the whole history of ideology (*id*). An early strand of the negative connotation of ideology is found the passage in Marx's *German Ideology*, where the metaphor of inversion is employed:

“The production of ideas, of conceptions, of consciousness, is at first directly interwoven with the material activity and the material intercourse of men, the language of real life. Conceiving, thinking, the mental intercourse of men, appear at this stage as the direct efflux of their material behaviour. The same applies to mental production as expressed in the language of politics, laws, morality, religion, metaphysics, etc. of a people. Men are the producers of their conceptions, ideas, etc. -- real, active men, as they are conditioned by a definite development of their productive forces and of the intercourse corresponding to these, up to its furthest forms. Consciousness can never be anything else than conscious existence, and the existence of men is their actual life-process. If in all ideology men and their circumstances appear upside-down as in a camera obscura, this phenomenon arises just as much from their historical life-process as the inversion of objects on the retina does from their physical life-process.” (Marx, 1977, p. 164)

But in later works, Marx appears to have abandoned the purely negative usage of ideology. In a passage from the Preface to the *Contribution to the Critique of Political Economy*, Marx says:

"...a distinction should always be made between the material transformation of the economic condition of production, which can be determined with the precision of natural science, and the legal, political, religious, aesthetic, or philosophic - in short, ideological forms in which men become conscious of this conflict and fight it out" (Marx, 1977, pp. 389-390).

Here Marx is ascribing a neutral if not positive role to ideology. Nonetheless, as McLellan (1986, p. 18) argues, Marx's conception of ideology was unclear, leaving much room for interpretation and debate. McLellan points to three major developments in the early 20th century Marxian treatment of ideology.

In the first situation, the Second International simplified Marx's ideas into a general doctrine of economic determinism, thereby equating ideology with false consciousness. While often attributed to Marx, it is Frederick Engels who introduced the term "false consciousness" in his 1893 *Letter to Mehring*. Engels first notes that while he and Marx always emphasized the "derivation of political juridical and other ideological notions...from basic economic facts, [they] neglected the ways and means by which these notions...come about" (Marx & Engels, 1968, p. 700). Engels then goes on to discuss ideology as that process:

"Ideology is a process accomplished by the so-called thinker consciously, it is true, but with a false consciousness. The real motive forces impelling him remain unknown to him; otherwise it simply would not be an ideological process. Hence he imagines false or seeming motive forces. Because it is a process of thought he derives its form as well as its content from pure thought, either his own or that of his predecessors. He works with mere thought material, which he accepts without examination as the product of thought, and does not investigate further for a more remote source independent of thought; indeed this is a matter of course to him because, as all action is *mediated* by thought, it appears to him to be ultimately based upon thought" (*id.*).

Second, Lenin stripped ideology of its negative connotations. In *What Is To Be Done*, Lenin (1902/1969, pp. 40-41) describes socialism as the ideology of the proletarian class:

“[t]he only choice is either bourgeois or socialist ideology. There is no middle course (for mankind has not created a "third" ideology, and, moreover, in a society torn by class antagonisms there can never be a non-class or an above class-ideology). Hence, to belittle the socialist ideology in any way, to turn aside from it in the slightest degree means to strengthen bourgeois ideology.”

Here Lenin is ascribing a positive as well as a negative value to ideology. But in doing so he also limits the concept to one that exists only in its purest form. Eagleton (1991, p. 90) observes that ideology has "returned full circle to the Enlightenment *philosophes*." But he also calls the situation thoroughly confused:

“Ideology would now seem to denote simultaneously false consciousness (Engels), all socially conditioned thought (Plekhanov), the political crusade of socialism (Bernstein and sometimes Lenin), and the scientific theory of socialism (Lenin). It is not hard to see how these confusions have come about. They stem, in effect from the equivocation we noted in the work of Marx between ideology as illusion, and ideology as the intellectual armoury of a social class. Or to put it another way, they reflect a conflict between the epistemological and political meanings of the term” (*id*).

Third, there was a growing sentiment that ideology might be a more powerful and independent force than earlier thought, so more attention was paid to it among Western Marxists (1986, p. 21). Eagleton (1991, p. 115) argues that it is through Gramsci's analysis of hegemony that the notion of ideology is enriched.

2. Hegemony as a Clarifying Concept

In his *Prison Notebooks*, Antonio Gramsci presents the concept of hegemony but he seldom treats the term ideology directly. This usage can be explained by seeing a

relationship between the two concepts. Gramsci likens the various strands of hegemony in civil society to a system of trenches in warfare (1971, p. 235), and presents the formula “State = political society + civil society” as representing hegemony in civil society, protected by an armour of coercion through the state (*id*, p. 263). While the state is seen as an ultimately coercive force, hegemony acts through the institutions of civil society to gain consent:

“[e]very state is ethical in as much as one of its most important functions is to raise the great masses of the population to a particular cultural and moral level, a level (type) which corresponds to the needs of the productive forces for development, and hence to the interests of the ruling classes. The school as a positive educative function, and the courts as a repressive and negative educative function are the most important State activities in this sense: but, in reality, a multitude of other so-called private initiatives and activities tend to the same end – initiatives and activities which form the apparatus of the political and cultural hegemony of the ruling classes” (*id*, p. 258).

In the essay *The Study of Philosophy*, Gramsci (1971, p. 375-377) most directly treats the concept of ideology. He observes that ideology originally meant the "science of ideas" or more precisely the "analysis of ideas," whereby ideas had to be broken down into their original elements, which elements could be nothing but sensations (*id*, p. 375). However, he notes that this sensationalism could also be associated with religious faith and extreme beliefs in spiritualism.

How has the meaning of ideology passed from a general “science of ideas” to its use in a pejorative sense? Gramsci questions the negative usage of the term:

"...there is a potential element of error in assessing the value of ideologies, due to the fact ... that the name ideology is given both to the necessary superstructure of a particular structure and to the arbitrary elucubrations of particular individuals. The bad sense of the word has

become widespread, with the effect that the theoretical analysis of the concept of ideology has been modified and denatured" (*id.*, p. 376).

Gramsci goes on to describe a three-step process leading to this error:

"1. ideology is identified as distinct from the structure, and it is asserted that it is not ideology that changes the structures but vice versa; 2. it is asserted that a given political solution is "ideological" - i.e. that it is not sufficient to change the structure, although it thinks that it can do so; it is asserted that it is useless, stupid, etc. 3. one then passes to the assertion that every ideology is "pure" appearance useless, stupid, etc."

In rejecting the purely negative connotation of ideology as false, the question arises whether Gramsci is rejecting the Marxian view of the concept, especially as expounded in the *German Ideology*. Eagleton (1991) argues that Gramsci is not rejecting Marx and Engels' analysis. Instead, the "*German Ideology's* equation of ideology with speculative illusion is for Gramsci simply one historically determinate phase through which such ideologies pass.... What the early Marx and Engels are tempted to see as the eternal form of all ideology is for Gramsci a specific historical phenomenon" (1991, p. 117).

This analysis leads to the question of the relationship between the notion of ideology, as variously used within Marxist theory, and Gramsci's concept of hegemony. It has been argued that ideology is a slippery concept and there is no general agreement as to its use or meaning. This confusion is best demonstrated through Eagleton's six senses of the term (1991, p. 28) as well as the debate within Marxism as to whether ideology has negative or neutral connotations. If hegemony refers to the manner in which a ruling power wins consent from those it subjugates, it would seem to include ideology within its reach. Yet, as Eagleton (1991, p. 112) points out, hegemony is not reducible to ideology,

as ideology may be imposed through consent or through force. Eagleton credits Gramsci with enriching the notion of ideology:

“If the concept of hegemony extends and enriches the notion of ideology, it also lends this otherwise somewhat abstract term a material body and political cutting edge. It is with Gramsci that the crucial transition is effected from ideology as 'systems of ideas' to ideology as lived, habitual social practice -which must then presumably encompass the unconscious, inarticulate dimensions of social experience as well as the working of formal institutions” (p. 115)

Raymond Williams (1977, p. 110) also discusses the advantages of using the concept of hegemony over the concept of ideology:

"Hegemony is then not only the articulate upper level of 'ideology', nor are its forms of control only those ordinarily seen as 'manipulation' or 'indoctrination'. It is a whole body of practices and expectations, over the whole of living: our senses and assignments of energy, our shaping perceptions of ourselves and our world. It is a lived system of meanings and values -- constitutive and constituting -- which as they are experienced as practice appear as reciprocally confirming."³⁵

Thinking about the “ideology of the information age” as a form of Gramsci’s hegemony helps enrich and clarify the otherwise illusive nature of ideology. But while a Gramscian analysis is helpful in coming to grips with the ideology of the information age, it is important to avoid taking his work out of the historical context in which it was written. Anne Showstack Sassoon (1987) warns that his texts are not a manual from which ready-made concepts may be extracted and used for contemporary analysis. Similarly Renate Holub (1992, p. 22) distinguishes between adopting Gramsci’s response to a particular problem and utilizing the structure of his response:

“I would like not only to examine the structure of Gramsci’s analysis and theory of the intellectual, but also to explore the possibility of pragmatically adjusting, altering, negotiating, transforming that structure to meet our political challenges and to experiment with analytical and

theoretical frameworks that respond to relations of power and domination in our place and our time” (*id*, p. 22-23).

Sasoon and Holub’s concerns may be generalized to the utilization of Marxian thought in general. The imperative that a theorist’s methodology be reapplied in light of different historical conditions will be revisited in association with the discussion of Pashukanis’ theories of the nature of law in chapter 3.

Conclusion: The Totality of the Seven Strands

An overarching difference between the *information society* and *information-for-society* models is based on the interrelationship of their components. Information society theory is premised on Daniel Bell’s notion of the “disjunction of realms.” Bell (1988, p. 413) argues that:

“against the holistic modes, my thinking about society has proceeded on the assumption of a disjunction between culture and social structure. A Functionalist or a Marxist view sees these two either as integrated, with value systems regulating behavior, or *as a totality, in which the substructure of the material world “determines” the political, legal and cultural orders.* I have argued that such views confuse the different rhythms of change in the different levels of the history of societies.” (emphasis added)

In contrast, the critical model is holistic. Malcolm Waters (1996, p. 28) defines holism as “an orientation in which all aspects of society are contained within a single system, in which these elements are evenly and continuously connected and in which the system is driven through time by a unitary dynamic or logic.”³⁶ The critical model’s components are interrelated and form part of the broader totality that Bell rejects.

In the emphasized portion of the quoted passage, Bell conflates a particular (orthodox) reading of Marx’s base/superstructure duality with the much broader range of

theories upholding the concept of totality. This particular reading of Marx has also been identified as the source of antagonism between political economy and cultural studies (Garnham, 1997, p. 57). One need not subscribe to a deterministic version of the relationship between the economic base and the political, legal and cultural orders in order to view these elements as part of a holistic totality. Totality does not imply any particular determinist relationship amongst the components of the whole. Bell's theory of disjunction of realms, misses this point. The disjunction between social structure and culture also obscures the fact that "culture is produced within relationships of domination and subordination and thus reproduces or resists existing structures of power" (Kellner, 1997, p. 105).

For Georg Lukacs (1971, p. 27), what differentiates Marxism from bourgeois thought is not the "primacy of economic motives in historical explanation," but rather "the point of view of totality." Martin Jay (1984, p. 14) points out that while the concept of totality has been at the center of Western Marxist thought, Lukacs' claim is inaccurate inasmuch as holistic perspectives "have been developed by a wide range of thinkers including Karl Mannheim, Othmar Spann, Talcott Parsons, and the adherents of such movements as structuralism, Gestalt psychology, and systems theory."

Jay (1984, p. 23) distinguishes between normative and descriptive totality. He points to Lukacs' argument, that it is crucial that there should be an aspiration toward totality (1971, p. 198), as an example of normative totality. Totality is used in a descriptive sense to show that "adequate understanding of complex phenomena can follow only from an appreciation of their relational integrity" (Jay, 1984, pp. 23-24).

In his inaugural address as Director of the Institute for Social Research, Max Horkheimer emphasized the importance of such interrelations:

“There is one question around which the discussion of society has started to crystallize itself ever more clearly, in social philosophy, narrowly understood, as well as in the circles of sociology. It is not just a fashionable question, but one which presents an actualized version of some of the most ancient and important philosophical problems: the question of the connection between the economic life of society, the psychological development of its individuals and the changes within specific areas of culture to which belong not only the intellectual legacy of the sciences, art and religion, but also law, customs, fashion, public opinion, sports, entertainments, lifestyles, and so on. The intention to study these three processes presents merely an updated version by way of contemporary methodologies and the present state of our knowledge, of the ancient question as to the relation of particular existence and universal reason, of the real and the idea, of life and spirit --adapted to a new problematic” (1930/1989, pp.33-34).

The *information-for-society* model is situated within the research program that Horkheimer was outlining.

The framework advanced in this chapter will be tested by examining the contemporary intellectual property policy environment. In the following chapter, the contemporary changes in copyright and related policies will be reviewed with a special emphasis on the controversy over new database legislation.

Endnotes to Chapter 1

- ¹⁰ See note 1, *supra*.
- ¹¹ Daniel Bell's *Coming of Post-Industrial Society* is arguably one of the most influential books of the 20th century. First published in 1973 and then reissued with an expanded forward in 1976, the work was again reissued in 1999 with a new forward by the author entitled *The Axial Age of Technology*. In this Forward, Bell maintains that his formulation of post-industrial society has been proven correct by events and he reiterates the elements of his thesis. For a review of the 1999 foreword, see Trosow (2000).
- ¹² For a more detailed discussion of Burrell and Morgan's framework and its applicability to the literature of Library and Information Science, see Trosow (2001).
- ¹³ Burrell and Morgan develop functionalist sociology in Chapter 4 (pp. 41-117), tracing it to August Comte's (1798-1857) positive model of society that was based on the methods of natural science.
- ¹⁴ Interpretive sociology is developed by Burrell and Morgan in Chapter 6 (pp. 227-259), and traced to Immanuel Kant (1724-1803), who stressed the primacy of *a priori* knowledge over empirical experience. They identify the works of William Dilthey (1833-1911), Max Weber (1864-1920) and Edmund Husserl (1859-1938) as most foundational to the paradigm (p. 228).
- ¹⁵ Burrell and Morgan's develop the radical structuralist paradigm in Chapter 10 (pp. 326-364) and trace it to Karl Marx (1818-1883) and Frederich Engels' (1820-1895) materialist view of history, particularly as it was been interpreted by Nikolai Bukharin (1888-1938).
- ¹⁶ Radical humanism is developed by Burrell and Morgan in Chapter 8 (pp. 279-309) where it is traced to Georg W.F Hegel (1724-1803) and Marx as later developed by Antonio Gramsci (1891-1937), Georg Lukacs (1885-1974) and writers associated with the Frankfurt School of Critical Theory.
- ¹⁷ Jennifer Slack (1987) claims that in much of the existing literature, the "information age" is assumed as a set of social practices that are mirrored in their description. There is a correspondence between reality and descriptions of it. In contrast, she argues that descriptions of the information age are themselves constitutive aspects of the "information age." The relationship between Slack's ontological assessment and questions of ideology are further discussed in Section VII.
- ¹⁸ Morrow and Brown explicitly reject the qualitative/quantitative dichotomy. By *intensive*, they refer to the case study of individuals, mediations or systems. By *explication*, they mean "empirically lifting into view the underlying semantic, sociocultural and structural relations that are constitutive of such actors, mediations and systems" (1994, p. 212). The patterns disclosed through such intensive explication are in turn compared across a set of historically comparable actors, mediations, or systems so that limited generalizations may be made. By "actors, mediations, or systems," Morrow and Brown are referring to three levels of analysis, the social psychological analysis of individuals, the systemic analysis of social structures and the sociocultural analysis of mediations or social practices (*id*, p. 215).
- ¹⁹ Machlup's five categories are: practical knowledge (subdivided into professional, business, workman's, political, household and other practical knowledge), intellectual knowledge, small-talk and

-
- pastime knowledge, spiritual knowledge and unwanted knowledge (1962, p. 21-22).
- ²⁰ The mathematical notation is simply for representational purposes and should not suggest the need to perform actual computations. Other authors have substituted a (yield) sign for the equality symbol to emphasize this relationship.
- ²¹ The commodity form of information will be examined in detail in Chapter 4. For now, the term commodity will be used in the general sense to indicate a product or service that may be sold or exchanged in the market.
- ²² Reification may generally be defined as “the act (or the result of the act) of transforming human properties, relations and actions into properties, relations and actions of man-produced things which have become independent and which are imagined as originally independent of man and which govern his life” (Petrovic, 1983). The concept will be treated in greater detail in Chapter 4.
- ²³ As an example, he points to the bridges over the parkways on Long Island that were designed so that they would clear the curbs below at about nine feet, thereby allowing access for private cars but not for city buses. Winner contends this deliberate design decision was meant to exclude inner-city residents from reaching suburban beaches by public transit; a result which would not have been feasible, for example, through a direct measure ordering the segregation of beach facilities.
- ²⁴ The question of ideology will be discussed further in Section VII, *infra*.
- ²⁵ The centrality of knowledge in the production process is also emphasized by David Teece (2000, p. 3) who describes the “development and astute deployment and utilization of intangible assets, of which knowledge, competence, and intellectual property are the most significant” as the new source of competitive differentiation and basis for wealth creation.”
- ²⁶ Castells fuller argument is that in addition to *relations of production*, one must also account for relations of *power* (founded upon the state as a coercive force) and experience (founded upon gender relationships). While Castells notes that social phenomena are framed as instances of interaction between relations of production, power and experience, he limits his further discussion to the structure and logic of the production process due to his particular research interest (1989, p. 8).
- ²⁷ Hardt and Negri (2000, p. 294) present a similar historical viewpoint: “It has now become common to view the succession of economic paradigms since the Middle Ages in three distinct moments, each defined by the dominant sector of the economy: a first paradigm in which agriculture and the extraction of raw materials dominated the economy, a second in which industry and the manufacture of durable goods occupied the privileged position, and a third and current paradigm in which providing services and manipulating information are at the heart of economic production.”
- ²⁸ But flexible accumulation is also marked by shifts on the consumption side, including a “greater attention to quick-changing fashions and the mobilization of all the artifices of need inducement and cultural transformation that this implies” (Harvey, 1990, p. 156). Harvey speaks of a shift of emphasis from the production of goods to the production of events as spectacles (*id*, p.157).
- ²⁹ The term *positive* is used here in contrast to normative. The *Palgrave Dictionary of Economics* defines *positive economics* as “the branch of economics which is concerned with the description and explanation of economic phenomena, while normative economics encompasses the body of thought devoted to the application of positive economics for the purpose of giving advice about

practical problems including those about public policy. . . . The question 'What is?' belongs to positive economics; the question 'What ought to be?', to normative economics" (Wong, 1987, p. 920).

- ³⁰ In the Landes and Posner model, the cost of creating a work is first separated into its fixed and variable components. The fixed costs, or the costs of expression, include the author's time and effort and the publisher's costs of soliciting, editing and preparing the manuscript. The variable costs of producing a work, including printing, binding and distribution, increase with the number of copies produced. They assume that for a new work to be created, the expected return must exceed the expected cost and that copies will be made up to the point where the marginal cost of one more copy equals its expected marginal revenue. (Landes & Posner, 1989, p. 327). Without copyright protection, a competitor could buy a copy of a work and produce and sell copies of it. Since the copier's cost do not include the original fixed costs of expression, the model holds that "[t]he market price of the book will eventually be bid down to the marginal cost of copying, with the unfortunate result that the book probably will not be produced in the first place, because the author and publisher will not be able to recover their costs of creating the work" (*id.*, p. 328). The publisher's problem is magnified since all fixed costs and some variable costs must be incurred prior to knowing what the demand for the work will be. The model holds that compensation for this risk of failure must also be included in the difference between the price and the marginal cost. The copier's ability to defer making copies until having knowing that the work is a success increases the potential gains from free riding on the original work.
- ³¹ The distinction between public and private goods and the application of this distinction to information will be treated in depth in Chapter 4.
- ³² For a discussion of how workers in digital industries constitute a new working class, see Bolt (2000). Bolt argues "in the endless quest to transform itself, capitalism has spawned a new working class. The proletariat was an essential product of the industrial revolution. The lighter, more efficient capitalism of the digital revolution has created the Binary Proletariat. This new proletariat is made up of the working class employees of digital companies worldwide. Those who face the endless glow of a screen from within the confines of cubieled subjugation make up this new, but as of yet unrecognized, Binary Proletariat." Bolt emphasizes that this new working class is binary in the additional sense that there is a growing polarization between relatively well-paid laborers in developed countries who work directly with digital technology, and a less visible group of poorer workers, mostly in developing countries.
- ³³ Gouldner says their theory of distributive justice is taken as "*from each according to their ability to each according to their work*" which is also the distributive norm of socialism (1979, p. 20). While the new class is Gouldner's "best-card" he still sees them as flawed as a universal class (*id.*, p. 85). While flawed, Gouldner calls the new class "the most progressive force in modern society" (*id.*, p. 83) because it has no motives to curtail the forces of production and no wish to develop these forces solely in terms of their profitability. He also holds the new class as ecologically responsible, a leading force against censorship and the most cosmopolitan and internationalist of all elites. Gouldner calls these contradictions the "paradox of the New Class" in that they are both emancipatory and elitist (*id.*, p. 84).
- ³⁴ McLellan points out that while there were earlier precursors to the concept of ideology (Bacon observed that human understanding had been obscured by idols, mistaken, and irrational conceptions) the term itself was first coined by the French philosopher, Antoine Destutt de Tracy in 1797 (*id.*, p. 5). For Tracy, ideas were not innate; they were based on physical sensations. Hence, ideology as the

rational investigation of the origin of ideas was at first a concept free of pejorative connotations. McLellan recounts how Napoleon, who first supported Tracy's conception of ideology, eventually came to turn on it, blaming ideologues for his defeats (*id.*, p. 6).

- ³⁵ Williams points out two specific advantages of utilizing the concept of hegemony:
“First, its forms of domination and subordination correspond much more closely to the normal processes of social organization and control in developed societies than the more familiar projections from the idea of a ruling class, which are usually based on much earlier and simpler historical phases” (*id.*). The second advantage for Williams is that it opens up a whole different way of seeing cultural activity, traditionally and as it is practiced. Most important for Williams is that hegemony, as it is lived and experienced, is not a system and it is not a structure. It is a process, a “realized complex of experiences, relationships and activities, with specific and changing pressures and limits” (p. 112). Neither is hegemony static, it has to be renewed, recreated, defended and modified and all on a continuous basis. This dynamic notion of hegemonic processes must continuously take into account the alternatives that may threaten its dominance.
- ³⁶ According to Waters, Daniel Bell located the origins of sociological holism in Hegel and found it in subsequent theorists as diverse as Karl Marx and Talcott Parsons (1996, p. 28-29).

Chapter 2: Databases and the Contemporary Policy Environment

I. Overview of the Intellectual Property Policy Environment in the United States

Historically, it has been well recognized that restrictive intellectual property laws pose a threat to the free flow of information. The drafters of the United States Constitution understood the potentially censorious aspects of the copyright monopoly, and their desire to limit the restrictive effects of intellectual property law is evidenced by the specific language of the copyright clause itself. The United States Constitution gives Congress the power to pass copyright and patent laws, not generally, but for a particular purpose:

“...to promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries . . .” (Article I, Section 8, clause 8).

A careful reading of this constitutional language shows how the limitation was permitted only to secure a particular end (promoting the progress of science and useful arts), is only applicable to certain categories (writings and discoveries of authors and inventors) and is to last only for a limited time. Throughout the history of copyright law, the tensions between the limited monopoly and the free flow of information became evident and were ameliorated by a set of “safety valves.” These measures were defined in a print-based world and generally operated to temper the monopoly granted to owners. Examples of such safety valves are the *fair use doctrine*, the *first sale doctrine*, the *idea/expression dichotomy*, the *originality requirement*, the *limitation on the duration of copyrights* and the over-arching concept of the *public domain*. The latter is viewed as an

over-arching concept because regardless of how the other rules are applied during the limited term of copyright, the end destination of all works is ultimately the public domain.

It is useful to think of these safety valves in multi-dimensional terms. Along one dimension, the *temporal duration* of copyright is limited. Along the second dimension, various exceptions or constraints on unbridled enforcement, such as the fair use doctrine, limit the *effective scope* of the copyright interest. Along the third, *the literal scope* is placed within discrete boundaries. The idea/expression dichotomy and the requirement of originality are examples of limitations on literal scope. The originality requirement is a centerpiece of these limitations as it has served to delimit the reach of copyright and insure that facts remain part of the informational commons. These three dimensions are mediated by public policy and constitute a system of constraints on the potentially censorious effects that the monopoly power of copyright could have if not carefully limited.

Taken together, these constraints show how the print-based copyright regime attempted to mediate between the conflicting interests of owners and users through what is often referred to as the traditional balancing of interests. This balancing sought to encourage the flow of information essential to innovation, progress and democratic discourse, not simply to promote the right of the owner to exclude others. While the precise formulation of the optimal copyright system has always been elusive, an attempt was made to provide incentives on the one hand, while not unduly inhibiting access to information on the other. But while one obstacle to innovation may be lack of incentives

to create, the over-protection of intellectual property interests creates another. This tension gave rise to a trade-off that had been mediated by a set of safety valves created as matters of public policy. How these safety valves will migrate to the digital environment is a growing concern for legal scholars as well as the library, education and research communities.

Indeed, the current policy environment may be characterized as a multi-dimensional assault along all three of these dimensions: time, literal scope and effective scope. While the developments within all of these dimensions warrant detailed treatment and further study, this review will focus on the dimension of literal scope, particularly how proponents of expanded property rights in data and compilations are challenging the originality requirement. Developments within the other dimensions will be considered inasmuch as they would also relate to the scope and enforcement of any new exclusive rights in data. Before turning to a detailed discussion of database legislation, four other recent examples that evidence this tendency are briefly reviewed.³⁷

A. Copyright Term Extension

The Constitution permits Congress to create copyright interests only “for limited times” (Article I, section 8, clause 8). The first copyright statute set the term at 14 years, but it has been significantly extended over the years.³⁸ Whenever the copyright term is extended, the entry of the work into the public domain is correspondingly delayed. Term extension represents an expansion along the temporal dimension. The Copyright Act of 1790 (1 Stat 124) provided for a term of 14 years with the privilege of renewal for an additional 14 years by an author or assign. In 1831, the term was extended to 28 years

with the privilege of renewal for 14 years limited to the author and their widows and children. (4 Stat 436). The 1909 Act extended the renewal term to 28 years, bringing the maximum term to 56 years (35 Stat 1075).

The initial copyright term of 14 years reflected Framers' concern that the grant of monopoly privileges be limited. Table 2.1 chronicles the extensions that have been enacted in the maximum copyright terms.

Year	Law	Maximum Copyright Term
1790	1 Stat 124	28 years
1831	4 Stat 436	42 years
1909	35 Stat 1075	56 years
1962	Public Law 87-668	59 years
1965	Public Law 89-142	61 years
1967	Public Law 90-141	62 years
1968	Public Law 90-416	63 years
1969	Public Law 91-147	64 years
1970	Public Law 91-555	65 years
1971	Public Law 92-170	66 years
1972	Public Law 92-566	68 years
1974	Public Law 93-573	70 years
1976	Public Law 94-553	75 years
1998	Public Law 105-298	95 years

Table 2.1: Maximum Copyright Term for Companies

The latest extension was passed in 1998. The *Sonny Bono Copyright Term Extension Act* (P.L.105-298) provides a twenty-year extension to the existing term of the life-plus-fifty-years for individuals and seventy-five years for works for hire and anonymous works. Notwithstanding the limited constitutional purpose of copyright (*i.e.*, securing to authors a right in their works for a *limited time* in order to promote the progress of science and useful arts) the Act extends the copyright term retroactively as

well as to newly created works. While opponents argued that the creation of new works is dependent on a vibrant public domain, they were no match for the powerful entertainment industry, which had much to gain by the extension. For example, the Disney Company, whose copyright on Mickey Mouse was to expire in 2002, was active in promoting the measure.³⁹ Will copyright term extension become a perpetual issue? The term was last extended by nineteen years in 1976 and there is good reason to suspect that its supporters will raise the term extension issue again. After passage of the bill, Rep. Mary Bono (R-CA) remarked,

"Sonny wanted the term of copyright protection to last forever. I am informed by staff that such a change would violate the Constitution. I invite all of you to work with me to strengthen our copyright laws in all of the ways available to us. As you know, there is also Jack Valenti's proposal for term to last forever less one day. Perhaps the Committee may look at that next Congress" (Bono, 1998).

After passage of the bill, a group of book and music publishers, film restorers and archivists, and others interested in maintaining the public domain brought an action in federal court to challenge the measure.⁴⁰ The case is currently pending before the United States Supreme Court.

B. The Anti-Circumvention Rules

The "anti-circumvention" and "rights management" provisions of the Digital Millennium Copyright Act (hereinafter, DMCA)⁴¹ expand the dimension of the *effective scope* of copyright limitations. The anti-circumvention measure (of the Act) provides that "no person shall circumvent a technological measure that effectively controls access to a work protected by this title" (Section 1201). This language had been widely criticized as overly broad and likely to proscribe many acts that are legitimate and lawful such as

encryption research and reverse engineering (Samuelson, 1996). The measure was also criticized as being a threat to personal privacy as users would be prohibited from taking measures to prevent the collection of information about their online activities. (Cohen, 1996, 1997; Cornish, 1996). These privacy-related concerns are bolstered by the language of the *Report of the Working Group on Intellectual Property Rights* (United States Department of Commerce. Information Infrastructure Task Force, 1995, p. 233), which states, “[c]opyright owners should be free to determine what level or type of protection (if any) is appropriate for their works, taking into consideration cost and security needs, and different consumer and market preferences (subsequently referred to as the *White Paper*.)

Section 1201 of the Act contains broad limitations on the manufacture and distribution of devices capable of circumventing technological measures that control access to protected works or that protect the rights of a copyright owner. The Digital Futures Coalition (1997) expressed particular concern over this provision:

“Section 1201 of the proposed Act attempts to ban all devices that could be used to circumvent technological measures designed to restrict access or prevent unauthorized reproduction of copyrighted works. This provision threatens to stifle innovation. Furthermore, whatever rights individuals may have in theory under copyright law, such as fair use, would be effectively negated by this far-reaching provision.”

Rights management systems, often referred to as Electronic Copyright Management Systems, are technological systems designed to protect intellectual property rights in a digital environment.⁴² The Information Infrastructure Task Force’s *White Paper* (1995, p. 191) says “[t]hese systems will serve the functions of tracking and

monitoring uses of copyrighted works as well as licensing of rights and indicating attribution, creation and ownership interests.”

The “rights management” provisions of Section 1202 prohibit the removal or alteration of rights management information as well as the subsequent distribution of works where such information is known to have been altered or removed. Remedies for the violation of Sections 1201 or 1202 include civil and criminal penalties. The Digital Futures Coalition (1997) objected to the breadth of the liability and the threats it poses to personal privacy:

“Section 1202 threatens with liability even individuals who, without any intention to infringe or promote infringement, incidentally alter copyright management information designed to identify copyrighted works. Taken together, sections 1201 and 1202 create significant risks to the privacy of individual users of digital information networks.”

Proponents of the measures maintained that the anti-circumvention and rights management provisions were necessary in order for the United States to meet the requirements of Sections 11 and 12 of the WIPO Treaty⁴³ which place certain requirements on the laws of signatory states. WIPO member countries must provide adequate anti-circumvention protections as well as adequate protections against interference with rights management information. In response, opponents argued that less restrictive and more limited measures would satisfy the “adequate protection standards” imposed by the treaty.

Proponents also argued that Sections 1201 and 1202 were drafted narrowly and were necessary to maintain balance in the digital era:

“The provision on anti-circumvention, which was finally adopted as the Administration's proposal and which was ultimately incorporated into

H.R. 2281, is intended to protect the rights of copyright owners while encouraging the continued advancement of technology in a balanced manner that takes into account the needs and concerns of all interested parties and the importance of promoting the continuing growth of electronic commerce with its benefits for all members of American society” (Lehman, 1997).

In the final version of the bill as enacted, the anti-circumvention rules included compromise language that created limited exceptions for non-profit libraries, archives and educational institutions (section 1201d), law enforcement activities (section 1201e), reverse engineering (section 1201f), encryption research (section 1201g), devices intended to filter internet content from minors (section 1201h), and protecting personally identifiable information (section 1201i). However, these provisions are extremely narrow and subject to various counter-exceptions. The anti-circumvention rules as finally enacted were essentially a deferral of difficult policy decisions. Passage of the bill was seen by many legislators as essential in order to bring the United States into compliance with its WIPO obligations, but Congress was simply unable to sort out the myriad of details presented by the proponents and opponents of the measure. The legislation was not a long-term solution that settled the fundamentally irreconcilable positions of the stakeholders. Reps. Scott Klug and Rick Boucher, the architects of the final legislative compromise, said that the rules, even as amended, bootstrap the limited monopoly of copyright into a perpetual right, and fundamentally alter the balance that has been struck in the last 200 years.⁴⁴

Klug and Boucher also commented that delegating authority to the Secretary of Commerce to develop anti-circumvention regulations was simply a means of sidestepping the legislative stalemate that existed. They were referring to a provision in the final

legislation that deferred the operation of the anti-circumvention rules for an initial two-year period followed by subsequent reviews on a three-year cycle. During the initial period, an administrative rulemaking procedure was conducted by the Librarian of Congress that was to determine whether the “anti-circumvention” prohibition will adversely affect information users' ability to make non-infringing uses of a particular class of copyrighted works. The proponents and opponents of the measure actively participated in the rulemaking process, each side submitting various comments. Seeking a broad exemption similar to that of fair-use under existing copyright law, the library community requested:

“...a meaningful exemption from the... restriction against accessing copyrighted works protected by certain technological measures. They argued that a broad exception is essential if the public is to continue to enjoy uses that are in accordance with the statutory limitations long-existing in copyright law, as well as the DMCA. Fundamentally, the Libraries believe no cognizable harm could result to content owners from the exemption we propose, because the exemption would only apply to uses that are already subject to exemption under fair use and other provisions long-standing and established in the copyright law” (American Library Association, 2000).

The industry responded by saying the opponents were going beyond the scope of the rule-making procedures in seeking such a broad exemption and urged no change from the statutory language:

“Despite the attempts by librarians, universities and others, this rulemaking process was not intended to be an open-ended discussion on the effect that new technologies have on the way copyrighted materials are created, produced, marketed and distributed or whether copyright owners can or should have the right to use technological measures to control access or manage access to their works. Nor is it intended to be an investigation into the relationship between creators, intermediaries, customers and other parties. The sole issue that the Librarian is authorized to address here is whether anyone has suffered adverse effects by not

being able to access a work in order to make non-infringing use of it. The answer to that question is a resounding ‘no.’ Quite simply, no adverse effects have been shown” (Wasch, 2000).

While the final ruling did not contain the exemptions sought by the library and education communities, the Librarian of Congress did indicate that Congress should consider framing more explicit criteria for assessing the harm that could be done to the scholarly, academic and library communities by the statute. It is anticipated that the anti-circumvention rules will be a matter of continuing controversy in future legislative sessions.

Since its enactment, the enforcement provisions of chapter 12 have been invoked on a number of occasions giving rise to additional concerns. An example is the recent decision in *Universal v. Remeirdes*.⁴⁵ In that case, the defendant, 2600 Magazine, published and linked to a computer program called DeCSS as part of its news coverage about DVD decryption software.⁴⁶ The District Court granted a preliminary injunction against publication of DeCSS in January 2000. After an abbreviated trial, the Court further prohibited the magazine from even linking to DeCSS. The court held that the publication of DeCSS had violated the DMCA anti-circumvention provisions even though it was part of a news story, even though the program itself was protected expression, and even though no copyright infringement was actually shown to have occurred.⁴⁷

Another example of the broad enforcement powers of the DMCA is the criminal indictment of Russian programmer Dmitry Sklyarov on charges of trafficking and conspiracy to traffic in a copyright circumvention device in violation of section 1201 of

the DMCA. Skylarov works for ElcomSoft Co., a Russian software company that develops security-related products. One of their products is the Advanced eBook Processor (AEBPR).⁴⁸ Skylarov was arrested after Adobe officers brought ElcomSoft's software program to the attention of the FBI as they were concerned that the software allowed people to copy and view eBooks in Adobe's eBook format in other formats and on multiple computers. While the charges against Skylarov were subsequently dropped, the case is proceeding against his employer.⁴⁹ In any event, the chilling effect of the criminal provisions could not be erased.⁵⁰ The Remeirdes and Skylarov cases point to the danger that the prohibitions contained in chapter 12 of the DCMA are so broad that they effectively ban devices that enable lawful non-infringing, as well as infringing, uses.

In a recent talk, Siva Vaidhyanathan (2002) attributes the erosion of the traditional safety valves to the DMCA:

“Copyright used to embody a balance of interests. Within American copyright, there were four dramatic safeguards that mitigated the censorious power of copyright.

First, fair use, which is the ability to flexibly use the portions of copyright material for various purposes of benefits to the public; second, first sale, which is broadly speaking the notion that once you buy something like a book, you can resell it or lend it to who ever you want. Third, a democratic safe-guard that says you can't protect facts or ideas. And finally, there's the idea of a public domain – the notion that copyright should only be executable for a limited period of time.

In various complicated ways, all four protections are currently under threat. Copyright regulation is being taken out of human hands, out of courts, and built in to information systems. The domain of copyright regulation has shifted from the human and democratic to the technocratic and dictatorial. And simultaneously made it illegal to circumvent these technical protections under the Digital Millennium Copyright Act (DMCA).”

While the anti-circumvention rules are primarily designed to broaden the effective scope of copyright enforcement, the measures also have implications for elements within databases that are not currently covered by copyright law. Even where individual data elements are not currently copyrightable, it is well recognized that the selection and arrangement of the compilation as a whole may meet the threshold of originality to qualify for at least a thin level of copyright coverage. If a technological protection measure were employed to limit access to a compilation of data, then any attempt to defeat the access control in order to gain access to the elements within the collection would be barred by section 1201, even though the target data elements themselves are not copyrightable.

C. The No Electronic Theft Act

The *No Electronic Theft Act* (P.L. 105-147) also constitutes an expansion of effective scope, significantly expanding the scope of criminal liability for copyright infringement. Previously, the Copyright Act contained criminal penalties for willful copyright infringement only in cases involving “commercial advantage or private financial gain.” In a 1994 case involving the distribution of copyrighted software over a student-operated bulletin board, a court dismissed a criminal prosecution because the defendant never benefited financially from the transactions U.S. v LaMacchia, 871 F. Supp. 535 (D. Mass. 1994).

This case provoked a strong reaction from a content industry already intent on pushing for more stringent criminal penalties. Eliminating the requirement of direct financial gain, the Act extends the reach of criminal sanctions to include the reproduction

or distribution of copyrighted works based upon the total retail value of the work (\$1,000 for misdemeanors, \$2,500 for felonies). The Act extends the statute of limitations from three to five years and expressly calls for “victim impact statements” during sentencing.

In its enthusiasm to close the perceived “LaMacchia loophole,” Congress has cast a wide net. While the Act is susceptible to a number of challenges, especially if prosecutors attempt to apply it broadly to persons in the non-profit sector, the measure will likely succeed in creating a chilling effect against the full exercise of one's rights to copy and distribute protected works. Even where the works, or elements within the works are not protected by copyright, this chilling effect will still be a factor. The measure also seems designed to shift certain costs of enforcement from the private parties who financially benefit from copyright protection to the public at large. The larger policy issue of whether the criminal sanction should be expanded to cover private disputes between parties was not given adequate attention.

D. The Uniform Computer Information Transactions Act

Historically, federal copyright laws have controlled the use of information resources. The limitations on the rights of copyright owners (such as the fair-use doctrine, the first-sale doctrine, library and archival copying exceptions and limitations on infringement liability), operated to ameliorate the potential harsh effects of copyright law. But with the rise of electronic formats, information vendors have been trying to avoid these limitations by resorting to licensing agreements. Many licensing agreements contain provisions that take away many of the rights that users of information would have under copyright laws. Licensing agreements (often in a shrink-wrap or click-wrap form)

also contain many provisions that limit other rights of users. The enforceability of these agreements has been somewhat unclear, with different courts applying different rules. State contract law, not federal copyright law, generally governs licensing agreements.

Under license agreements, the owners of information assets are able to limit the users' ability to utilize the products, even to the point of giving up the right to engage in conduct otherwise permissible under copyright law. But under existing law, it is often unclear whether a court will enforce a restrictive licensing term that is at variance with a user's right under the copyright statute. The *Uniform Computer Information Transactions Act* (UCITA) was approved by the National Conference of Commissioners on Uniform State Laws (NCCUSL) in July 1999 and was amended by NCCUSL in July 2002.⁵¹ The law will govern contracts for the development, sale, licensing, maintenance, and support of computer software, as well as most contracts for information goods in digital form. The act has been widely criticized by consumer, library and educational groups as being one-sided in favor of software producers. A key problem is that a vendor may draft a contract under UCITA that gives the user fewer rights than they would have under federal copyright law.

UCITA is an attempt to impose a "uniform" set of provisions among the states. While uniformity and certainty are generally laudable goals, there are many problems with UCITA. The measure legitimizes a non-negotiable contract-based system of intellectual property that allows a vendor to delay the disclosure of the terms of the contract until after payment. It weakens the traditional notion of contractual assent by legitimating such fictional forms of assent as opening a shrink-wrap package or double

clicking with a mouse to access a product. It permits provisions that prohibit reverse engineering and the public comment or criticism of a product. UCITA also raises privacy concerns because it allows the licensor to disable computer information or software that resides on a user's system. UCITA also allows software firms to waive liability for known defects in their software.⁵²

The Software and Information Industry Association (SIIA) is a strong backer of UCITA, as shown by their issue brief on the subject:

“With the advent of the Information Age, billions of dollars in commerce are conducted in purchasing and using computer information products such as software and information. Without specific rules for these transactions, producers and users of these products are without clear guidance in how to form and carry out these agreements. In the absence of these rules, the courts have attempted to resolve disputes through contract laws enacted for goods ranging from household items to commercial aircraft. The results of these cases, coupled with the absence of product-specific contract law, presents a formidable barrier to realizing the vast potential of electronic commerce and with it the Information Age.

The creation of a uniform contract statute addressing transactions in computer information-including both software and information-products will facilitate the continued development of the electronic marketplace with reduced transaction costs. To accomplish this task the National Conference of Commissioners on Uniform State Laws (Conference) this summer approved ... (UCITA).

SIIA strongly supports UCITA, and its adoption among state legislatures. The approved draft statute provides a variety of positive developments for producers as well as customers, including substantially greater clarity and certainty over present law which pertains to contracts. When broadly enacted, this uniformity will provide a national framework for products whose transactions are national and often international in scope” (Software and Information Industry Association, 2000a).

To date, the measure has only been passed in Maryland and Virginia but its supporters are actively promoting the Act in several other states.⁵³ But even if UCITA is

not passed in a particular state, it can have extra-territorial effect through a contractual “choice of law” provision.⁵⁴

UCITA has implications for databases and compilations that are not covered by copyright, or which contain non-copyrightable data elements. The broad definition of computer information transactions contained in UCITA explicitly includes databases regardless of their status under copyright law.⁵⁵

E. Sweeping Changes or Incremental Adjustments?

While many legal scholars have sounded alarms about the sweeping nature of all of these changes and have urged a more cautious approach to intellectual property policy making, the proponents of these expansionary changes argue that the various amendments are necessary in order to update an outmoded copyright regime for the digital age.

While much has been written from both sides of the debate about the merits or demerits of individual changes, less attention has been given to the underlying unities and patterns that characterize all of these policy initiatives. From a socio-historical viewpoint, these phenomena have been under-theorized. Are they merely incremental adjustments needed to fine-tune existing law to meet the challenges of the digital environment, or do they represent a deeper shift in the underlying logic of rules governing the creation, dissemination and use of information and knowledge? What accounts for Litman’s “epidemic” or Halbert’s “feeding frenzy” at this particular historical juncture? To what extent are the policy shifts that motivate these writers related to ongoing technological transformations? Or is there something else at work that is less visible?

In order to address these questions, the particular legislative proposals need to be further interrogated in order for coherent patterns to emerge. The question of whether recent changes are incremental or far-reaching constitutes one of the significant debates concerning contemporary copyright policy. However, the analysis of the merits or demerits of particular provisions often eclipse this debate. Since the appearance of *White Paper* in 1995, critics such as Samuelson and Litman have argued that the proposals represent drastic changes in policy in favor of the proprietary rights of content owners. At the same time, proponents of these changes have continuously insisted that the changes are merely incremental. While the protagonists have generated detailed legal analysis regarding particular sections of proposed legislation, this debate needs to be situated within the broader context of the commodification of information, and the related concentration and globalization of the information industry in a period of rapid technological advances.

The following sections of this chapter will seek to respond to these issues first by focusing on one of these policy changes, the extension of copyright-type “protections” to data and compilations, and then by situating these developments within a broader historical framework. Often referred to as “statutory protection for databases and compilations” or *sui generis* legislation, these proposals constitute an attempt to expand the copyright monopoly along what was characterized above as the dimension of literal scope.

The rhetoric of the proponents of statutory protection for databases is based on a pair of claims that runs throughout contemporary copyright policy debates. The first

claim is that the proposed changes are in the general interest of society, necessary for and beneficial to both the owners and consumers of information products. The second is that the changes are only incremental adjustments and are necessary to keep the law apace with technological change.

A contrary set of assumptions would hold first that these changes are not in the general public interest but are in the nature of special interest legislation designed only to enrich the proponents. Second, these are not simply incremental “tweaks,” but constitute a fundamental restructuring of the historical balance that copyright law has attempted to maintain between owners and users of information. In the first view, there is little cause for alarm. In the second, the ability of information users to create new works and engage in innovative activities will be severely compromised by the enclosure of previously accessible resources. The two positions are summarized in Table 2.2.

	Database Legislation Proponents say:	Database Legislation Opponents say:
What is the nature of proposed changes in the law?	The changes are incremental	The changes are sweeping
Who will benefit from the proposed changes in the law?	General benefit. Society as a whole will benefit from these changes	The changes are only a special benefit for owners of existing databases

Table 2.2: The positions of *sui generis* proponents and opponents contrasted

The remainder of this chapter will proceed as follows. First, the background of the current attempt to enact *sui generis* database legislation will be discussed and the

justifications for the measures will be identified. The proposed legislation will then be examined with the goal of disclosing how the provisions will affect the work of information users engaged in scholarly, artistic, scientific and innovative activities. This discussion will be followed by a further inquiry into the rhetorical strategies used by the proponents of new database legislation. The chapter will conclude with an attempt to situate the move towards database legislation within a broader historical framework.

II. The “Need” for Database Legislation: Background and Justifications

Most accounts of the current drive towards statutory protection for databases highlight three background elements. The first two are legal developments and the third is a technological factor (National Research Council, 1999a, p. 73). First, in a 1991 ruling, the United States Supreme Court held that facts contained in a compilation did not qualify for copyright protection because they lacked the requisite originality. Second, in 1996, the European Parliament adopted a directive extending legal protection to compilations and databases. And finally, advances in information technology have made it possible to copy and widely disseminate information resources over worldwide networks. The increased ease of copying has raised concerns among content owners that their works might be misappropriated in cyberspace. Each of these three impetuses will be reviewed. Before turning to these issues, the following section will consider the strategic importance of databases for contemporary society.

A. The Strategic Importance of Databases

A recent report on scientific and technical databases by the National Research Council (NRC, 1999a) begins by describing the importance of databases for contemporary society:

“[A]s a result of the near-complete digitization of data collection, manipulation, and dissemination over the past 30 years, almost every aspect of the natural world, human activity, and indeed every life form can be observed and captured in an electronic database. There is barely a sector of the economy that is not significantly engaged in the creation and exploitation of digital databases, and there are many--such as insurance, banking, or direct marketing--that are completely database dependent” (NRC, 1999a, p. 17).⁵⁶

The centrality of databases to the research process, as well as the need for their broad availability, was emphasized by Joshua Lederberg (1999) in testimony before the House Judiciary Committee:

“Scientific and engineering research drives our nation's progress. Society uses the fruits of such research to expand the world's base of knowledge and applies that knowledge in myriad downstream applications to create new wealth and to enhance the public welfare.

Indeed, the policy of the United States has been to support a vibrant research enterprise and to assure that its productivity is exploited for national gain. Thus, freedom of inquiry, the open availability of scientific data, and the open publication of results are cornerstones of our research system that U.S. law and tradition have long upheld. The consequences of these wise policies has been spectacular. . .

A necessary component of these past and continuing achievements has been the wide availability of scientific and technical data and information, ranging from raw or minimally processed data to cutting-edge research articles in newly developing fields. This information has been assembled as a matter of public responsibility by the individuals and institutions of the scientific and engineering communities, largely with the support of public funding.”

Like the concept of information, the construction of a definition for a database is elusive. As a legal concept, the European Union Database Directive defines a database as “a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means.”⁵⁷

On a more technical level, a database is defined as:

“One or more large structured sets of persistent data, usually associated with software to update and query the data. A simple database might be a single file containing many records, each of which contains the same set of fields where each field is a certain fixed width. A database is one component of a database management system.”⁵⁸

Historian Mark Poster (1990, p. 69) says a database is “a repository of messages.” Martha E. Williams (2002, p. xx) provides a statistical analysis of the growth of databases in the annual *Gale Directory of Databases*. She reports that from 1975 through 2001 the number of database has grown from 301 to 12,111 and the number of records has increased from 52 million to 16.86 billion. During the same period, the number of database producers has grown from 200 to 3879. Williams also discusses the various ways that databases may be classified. The primary method is by the form of data representation, for which she identifies six types: word-oriented,⁵⁹ number oriented,⁶⁰ image-oriented, sound oriented, electronic services,⁶¹ and software (*id*, p. xxi).⁶² Other forms of classification are by region and country of origin,⁶³ subject category, medium of distribution,⁶⁴ and type of distributor.⁶⁵

Stephen Maurer (2001, p. 5) presents an alternative classification system based on the function of the database producer consisting of publisher, gatherer, refiner and portal. The publisher takes pre-existing documents and converts them to a searchable electronic

with minimal alteration. The gatherer assembles data from multiple sources and reports it in a unified database. Unlike publishers or gatherers, refiners actually improve raw data by searching for errors and adding commentary. Finally, a portal provides access to multiple databases through a common gateway. Maurer's classification scheme is useful for policy analysis because of the various levels of both effort and creativity involved in the different areas.

In addition to the classification schemes suggested by Williams and Maurer three additional types of criteria; the nature of the data elements, the nature of the source of the data, and the uses to which the databases are put with respect to the production process, would be useful for policymaking purposes.

First, some databases and compilations are composed of individual elements that are in themselves works, or portions of works, in which copyright subsists. On the other hand, many databases are composed of factual elements that lack the requisite originality for copyright to subsist. This distinction is important because in the case of the former, there are already enforceable copyright interests. Many of the claims of the database industry for *sui generis* legislation are based on the assumption that there is no protection under current law for the contents of databases and compilations, and this claim is overstated. Another distinction relating to the nature of the data elements is the difference between natural and synthetic data. Synthetic data, such as entries in telephone directories, racing forms, inventory lists, and stock market quotes, does not exist in a state of nature but is a human construction in order to serve a particular purpose. Synthetic data is usually compiled as a byproduct of some other activity. In contrast, natural data is

based on observation and experiment and describes phenomena in the natural world. It is usually collected because of the utility of the data itself, not as an offshoot of some other activity.

Second, with respect to the nature of the source of data, it is important to distinguish between data prepared in the public sector (or with public funds) and data that has been privately collected. Any set of rules governing the transfer and use of data should take into account the fact that governmental data, or data compiled in the course of government-funded research, has already been paid for by the taxpayers. It is also important to distinguish between data that is available from only one source and data that is available from multiple sources. This distinction is relevant for policymakers in order to avoid the problem of monopoly control over any collection of data since sole-source databases will be less prone to substitution by rival products. Finally, it is useful to distinguish between databases that are used in the production process from databases that are primarily geared toward end users. Dan Schiller (1997, p. 110) distinguishes two instances of the commodification of information; first, where information is the final product, and second, where information is an intermediate component of production. This distinction becomes increasingly relevant as the process of production itself becomes more information-intensive. Unfortunately, unlike categories such as subject matter and origin, these last three criterion are not tracked in the Gale compilation.⁶⁶ This broad variety of classification criterion of databases points to their diverse nature, and should signal great difficulties in crafting policies for the use and transfer of data that apply across the board.

An important feature of modern databases that warrants emphasis is their increasing complexity. Databases do not merely exist as fixed entities, but they should be thought of as non-linear and dynamic collections that are constantly undergoing change and transformative use. The NRC report (1999a, p. 34) distinguishes between two different types of uses of databases, end use and derivative use:

“End use--accessing a database to verify some fact or perform some job-related or personal task, such as obtaining an example for a work memo--is most typical of public consumer uses. End use does not involve the physical integration of one or more portions of the database into another database in order to create a new information product. A derivative (value-adding or transformative) use . . . builds on a preexisting database and includes at least one, and frequently many more, extractions from one or more databases to create a new database, which can be used for the same, a similar, or an entirely different purpose than the original component database(s).”

The ability to combine data from various sources is central to the success of the modern research process. The NRC report speaks to the advantages flowing from the ability to link data from multiple sources:

“In seeking new knowledge, researchers may gather data from widely disparate sources. A significant advantage arising from the abundance of digitized data now accessible through both private and public networks is the potential for linking data in multiple (even thousands of) databases. The ability to link sites on the World Wide Web is one type of integration that could result in more data being available overall to users. Another is the merging of databases of the same or complementary content. It is now possible to maintain a site with continuously verified links to related information sites for use by subscribers or members of a specific group...” (1999a, p. 34).

The critical implications of derivative uses of databases flow from the cumulative nature of science itself:

“The ethos in research is that science builds on science. The creation of derivative databases not only enables incremental advances in the

knowledge base, but also can contribute to major new findings, particularly when existing data are combined with new or entirely different data. The importance for research and related educational activities of producing new derivative databases cannot be overemphasized. The vast increase in the creation of digital databases in recent decades, together with the ability to make them broadly and instantaneously available, has resulted in entire new fields of data-driven research” (NRC, 1999a, p. 35).

Joshua Lederberg (1999) called the extraction and merging of sources from multiple databases “a hallmark trait of modern research:”

“A hallmark trait of modern research is to obtain and use dozens or even hundreds of databases, extracting and merging portions of each to create new databases and new sources for knowledge and innovation. However, not only researchers and educators, but all citizens with access to computers and networks, constantly create new databases and information products for both commercial and noncommercial applications by extracting and recombining data and information from multiple sources. The rapid and continuous synthesis of disparate data by all segments of our society is one of the defining characteristics of the information age. The ability of individuals and organizations to use information in a wide variety of innovative ways is also a measure of success of the original data-collection efforts.”

Paul David (2000, p. 9), also stresses the importance of the dynamic nature of databases for the research process, pointing out that interactivity is part of the source of the value of the database itself:

“. . .for open science research communities, databases are *dynamic* tools, not merely static sources to be passively consulted; they are formed and kept effective through an interactive process of examination, error-correction, updating, and incremental elaboration that engages the critical expertise of many individuals in the communities of researchers who cooperate in developing, certifying and maintaining these research instruments. Thus, in many contexts the value of the information to users is enhanced by the very fact that its use has been, and will continue to be shared with other researchers.”

The dynamic and interactive aspect of databases is also a function of their increased complexity. In respect to databases in the life sciences, Maurer, Firestone and Scriver (2000) describe how databases have outgrown the ability of single workers or small groups to manage and use them. They argue that without the ability to combine various data sources, important information may be lost to researchers:

“In the life sciences, millions of observations about location, interpersonal variation and function within the human genome are produced, but not published. In principle, these data contain important clues for evolutionary biologists, biochemists, neuroscientists and health-care personnel, to name a few. Highly automated central depositories could make these data available to everyone” (2000, p. 118).

The problem of complexity is particularly acute in the field of human genome research. Jamie Cuticchia (2000, p. 65) notes that “[a]s more data are generated this year than ever before, it is unlikely that any single or small group of organizations can adequately collect, manage, and deploy the intellectual capital needed to meet the data collection, curation, and dissemination needs – particularly in the area of mutations.” (p. 65).⁶⁷ Similarly, Lehvaslaiho, Stupka, and Ashburner (2000) describe the role played by the European Bioinformatics Institute (EBI) in combining several databases in order to support genetic research. Rather than collect mutation data directly, EBI works to pool and analyze existing data collections in order to “create a coherent, unified database, with federated content, with the aim of providing a unique reservoir of information drawn from both the biological and medical world. By limiting redundancy and building links between related data, the full potential of worldwide research in this field can thus be exploited and accessed by the scientific community” (2000, p. 52). Lehvaslaiho, *et. al.* conclude that it is of “paramount importance that the raw data generated by all research

projects is uniformly and easily available, so as to be able to integrate the biological and clinical implications of genetic variation” (2000, p. 55).

In their summary of the 2000 workshop, “Bioinformatics: Converting Data to Knowledge,” Robert Pool and Joan Esnayra (2000, p. 11) make the similar point in reference to barriers to database access:

“If researchers are to turn the data accumulating in biological databases into useful knowledge, they must first be able to access the data and work with them, but this is not always as easy as it might seem. . .

The most basic barrier to putting databases to use is that many of them are unavailable to most researchers. Some are proprietary databases assembled by private companies; others are collections that belong to academic researchers or university departments and have never been put online. . .

If a database cannot be searched online, few researchers will take advantage of it even if, in theory, the information is publicly available.”

Several participants in the NRC Workshop that formed the basis for the NRC report articulated their concerns about how restrictions on the utilization and dissemination of databases could hamper the research process. G. Christian Overton, of the Center for Bioinformatics at the University of Pennsylvania spoke to the importance of open access to databases for scientific research:

“Databases hold a unique status in biological research. Because all life is related through evolution, the study of virtually any question in biology is informed by consideration of the historical record of life as reflected in modern organisms. . . Consequently, development and maintenance of databases of biological data, information, and knowledge are critical to the rapid advance of research in fundamental problems in biomedicine. As a corollary, unfettered access to the data housed in the large and diverse collection of online biology resources is essential if the pace of research is not to be inhibited” (NRC, 1999, p. 41).

In response to a question concerning barriers to access to data, Overton pointed to commercialization as a serious impediment:

“Until recently, the barriers to accessing and integrating biological data resources were primarily technical in nature. Indeed, many of the issues involved in integrating diverse, heterogeneous, distributed biological data resources--such as data resource evolution, transformation, and integration, and data provenance--have motivated significant research efforts in information technology. Because the rich data resources for biology are largely in the public domain, they have become important testbeds for advances in information technology not readily available elsewhere.

A growing trend, which will surely impact ready access to vital information, is the commercialization and restrictive licensing of formerly freely distributed data resources. In some cases this has been motivated by the need to secure stable long-term funding for data resource development and maintenance. Regardless, this trend could introduce insurmountable barriers to database integration efforts, particularly distributed database integration, as we are forced to negotiate with each provider terms for data access, acceptable data formats, and distribution on the Web” (*id*, p. 41-42).

In response to a question about how he would solve the policy problem of database protection, Overton stated:

“What I would like to see is just easier access to all of this, especially when what we do is database integration. To make it more complicated, we do database integration on the fly. That is, we query through these schools for heterogeneous, distributed data. Some of the data is from different parts of the world. I actually have no idea what is going to happen. I don't know if we will be able to do that in the future if the restrictions become universal” (*id*, p. 44).

Such concerns were not limited to the educational and not-for-profit sector, as Myra Williams, CEO of Molecular Applications Group, a private firm, stated:

“An increasing number of databases that used to be freely available on the World Wide Web are now being privatized. This factor forces us to obtain licenses for our own use and, in some cases, to request a license that permits us to redistribute the data. The latter has been particularly

problematic. Many of the scientists and the academic institutions have minimal experience negotiating such an agreement; as a result, decision making is slow. Since our products depend upon having a rich variety of information available, these situations often require us to look for other information sources rather than dealing with the recognized leader. We have not yet faced any legality issues in creating a derivative database based in part on information extracted from a different database. Should we lose the right to reutilize information in the public domain, our entire product focus would be invalidated. . .

Science builds upon science, with one discovery becoming the basis for another. In the past, providing appropriate credit for the source of the information was adequate. Should that situation change, science would be seriously impeded” (*id*, p. 46-47).

Law professor Jerome Reichman (NRC, 1999, p. 307) summarized these concerns in the final plenary session of the workshop:

“ . . .the possibilities for a strong database right to interfere with the scientific community's ability to recombine data in complex new databases would wreak even more havoc than we had previously predicted. Everyone who has looked into this problem has said, look out for the danger that a so-called redistribution right can just disrupt the ability that scientists have now to take databases that they have paid to access and then take a piece of that and pieces of other things and make something new. I think that the consequences of getting in the way of that customary practice would be very grave.”

One of the most significant challenges facing the future development of databases is interoperability. The fact that diverse users utilize complex databases and the databases themselves are derived from a multiplicity of sources means that the problem of incompatibility of data elements and structures must be addressed for databases to realize their potential in the research process. A primer on genomic research prepared by the Human Genome Project (1996, p. 31) addresses the importance of interoperability issues:

“Public resource databases must provide data and interpretive analyses to a worldwide research and development community. As this community of researchers expands and as the quantity of data grows, the challenges of

maintaining accessible and useful databases likewise increase. For example, it is critical to develop scientific databases that ‘interoperate,’ sharing data and protocols so that users can expect answers to complex questions that demand information from geographically distributed data resources. As the genome project continues to provide data that interlink structural and functional biochemistry, molecular, cellular, and developmental biology, physiology and medicine, and environmental science, such interoperable databases will be the critical resources for both research and technology development.”

The propensity for modern databases to be cumulative, interactive, and dynamic weakens the dichotomy between database producer and database user. Indeed, many users of databases should be considered refiners in the sense used by Maurer.

B. The Originality Requirement and the *Feist* Case

Turning to the factors that have given impetus to the drive towards *sui generis* database legislation, the first issue concerns how courts have treated the elements of databases under existing copyright law. In *Feist Publications v. Rural Telephone Service Co.*, 499 U.S. 340 (1991), the United States Supreme Court held that a compilation must have a modicum of creativity in its selection, coordination or arrangement to qualify for copyright protection. In this case the Rural Telephone Service, a local telephone company in Kansas sued Feist Publishing Company for copyright infringement because Feist had used information contained in Rural's white pages in the compilation of its own directory. Feist specialized in producing area-wide telephone directories covering a much larger geographic area than local directories produced by the phone companies such as Rural. In order to obtain white pages listings for its area-wide directory, Feist approached each of the eleven telephone companies operating in northwest Kansas and offered to pay for the right to use its white-pages listings. Of the eleven companies, only Rural refused to

license its listings to Feist. This refusal created a problem for Feist because without these listings, Feist would have a major hole in its area-wide directory. Feist then extracted the listings it needed from Rural's directory without Rural's permission. While both Rural's and Feist's directories were distributed free of charge in the area, they were vigorous competitors for yellow page listings.

The court rejected Rural's infringement claim because the listings, which only contained factual information (names in alphabetical order along with corresponding phone numbers and addresses) lacked the requisite degree of originality required for copyright protection. The court began its analysis by noting the tension between two well-established principles of copyright law:

“The first is that facts are not copyrightable; the other, that compilations of facts generally are. Each of these propositions possesses an impeccable pedigree. That there can be no valid copyright in facts is universally understood. The most fundamental axiom of copyright law is that ‘no author may copyright his ideas or the facts he narrates.’ Rural wisely concedes this point.... At the same time, however, it is beyond dispute that compilations of facts are within the subject matter of copyright... There is an undeniable tension between these two propositions” (pp. 344-45). (citations omitted)

The court explained that the reason for the tension is the originality requirement of the Constitution:

“The source of Congress' power to enact copyright laws is Article I, § 8, cl. 8, of the Constitution, which authorizes Congress to ‘secure for limited Times to Authors . . . the exclusive Right to their respective Writings.’ In two decisions from the late 19th century -- *The Trade-Mark Cases*, 100 U.S. 82 (1879); and *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53 (1884) -- this Court defined the crucial terms ‘authors’ and ‘writings.’ In so doing, the Court made it unmistakably clear that these terms presuppose a degree of originality” (p. 346).

The requisite level of original creativity is extremely low; even a slight amount will suffice. While mere facts do not meet this threshold, compilations of facts often may meet the requirement because of some creativity in the selection and arrangement of the facts:

"The compilation author typically chooses which facts to include, in what order to place them, and how to arrange the collected data so that they may be used effectively by readers. These choices as to selection and arrangement, so long as they are made independently by the compiler and entail a minimal degree of creativity, are sufficiently original that Congress may protect such compilations through the copyright laws. . . . Thus, even a directory that contains absolutely no protectible written expression, only facts, meets the constitutional minimum for copyright protection if it features an original selection or arrangement" (p. 348). (citations omitted)

But the applicability of copyright to a compilation of facts is subject to an important limitation. The mere fact that a work is copyrighted does not mean that every element of the work may be protected:

"Originality remains the sine qua non of copyright; accordingly, copyright protection may extend only to those components of a work that are original to the author. . . . Thus, if the compilation author clothes facts with an original collocation of words, he or she may be able to claim a copyright in this written expression. Others may copy the underlying facts from the publication, but not the precise words used to present them" (p. 348). (citations omitted)

This limitation means that the copyright in a factual compilation is thin. Even if a compilation is under copyright, "a subsequent compiler remains free to use the facts contained in another's publication to aid in preparing a competing work, so long as the competing work does not feature the same selection and arrangement" (p. 349).

Since the *Feist* ruling, lower federal courts have had numerous opportunities to apply the decision. In some cases, courts have found the requisite originality in the

arrangement to qualify for copyright protection. For example, the Second Circuit found in *Key Publications, Inc. v. Chinatown Today Publishing Enterprises, Inc.*, 945 F.2d 509 (2d Cir. 1991) that the selection of businesses to be included in directory was not mechanical, but involved creativity. In that case, the compiler made a decision about what categories to include under what name. Other Second Circuit cases have found sufficient creativity in the compilation of facts to warrant copyright protection. In *CCC Information Services, Inc. v. MacLean Hunter Market Reports, Inc.*, 44 F.3d 61 (2d Cir. 1994), the Court found sufficient creativity in the selection of optional car features and the number of a years' models to be included in a used-car price compilation. In *CCC*, the price estimates were based on professional judgment and expertise rather than mere recitals of historical prices. The requisite creativity was also found in *Lipton v. Nature Co.*, 71 F.3d 464 (2d Cir. 1995), where the author selected the terms included in the work from numerous variations of hundreds of available terms. The important element in these three cases finding copyright protection is the large number of possible options of arrangements from which the author could have selected. These selections were considered by the Court to be subjective judgments of taste, not standards dictated by industry practices.

But in *Matthew Bender & Co. v West Publishing*, 158 F.3d 674, (cert. den. 522 U.S. 3732), the Second Circuit rejected West Publishing's claims of copyright on its page numbering and the factual content of its collections of court opinions. The Court found "the creative spark is missing where: (i) industry conventions or other external factors so dictate selection that any person composing a compilation of the type at issue would

necessarily select the same categories of information, . . . or (ii) the author made obvious, garden-variety, or routine selections” (p. 682). Applying this standard, West’s arrangements failed to meet the criteria of creativity needed to meet the originality test of *Feist*.

The Eleventh Circuit held in *BellSouth Advertising & Publishing Corp. v. Donnelley Info. Publishing, Inc.*, 999 F.2d 1436, 1444 (11th Cir. 1993, in banc) that the categories for the organization of material in a yellow pages directory lacked creativity where many of the selected headings were simply obvious and many others resulted from standard industry practices. Similarly, in *Warren Publishing, Inc., v. Microdos Data Corp.* 115 F.3d 1509 (11th Cir. 1997, cert. den. 522 U.S. 963), the Court found that Warren’s selection of cable systems to include in its Factbook lacked the requisite creativity or judgment because the entire relevant universe known to Warren was included. All of these cases apply *Feist* in such a way as to place database producers on reasonable notice that they will be protected under copyright law to the extent they make creative choices in the selection and arrangement of materials.

The *Feist* court emphasized that the primary objective of copyright is not to reward authors, but to promote the Progress of Science and Useful Arts, and that while copyright assures authors the right to their original expression, it also encourages others to build freely upon the ideas and information conveyed by a work:

“No matter how much original authorship the work displays, the facts and ideas it exposes are free for the taking The very same facts and ideas may be divorced from the context imposed by the author, and restated or reshuffled by second comers, even if the author was the first to discover the facts or to propose the ideas... It may seem unfair that much of the fruit of the compiler’s labor may be used by others without compensation.

... [h]owever, this is not “some unforeseen byproduct of a statutory scheme.” It is, rather, “the essence of copyright,” and a constitutional requirement” (pp. 349-50). (citations omitted)

In concluding that there was no infringement, the Court posed the question: “[d]id Feist, by taking 1,309 names, towns, and telephone numbers from Rural's white pages, copy anything that was "original" to Rural? The Court answered in the negative:

"Certainly, the raw data does not satisfy the originality requirement. Rural may have been the first to discover and report the names, towns, and telephone numbers of its subscribers, but this data does not 'owe its origin' to Rural... Rather, these bits of information are uncopyrightable facts; they existed before Rural reported them and would have continued to exist if Rural had never published a telephone directory. The originality requirement rules out protecting . . . names, addresses, and telephone numbers of which [Rural] by no stretch of the imagination could be called the author" (p. 361). (citations omitted)

Whether *Feist* was consistent with existing law or represented a departure became a subject of considerable controversy. Proponents of new legislation argued that the case was inconsistent with prior rulings, and presented a new obstacle to the database industry. As the *Feist* court's ruling placed the contents of most databases and compilations outside the scope of copyright protection the decision led many database producers to argue that this lack of legal protection undermined their ability to protect their investments from misappropriation. In their report prepared for the database industry, Tyson and Sherry (1997) criticized *Feist* as a radical departure from settled precedent:

“[In the 1991 *Feist* case] the Supreme Court ruled that copyright protection did not extend to all or parts of databases that did not involve some original "creative" selection and/or organization of data. Indeed, the Court went further and ruled that such databases were not encompassed within the scope of the constitutional provision authorizing copyright protection. This sweeping decision eliminated the traditional "sweat of the brow" rationale for database protection that had been accorded under copyright law and left database producers in legal limbo in terms of their

ability to protect themselves from unauthorized copying and dissemination of their products and from outright piracy. Both scholars and participants in the database industry agree that the current situation is undesirable.”⁶⁸

A similar reading of *Feist* was presented by the Chief Counsel of the

Subcommittee on Courts and Intellectual Property of the House Judiciary Committee:

“In the United States, federal courts have traditionally held databases to be protected under one of two interpretations of copyright law, either "originality" or "sweat of the brow" (i.e., the labor and resources invested in the protected materials). [The *Feist* decision] marked a tougher attitude toward claims of copyright in databases, abandoning the "sweat of the brow" legal theory. While reaffirming that most although not all – commercially significant databases satisfy the "originality" requirement for protection under copyright, the Court emphasized that this protection is "necessarily thin". Several subsequent lower court decisions have underscored that copyright cannot stop a competitor from lifting massive amounts of factual material from a copyrighted database to use as the basis for its own competing product” (Glazier, 1999).

In his influential treatise on copyright law, Paul Goldstein (1996, section 2.2.1) calls *Feist* a “significant departure from precedent.” But other legal scholars have disputed the claim that *Feist* has unsettled existing doctrine. Using *Feist* as a rationale for new legislation is dependent on a particular reading of the case, one that finds the disruption of settled doctrine. In her response to the Tyson-Sherry Report,⁶⁹ Pamela Samuelson (1997) argued that *Feist* was not unsettling of established doctrine:

“The misunderstanding begins with the opening paragraph of the report. In referring to the ‘sweeping’ decision [in *Feist*] the Tyson-Sherry report implies that ‘sweat of the brow’ protection for databases was a longstanding and widely accepted norm that the U.S. Supreme Court rudely upset, and that ever since the *Feist* decision, database developers have been ‘in legal limbo.’ However, the ‘sweat of the brow’ doctrine had been controversial in U.S. copyright law for decades. It had at most been adopted in only some, not all, Circuits, and even then, some Circuits had conflicting rulings on this point. Furthermore, as the Supreme Court rightly held in *Feist*, it is impossible to square the ‘sweat of the brow’ argument for copyrighting data compilations with the plain language of

the Copyright Act of 1976, or with over a hundred years of previous Supreme Court and other appellate court decisions . . . As if this was not enough, the law review literature prior to *Feist* was replete with commentary critical of ‘sweat of the brow’ copyrights. In short, the aberration lay in the ‘sweat of the brow’ cases, not in *Feist*. Database developers never had the fictional blanket of ‘sweat of the brow’ copyright protection that the Tyson-Sherry report conjures up.”

Proponents of new database legislation have consistently pointed to the *Feist* ruling as justification for their position. In a similar manner, they have pointed to the enactment of the European Union's Database Directive as justification for new laws.

C. The European Union Database Directive

The second impetus towards *sui generis* database legislation in the United States is the European Union Database Directive. Beginning in the late 1980s, the European Union (EU) began studying database protection as part of a larger attempt to harmonize the copyright and related laws of its various member states. This study culminated in the adoption of the Directive by the Council of the European Union in March of 1996.⁷⁰ Article 7 of the Directive requires member states to adopt legislation providing statutory protection for databases and compilations:

Member States shall provide for a right for the maker of a database which shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database.

The stated deadline for passing implementing legislation was January 1, 1998 (Directive, Article 16(1)). But member countries have been slow to comply with the Directive as only Germany, the United Kingdom and Sweden met the deadline. In 1999,

the European Commission referred Greece, Ireland, Luxembourg and Portugal to the European Court of Justice for their failure to implement the Directive.⁷¹

Of particular concern outside the European Union is a provision that protection will be provided to foreign database holders only if their home countries have adopted similar levels of statutory protection. Paragraph 56 of the preamble to the Directive provides:

[T]he right to prevent unauthorized extraction and/or re-utilization in respect of a database should apply to databases whose makers are nationals or habitual residents of third countries or to those produced by legal persons not established in a Member State, within the meaning of the Treaty, *only if such third countries offer comparable protection to databases produced by nationals of a Member State or persons who have their habitual residence in the territory of the Community.* (emphasis added).

This provision has been pointed to as justification for the enactment of similar *sui generis* legislation in the United States. In his testimony in support of H.R. 2652 before the House Judiciary Subcommittee on Courts and Intellectual Property, Paul Warren (1997) spoke of the need to respond to the Directive with *sui generis* legislation:

“The need for prompt congressional action is also underscored by the recent developments in the European Union (‘EU’)—an obvious effort by the EU to ratchet up its share of the world-wide database market, primarily at the expense of U.S. database providers. Last year, the EU adopted a *sui generis* database protection directive.

The EU Directive requires its members to adopt conforming database protection legislation by December 31, 1997. Under the Directive, a database company outside of the European Union--such as those in the United States--is not within the reach of the Directive's provisions unless its own country provides a level of protection that the EU deems ‘equivalent’ to its own.

Without comparable U.S. legislation, U.S. databases will suffer a significant competitive disadvantage in the huge EU market: databases

from EU nations will enjoy the benefits of *sui generis* database protection and U.S. products will not. If the U.S. does not act promptly, existing and future databases created in this country will be free for the taking in EU member states, while EU-produced products or those pirated by EU producers from the U.S. database market will be protected in the EU.”

In her response to the Tyson-Sherry Report, Pamela Samuelson (1997) discounted the importance of this justification and argued that the reciprocity threat was more imagined than real:

“U.S. database companies will continue to be able to rely on copyright, contract, and unfair competition law to protect their databases from market-destructive appropriations in member states of the E.U. For another, the idea that European companies are lying in wait for January 1998 in hopes of sucking all of the valuable data out of U.S. databases unless the U.S. has adopted an equivalent database law by then is utterly fantastic. It beggars the imagination to think that a European court would find such conduct, even if it occurred, to be acceptable. And in the unlikely event a court found such conduct tolerable, the U.S. could challenge lack of enforcement before the World Trade Organization (WTO) as an outrageous nontariff barrier to trade in violation [of established international law].”

Samuelson concludes that this reciprocity provision of the Directive “is not a reason for rush on domestic database legislation. The U.S. should approach database legislation in a measured and balanced way incorporating our historical preference for the free exchange of ideas and information while recognizing a need to correct market inefficiencies where they can be shown to exist” (*id.*). Howard Knopf (1999, p. 183), a Canadian intellectual property attorney, concurs with Samuelson’s assessment that the reciprocity provisions of the Database Directive may violate international trade law. Like the *anti-Feist* rationale, arguments for *sui generis* database legislation based on the EU Database Directive have been strongly contested. In his assessment of the first round of

European case law that has construed the Directive, Brent Hugenholtz (2001, p. 13)

concludes:

“ . . . it is far too early to draw conclusions, except, perhaps, that non-European countries contemplating the introduction of a database right or similar regime would be well advised to wait and see – wait until the European Court of Justice has had the opportunity to clarify the key notions of the Directive; and see if what ensues is beneficial to the information industry, and in the public interest.”

Stephen Maurer (2001, p. 48) provides a similar assessment of the Directive’s impact to date:

“Three years after the EU Directive went into effect, there is still very little evidence on the costs and benefits of Europe’s database protection experiment. Although EU officials claim that the Directive ‘is working’ the empirical basis for these assertions is limited. Worse, it remains confidential. Until the EU produces ‘backup’ data, Canadian policymakers should not take such assertions on faith.”⁷²

Maurer concludes with the observation that while “the Directive may have given the European database industry a one-time boost equivalent to roughly a year’s worth of normal growth . . . this benefit has been purchased at the cost of serious, and more or less permanent, side effects including excessive monopoly, disruption of data aggregation,⁷³ and increased transactions costs” (*id*).

D. Advances in Information Technology

The third impetus to statutory protection is the belief that advances in information technology enable potential competitors and pirates to engage in market-destructive copying. The Tyson-Sherry Report (1997) emphasizes this point:

“ . . . to protect our common interest in identifying, creating and making available the best information, we must protect this valuable resource from pirating. Revolutions in electronic technologies that have made databases easier to use and more potentially useful have also made them easier to

‘pirate.’ The ability of a potential competitor (or customer) to ‘free ride’ on the substantial investment of an original database developer by copying and selling (or re-selling) his database weakens market incentives for investment in the database industry.”

Claims of technology-enabled piracy are a common theme in the information and entertainment industry’s legislative advocacy program. The Software and Information Industry Association now issues an annual “Global Software Piracy Report.” The press release accompanying the 2000 Report exemplifies the tenor of the industry’s claims:

“Piracy losses exceeded \$12 billion worldwide in 1999 and topped \$59 billion during the past five years. The survey, conducted by an independent research firm, was commissioned by the Software & Information Industry Association (SIIA) and the Business Software Alliance (BSA). The 1999 software piracy estimates indicate that more than one in every three business software applications in use during 1999 was pirated. Piracy losses for the U.S. and Canada lead every other region of the world at \$3.6 billion, or 26% of the total. The continuing problem means lost jobs, wages, tax revenues, and a potential barrier to success for software start-ups around the globe” (Software and Information Industry Association, 2000b).

In the database industry, claims of piracy are advanced by a group calling itself the Coalition Against Database Piracy:

“Providing easy to access information is at the heart of the database business. And, as early pioneers of e-commerce, database producers know that easy access to information is also at the heart of the Internet. Database companies spend hundreds of millions of dollars to collect, compile, organize, maintain and update huge databases, and to develop the best means to distribute reliable data to their customers quickly, comprehensively and efficiently, whether digitally, in CD-ROMs or other formats.

Unfortunately, database piracy is a growing problem that threatens the availability and accuracy of well-organized, timely and comprehensive information. Small, family-owned businesses to major corporations -- companies that put in the sweat and toil to originate these databases -- are threatened by cyber-thieves who pass them off as their own. The users of these original databases – medical professionals, realtors, researchers,

librarians, lawyers, consumers and others – wind up suffering the consequences as the quality of information is put in jeopardy by unfair competition.” (Coalition Against Database Piracy, 2000).

However, advances in information technology also provide database owners with the means of protecting their databases even without new laws. Stephen Maurer (1999) speaks of the “paradox” of databases.

“The world of scientific and technology databases is already extremely rich and well-developed. Since the U.S. government has never enacted database legislation, this presents a paradox: If existing databases can be freely copied, why do firms continue to invest in them? The answer is that database providers have devised a bewildering number of unofficial (‘self-help’) methods for protecting their investments. These include but are not limited to (1) bilateral agreements with users, (2) ‘shrink-wrap’ or ‘click-wrap’ language, (3) bundling with copyrighted materials, (4) continual updating and improvement that leaves would-be copiers ‘out of date,’ (5) search-only Web sites where the underlying database cannot be downloaded, and (6) passwords and encryption. The fact that rich and diverse databases exist in today’s world shows that such protection can be extremely robust.”

Maurer’s approach is adopted by the National Research Council (1999). Their 1999 Report argues that the “danger of database misappropriation can be mitigated with increasing efficiency by technologies that help enforce the terms of licensing contracts, or that enable the rights holder to keep the database as a trade secret while also providing access to subsets of data. . .” (p. 64).

The conceptual framework provided by Lawrence Lessig (1996, 1997, 1999) is a helpful tool for sorting out the validity of the industry’s claims that technological change creates the need for additional statutory protections for databases. Lessig notes that the protection of any property interest may be thought of as a combination of technological, legal, economic and normative measures. He uses the examples of automobiles and

skyscrapers. While special laws on auto theft compensate for the ease with which they can be taken, such laws are not needed for immovable skyscrapers due to the laws of nature, the particular architecture of the thing. Intellectual property in cyberspace today is more like the automobile; its technological nature makes it easy to steal. But as technological protections are built into the architecture of networks (its “code”), intellectual property will become more like the skyscraper. Lessig’s concern is that this technological control will supersede the public policy limitations placed on the rights of intellectual property holders. He warns that “[c]ode displaces the balance in copyright law and doctrines such as fair use” (1999, p. 135).

While Lessig does not speak directly to the issue of the database legislation, his criticism of the *White Paper* is equally applicable. His fear is that while technology may already be giving owners excessive control over access, the policy drift is going in the wrong direction. He criticizes the *White Paper* because “[i]t recommends not only changes in law to protect further intellectual property, but it also champions the changes in code that will help code replace law. It adds to these recommendations the recommendation that it be illegal to write software that aims at breaking the protections of code. Thus, law would not only be replaced by code; it will punish efforts to escape the code” (Lessig, 1996, p. 639).

While the National Research Council’s 1999 Report is justified in making the claim that *sui generis* database legislation is unnecessary because other legal and technological measures will provide adequate protection to the database industry, there is a certain danger in taking this approach. The licensing provisions that will be

enabled by UCITA and the technological protection measures that are insulated by the anti-circumvention and rights management rules are themselves part of the problem of over-commodification. While pointing to the availability of these measures to “protect” owners of databases may be true in a descriptive sense, in a normative sense it is important to develop an integrated critique of all of the measures identified in section I of this chapter.

III. The Legislative Response in the United States

Using the *Feist* decision, the European Union Directive, and technological advances as its three pillars of justification, the information industry has placed the enactment of *sui generis* database legislation high on its legislative agenda over the past several years. But to date they have not been successful. This section reviews the various legislative proposals. At the outset, it is useful to distinguish between two broad approaches to database legislation (Reichman & Samuelson, 1997). The first approach is grounded in the creation of a new property right. It is often referred to as the *sui generis* approach. Under this theory, the owner of a database is given property interests that are similar to a copyright. The rights are generally enforceable against end users as well as potential competitors.

A second, or alternative approach, is based on the theory of misappropriation and is in the nature of an unfair competition regulation. This theory is geared towards preventing the misappropriation of the database for use in commerce by a competitor. It is not geared toward the isolated conduct of end-users of the database. The European Union Directive is an example of a strong *sui generis*, property-rights type measure.

A. 104th Congress – H.R. 3531

Database legislation was first introduced in the 104th Congress as *The Database Investment and Intellectual Property Antipiracy Act of 1996*.⁷⁴ With the intent to reverse *Feist* and extend copyright-type restrictions to databases and compilations, Rep. Carlos Moorehead's (R-CA) introductory remarks set the bill in the context of several lofty goals:

“[t]he bottom line is clear: it is time to consider new federal legislation to protect database developers against piracy and unfair competition, and thus encourage continued investment in the production and distribution of valuable commercial databases. Such legislation could improve the market climate for databases in the United States; ensure protection for U.S. databases abroad on an equitable basis; place the United States on the leading edge of an emerging international consensus; and provide a balanced and measured response to the new challenges of cyberspace. The bill I introduce today aims to advance these goals” (Moorehead, 1996, p. E 890-91).⁷⁵

This bill was modeled on the EU Database Directive and represents a strong version of a property-rights approach to database legislation. Section 4 of the Act prohibited a wide range of activities:

- “(a) No person shall, without the authorization of the database owner--
- (1) extract, use or reuse all or a substantial part, qualitatively or quantitatively, of the contents of a database subject to this Act in a manner that conflicts with the database owner's normal exploitation of the database or adversely affects the actual or potential market for the database;
 - (2) engage, notwithstanding section 5(a), in the repeated or systematic extraction, use or reuse of insubstantial parts, qualitatively or quantitatively, of the contents of a database subject to this Act in a manner that cumulatively conflicts with the database owner's normal exploitation of the database or adversely affects the actual or potential market for the database; or

- (3) procure, direct or commission any act prohibited by subsections (i) or (ii).”

This prohibition applies to all users of the database, not just potential competitors of the database producer. The prohibited activity is extremely broad. It is framed in terms of extracting a substantial portion of the database. But what constitutes a substantial portion is vague. It is to be measured in terms of economic effect, that is, if it conflicts with the database owner's normal exploitation of the database or adversely affects the actual or potential market for the database. This language is given a broad meaning in subsection (b):

“(b) Acts that conflict with a normal exploitation of the database or adversely affect the actual or potential market for the database include but are not limited to the extraction, use or reuse of all or a substantial part of the contents of a database--

- (1) in a product or service that directly or indirectly competes in any market with the database from which it was extracted; or
- (2) in a product or service that directly or indirectly competes in any market in which the database owner has a demonstrable interest or expectation in licensing or otherwise using or reusing the database; or
- (3) in a product or service for customers who might otherwise reasonably be expected to be customers for the database; or
- (4) by or for multiple persons within an organization or entity in lieu of the authorized additional use or reuse (by license, purchase or otherwise) of copies of the database by or for such persons.”

The circular nature of these criteria should be apparent. While an act is impermissible if it conflicts with the economic interests of the owner, it is the owner's point of reference that determines the scope of these expectations.⁷⁶ This language reaches the conduct of end-users of a database. Section 5 provides some exclusions from the prohibition:

“(a) Subject to section 4(a)(ii), a lawful user of a database made available to the public or placed in commercial use is not prohibited from extracting, using or reusing insubstantial parts of its contents, qualitatively or quantitatively, for any purposes whatsoever.

(b) Nothing in this Act shall in any way restrict any person from independently collecting, assembling or compiling works, data or materials from sources other than a database subject to this Act.”

But these exclusions are limited and do not address the issue of what constitutes a substantial portion of the database. The exclusion in subdivision (b) is illusory in the case of sole-source data, and any limitation on the right of the database owner akin to the fair-use doctrine in copyright law is noticeably absent.⁷⁷

The duration of the prohibitions contained in section 6 was also a major cause for concern:

“(a) A database becomes subject to this Act when the necessary investment has been made to qualify its maker as such under section 2. The database shall remain subject to this Act for a period of twenty-five years from the first of January following the date when it was first made available to the public or the date when it was first placed in commercial use, whichever is earlier.

(b) Any change of commercial significance, qualitatively or quantitatively, to a database, including any such change through the accumulation of successive additions, deletions, reverifications, alterations, modifications in organization or presentation, or other modifications, shall make the resulting database subject to this Act for its own term, as calculated under subsection (a).”

Starting with a 25-year term of protection, the term can essentially be extended indefinitely due to actions within the control of the database owner. Section 7 provides broad civil penalties including damages, injunctive relief, impoundment and attorneys' fees.⁷⁸

Peter Jaszi, (1996a) a law professor and leading opponent of database legislation, argued that the bill would encourage a pay-per-use licensing model and would raise the operating costs of libraries, universities, schools, and other institutions significantly. Jaszi believes that the proprietary approach of H.R. 3531 would actually slow the “Progress of Science” because “building legal fences around scientific data and experimental results could mean less competition among researchers, leading to fewer new discoveries.”

Reichman and Samuelson (1997, pp. 55-56) also criticized the sweeping effect of the bill:

“...the current European and United States initiatives are seriously flawed. Implementing these initiatives would confer a far broader and stronger monopoly on database developers than is needed to avert market failure. It would create an exclusive property rights regime of virtually unlimited duration that would be subject to few, if any, public policy limitations. It would jeopardize basic scientific research, eliminate competition in the markets for value-added products and services, and convert existing barriers to entry into insuperable legal barriers to entry.”⁷⁹

In the face of stiff opposition from education, library, and research interests, the bill died in the House Judiciary Committee.

B. 105th Congress – H.R. 2652

The database bill was reintroduced in the 105th Congress as H.R. 2652, the *Collections of Information Antipiracy Act*,⁸⁰ and like its predecessor, it would have provided the industry with the new “protections” they were seeking. The sponsor’s (Rep. Coble, R-NC) introductory remarks echoed Moorehead:

“the bottom line is clear: it is time to consider new federal legislation to protect developers who place their materials in interstate commerce against piracy and unfair competition, and thus encourage continued investment in the production and distribution of valuable commercial collections of information” (Coble, 1997, p. E. 2000).

At the outset, proponents claimed that the new version of the bill was substantially different from its predecessor. In its Report (H. Rep 105-525), the House Judiciary Committee argued that the bill was a balanced proposal, one aimed at market injury from misappropriations of collections of information. By contrasting the bill with the predecessor measure, the language of the Report disputed its characterization as a broad creation of new *sui generis* property rights:

“This bill differs significantly in approach and scope of coverage from H.R. 3531, introduced in the last Congress by then-Chairman Carlos Moorhead. H.R. 3531 proposed to enact a new form of *sui generis* exclusive property right in collections of information. In response to the concerns raised by interested parties and outlined in the Copyright Office Report on Legal Protection for Databases, H.R. 2652 adopts a different model for protection. It represents a minimalist approach grounded in the misappropriation branch of unfair competition law, focusing more precisely on the damage that can be done from substantial takings from collections of information. It also contains several additional provisions responsive to concerns of users...” (House Report 105-525, May 12, 1998).

But critics argued that the measure was neither minimalist nor grounded in misappropriation. A dissenting member of the Judiciary Committee, Rep. Zoe Lofgren (D-Cal) emphasized this point:

“The drafters of H.R. 2652 have attempted to avoid this defect by styling the bill as a Federal “misappropriation” statute, as though we were not creating a new property right, but establishing a new tort. However, the bill seeks to establish a new property right for “collections of information,” complete with civil and criminal remedies for unauthorized use, and exceptions for the use of individual items or “insubstantial parts,” scholarly activity, and news reporting. Such characteristics belie the “misappropriation” label, and look suspiciously analogous to those of copyright” (*id*).

In an analysis of the bill prepared for the Association of Research Libraries, attorney Jonathan Band (1998) also disputed the characterization of the bill as a misappropriation measure:

“This database bill is designed as a misappropriation bill, not a sui generis protection bill. In other words, it in theory does not create a property right in the database; it simply prohibits the unfair use of the data one has collected. As this bill is drafted, though, there is little to distinguish it from a sui generis protection bill. Indeed, this bill arguably is worse than the previous database laws we've seen (the Database Directive, the WIPO Database Treaty, and last year's 3531) in that there is no term of protection; it continues so long as there is a market for the product.”

Band also noted that the bill was extremely vague:

“There is no definition for ‘substantial part’ or ‘substantial monetary or other resources.’ Information, though, is defined extremely broadly: ‘facts, data, works of authorship, or any other intangible material capable of being collected and organized in a systematic way.’ Thus, an existing compilation protected by copyright would also be protected under H.R. 2652. Moreover, a copyrighted work (e.g., a novel) could be protected because it is a collection of words organized in a systematic way. There would, however, be no term limit under this statute.”

In their statement of opposition to H.R. 2652, the Association of Research Libraries acknowledged that while the bill was a slight improvement over its predecessor, it was still objectionable:

“Although the bill has been improved by several amendments, it continues to remain extremely problematic. For example, because the bill is outside the scope of copyright, there are no exceptions such as fair use, preservation, and other exemptions that support education. The exception on behalf of education, linked to “not harming the actual or potential market” provides little if any, meaningful exemption to education and research, and the problematic 15-year term limit is retroactive for those databases that were created before the Act's date of enactment. ARL continues to oppose the bill with others in the education and commercial sectors including MCI, AT&T, Dun & Bradstreet, AAAS, and the Association for Computing Machinery.”⁸¹

The main operative section setting out the terms of the prohibition was similar to the corresponding section of the previous bill. Section 1202 of H.R. 2652 provided:

“Any person who extracts, or uses in commerce, all or a substantial part, measured either quantitatively or qualitatively, of a collection of information gathered, organized, or maintained by another person through the investment of substantial monetary or other resources, so as to cause harm to the actual or potential market of that other person, or a successor in interest of that other person, for a product or service that incorporates that collection of information and is offered or intended to be offered for sale or otherwise in commerce by that other person, or a successor in interest of that person, shall be liable to that person or successor in interest for the remedies set forth in section 1206.”

H.R. 2652 continued to draw strong opposition from the library, education and research communities, which feared the bill would adversely affect the public’s access to information contained in databases, constituting an unwarranted expansion of property protections to the detriment of the public interest.⁸² While the House passed the measure on May 19, 1998, it was not reported out of the Judiciary Committee in the Senate.

In August of 1998, the General Counsel of the Department of Commerce issued a letter expressing general administration support for “legal protection against commercial misappropriation of collections of information.” However, several concerns with the approach of H.R. 2652 were raised:

“Given the difficulty of foreseeing how ‘substantiality,’ ‘extraction’ and other terms in H.R. 2652 will play out in a complex and rapidly changing environment, we are concerned that H.R. 2652 lacks a balancing mechanism analogous to the fair use doctrine in copyright sufficient to address the wide range of circumstances in which information is aggregated, used, and reused. We are especially concerned that the section 1203(d) exception for non-commercial research and educational uses does not ensure that legitimate non-commercial research and educational activities are not disrupted by the prohibition against commercial misappropriation. Equitable issues of access and use may be

especially important in markets exclusively served by a single data producer” (Pincus, 1998).

The General Counsel’s letter also expressed doubts as to the constitutionality of the measure:

“The Department of Justice has serious constitutional concerns that the First Amendment restricts Congress's ability to enact legislation such as H.R. 2652, and that the Intellectual Property Clause also may impose some constraints on legislation of this sort. We note that those constitutional concerns are closely related, in many instances, to some of the points described above, particularly fair use, the effects on potential markets and transformative uses of data” (*id.*).

This development effectively ensured that the measure would not progress in the Senate. In the final days of the 105th Congress, House proponents added the provisions of H.R. 2652 verbatim as Title V of H.R. 2281, the *Digital Millennium Copyright Act* (DMCA). The lack of support for the database provision in the Senate was reflected in a letter from Sen. Joseph Lieberman (D-CT) to Sen. Patrick Leahy, the ranking Democrat on the Senate Judiciary Committee. Sen. Lieberman was otherwise supportive of the DMCA before the Conference Committee but wanted the database provisions removed:

“I am concerned . . . about provisions that were added to the House companion bill that would amend current law with respect to informational databases. It is my belief that H.R.2652, The Collections of Information Antipiracy Act, if enacted into law, would inappropriately and injudiciously grant new monopoly property rights to a handful of publishers at the expense of legitimate users of compiled information including schools, libraries, research institutions, government agencies, and other publishers. In my view, the database provisions proposed by the House are anti-competitive and would impede the creation and dissemination of new knowledge. I respectfully request that you carefully consider this issue in conference. I urge you to either excise this unwise database provision from the otherwise excellent WIPO treaty implementation legislation or further amend it along the lines suggested by the National Academy of Sciences and others to address antipiracy

concerns without creating new monopoly rights for a privileged class of publishers” (Lieberman, 1998).

Lieberman sends a mixed message, as he characterizes the WIPO treaty implementation legislation as “otherwise excellent.” The willingness for policymakers to readily adopt the anti-circumvention measures, while remaining critical of database provisions presents an interesting issue, and more attention needs to be given to what accounts for this disparity. One explanation may be that for legislators, the imperative to comply with supposed obligations set by international treaties to which the United States is committed (such as the WIPO Copyright Treaty), overrides any duty to critically examine the measure. On the other hand, and despite the best efforts of the database industry, it remained readily apparent to legislators that the United States is not a member of the European Union, so what may be called the “international imperative syndrome” did not arise.

The Conference Committee dropped the database language from the final version and the bill died for the second straight Congress.⁸³

C. 106th Congress – H.R 354

The proponents of database legislation were not to be dissuaded. Their bill reappeared in substantially the same form in the 106th Congress as H.R. 354 (Coble R-NC), the *Collections of Information Antipiracy Act*.

During the time the previous bills were pending, the database industry was also attempting to narrow the scope of the *Feist* ruling in the courts. But in *Matthew Bender & Co. v West Publishing*, 158 F.3d 674, cert. den, 119 S. Ct. 2039 (2nd Cir 1998), the Second Circuit Court of Appeals denied West Publishing’s claim of copyright in their

page numbering and other factual materials in reported court decisions. When the United States Supreme Court denied West's petition for review in June 1999, it effectively shut the door on West's litigation strategy. This development only intensified the industry's desire for new legislation.

H.R. 354 represented the industry's third attempt to pass a database bill in as many Congresses. Like its predecessors, H.R. 354 would have created a new property right for "collections of information." Rep. Coble's introductory remarks demonstrate the continuity between this bill and those of its failed predecessors:

"the bottom line is clear: it is time to consider new federal legislation to protect developers who place their materials in interstate commerce against piracy and unfair competition, and thus encourage continued investment in the production and distribution of valuable commercial collections of information" (Coble, 1999, p. E84).

Like H.R. 2652, the proponents of H.R. 354 continued to characterize the bill as a misappropriation measure:

"[H.R. 354] responds to a need to complement copyright law with a federal misappropriation law that prevents the copying of a substantial portion of another's collection of information so as to harm the market for that particular collection. The bill ensures incentives for investment in the production and dissemination of collections of information, while maintaining continued access to information contained in such collections for public interest purposes such as education, science and research.

[The bill] prohibits the misappropriation of commercially valuable collections by those who pirate data that has been collected by others through substantial effort and expense, and use it in a way that causes market injury to the producer of the original collection" (Glazier, 1999).

But like its predecessors, H.R. 354 was firmly rooted in the property-rights approach; it sought to establish an unprecedented level of proprietary rights in collections of information, complete with civil and criminal penalties for unauthorized use, even by

individuals who were not competing with the database provider. The operative prohibition, Section 1402, would impose liability on:

“(a) Any person who makes available to others, or extracts to make available to others, all or a substantial part of a collection of information gathered, organized, or maintained by another person through the investment of substantial monetary or other resources, so as to cause material harm to the primary market or a related market of that other person... for a product or service that incorporates that collection of information and is offered or intended to be offered in commerce by that other person... shall be liable...”

Section 1402(b) would extend this liability to:

“Any person who extracts all or a substantial part of a collection of information gathered, organized, or maintained by another person through the investment of substantial monetary or other resources, so as to cause material harm to the primary market of that other person, or a successor in interest of that other person, for a product or service that incorporates that collection of information and is offered or intended to be offered in commerce by that other person, or a successor in interest of that person...”

Through this language, Section 1402(b) would have reached the conduct of an end-user that is extracting material for personal use. The definition of “primary market”⁸⁴ or “related market”⁸⁵ remained so broad that it would seem even a relatively small extraction could be construed as substantial.

The objections raised to H.R. 354 were similar to those leveled against its predecessors. They may be summarized as follows:

- It is overbroad in scope and departs from the current intellectual property framework that attempts to balance the interests of users and owners.
- It gives content owners excessive control over the subsequent uses of information including downstream, transformative uses of facts.

- The length of the term of control is too long, and may even become perpetual for dynamic collections.
- The exemption for education and research activities is too vague and too narrow. This shortcoming will result in a chilling effect on many lawful and productive activities.⁸⁶
- It fails to clearly exempt government-generated information from its scope.
- The remedies are overly punitive, and likely to lead to a chilling of legitimate activity.⁸⁷

In May 1999, the House Judiciary Committee approved H.R. 354 and it appeared headed for House approval. But the emergence of a competing bill, H.R. 1858, seemed to neutralize H.R. 354, and it made no further progress in the 106th Congress. In the closing weeks of the first session, backers of H.R. 354 were unsuccessful in their attempt to bring the measure to the House floor. Their attempt to attach it as a rider to the appropriations bill also failed.

The failure of H.R. 354 to pass marked the third consecutive Congress in which *sui generis* database legislation was defeated. However, it is likely that the issue will reemerge in future sessions. In a rather acerbic statement issued in October 2000, the sponsor of H.R. 354 (Rep. Howard Coble, R-NC) said:

“...this will now be the third Congress in which legislation protecting databases has failed to become law. Over the past years, the opponents of such legislation have done all they can to prevent legislation from moving forward and maintain the status quo so they may pirate the work of others due to the current gap in protection. They first claimed there was no need for legislation. Then subsequently, they admitted there was, in fact, a need as long as they could get a carve-out for themselves. How selfishly convenient. This issue will not go away. Now, more than ever, America's

database producers need sufficient protection to ensure the continued investment in developing these information products. Their vulnerability remains as the pirates still sail without fear. Rest assured, Mr. Speaker, I will do everything I can next session to finally pass legislation which benefits database producers and, therefore, benefits American consumers.” (Coble, 2000, p. H 9639-40).

D. 106th Congress – H.R. 1858: An Alternative Approach

In 1999, the opponents of the database bills offered their own alternative. H.R. 1858, the *Consumer and Investor Access to Information Act of 1999*, provided additional protection to owners of compilations from commercial misappropriation by competitors.⁸⁸ But it did not attempt to restrict the transformative use of facts by end-users. The sponsor’s (Rep. Tom Bliley, R-VA) introductory remarks stressed the need to balance the public interest in access to information against any new protections for database owners:

“H.R. 1858, the Consumer and Investor Access to Information Act of 1999, provides new protection to publishers of electronic databases, while ensuring that public access to information will not be limited by publishers' asserting a proprietary right over facts and information, which historically have been part of the public domain. The bill's anti-theft protections will also protect institutions like the stock exchanges from hackers and pirates seeking to undermine the integrity of the data they disseminate to the public.

Mr. Speaker, we live in the Information Age. We must keep information--like stock quotes--readily available to consumers on the information superhighway. Millions of Americans depend on information they obtain over the Internet to help them make important investment decisions. This bill will ensure that consumers and investors continue to have access to this information.

Mr. Speaker, Americans should not have to pay tolls for public information obtained on the information superhighway. Facts and information should remain toll-free on the information superhighway. Facts and information like stock quotes have been, and under H.R. 1858, will continue to remain readily available to the public.”

Section 102 of the bill reflected its nature as a misappropriations measure, not as a *sui generis* property right:

It is unlawful for any person or entity, by any means or instrumentality of interstate or foreign commerce or communications, to sell or distribute to the public a database that--

(1) is a duplicate of another database that was collected and organized by another person or entity; and

(2) is sold or distributed in commerce in competition with that other database.

In comparison to the language of the other database bills, this prohibition is clearly limited to the conduct of potential competitors. It does not reach the conduct of end-users. Rather than create a new property right enforceable against anyone, Section 102 prohibits certain conduct in the nature of an unfair business practice. The difference between this measure and the competing bills is also reflected in the remedies section.

Law professor Yochai Benkler (2000, pp. 578-79) summarizes the differences between H.R. 354 and H.R. 1858 in terms of impact upon users:

"House Bill 354 is addressed to anyone who distributes information extracted from a database, and to anyone who uses information in a database... House Bill 1858 does not speak to anyone who uses information ... for its value as information, as opposed to its value as goods in trade. House Bill 354, on the other hand ... speaks to consumers of data, as well as to competitors in the market for serving consumers in data."⁸⁹

Benkler explains why H.R 1858 is a true misappropriations measure:

"House Bill 1858 does in fact create a competition regulation regime, not a property-like entitlement in database producers. It addresses only competitors, and only a certain subset of competitors, namely those who sell near-identical databases to the database from which they extracted the information. It prohibits only sale in competition with the source from which the duplicative database was duplicated. It does not speak to

consumers. It does not speak to producers of other databases who add their own information to information they collect from databases produced by others, whether these value-added databases compete with their source or not. These limitations narrow the focus of House Bill 1858 such that it is plainly not a part of the basic definition of the economic excludability of information contained in databases. It is a regulation of a particular form of competition deemed ruinous and nonproductive" (2000, p. 602).

Another major difference between H.R. 354 and H.R. 1858 is in its enforcement mechanisms. While H.R. 354 and its predecessors imposed broad civil and criminal liability, Section 107 of H.R. 1858 vested enforcement authority in the Federal Trade Commission (FTC). The importance of this distinction cannot be over-emphasized. Under H.R. 1858, a database owner does not have the ability to bring an action against an end-user for infringement. Consequently, they also lose their ability to *threaten* to bring such actions. Opponents of *sui generis* legislation are concerned that the threat of civil (and criminal) liability has a substantial chilling effect on the rights of end-users to make the broadest possible use of data. The threat of civil and criminal liability for infringement is an important determinant in the relative power of end-users and owners *vis a vis* the utilization of intellectual property. Indeed, the lack of direct sanctions against end-users has been among the strongest objections raised by the information industry against H.R. 1858. The Coalition Against Data Piracy (2000a) complains that H.R. 1858 leaves many database companies "out in the cold, unprotected:"

"H.R. 1858 removes the traditional rights of Americans to defend their property by forcing them to rely on an already over-burdened FTC to take up their cause, thereby subjecting the Internet to government regulation. [H.R. 1858] precludes database owners from going to court to stop even the narrowly drawn unlawful activities spelled out in the legislation. H.R. 1858 would place enormous new demands on the agency and would burden its limited monetary and personnel resources."

In reality, the Coalition is less concerned about the budgetary needs of the FTC than they are about the potential expansion of its jurisdiction. The industry would prefer private enforcement in the courts, a venue in which its constituents have considerable more power over end-users.

In addition to delegating enforcement authority to the Federal Trade Commission, H.R. 1858, directed the Commission to report to Congress about the effects of the bill:

Not later than 36 months after the date of enactment of this title, the Federal Trade Commission shall report to the Congress on the effect this title has had on electronic commerce and on the United States database industry and related parties, including--

- (1) the availability of databases, search engines, and other tools for locating information necessary for electronic commerce;
- (2) the extent of competition between database producers, including the concentration of market power within the database industry;
- (3) the investment in the development and maintenance of databases, including changes in the number and size of databases;
- (4) the availability of information to industries and researchers which rely upon such availability;
- (5) whether in the period after enactment of this title database producers have faced unfair competition, particularly from publishers in the European Union; and
- (6) the extent to which extraction of information from databases, to a degree insufficient to result in liability under section 102, is harming database producers' incentive to collect and organize databases.

This reporting requirement evidences a fluid approach to policymaking as it explicitly anticipates collecting evaluative data in order to make future adjustments as warranted. At the same time, it places the FTC in the center of ongoing policy implementation and evaluation regarding the database issue. This sustained engagement

in the policy process is the type of governmental activity that is inimical to the program of the information industry. The difference in enforcement mechanisms between H.R. 354 and H.R. 1858 also reflects the jurisdictional dispute over database legislation that has arisen between the House Judiciary and Commerce Committees. The courts are within the purview of the Judiciary Committee while the Commerce Committee oversees the Federal Trade Commission.⁹⁰

The content industry's active opposition to H.R. 1858 was expressed by in a statement of the Software and Information Industry Association (2000):

“SIIA strongly opposes H.R. 1858 . . . The legislation is crafted to increase access to private sector databases, but in attempting to achieve this goal, it would sanction unprecedented uses of databases that would threaten the business operations and profitability of database companies. Under the bill, a database producer could prove harm only after substantial sales have been lost and there remains no opportunity to recover a "reasonable" return on investment in the database product. Database producers would not be allowed to defend their own property interests but would have to rely on the Federal Trade Commission to bring action against violators.”

While it remains to be seen whether any additional database legislation is really needed, (Maurer & Scotchmer, 1999) some opponents of *sui generis* legislation are willing to concede that the database industry needs some protections from potentially “market-destructive” appropriations by competitors (Reichman & Samuelson, 1997, p.136). H.R 1858 offered a less drastic alternative to the industry-backed measure. Yet the provisions of H.R 1858 provide protections against practices that rise to the level of unfair competition without impacting individual end-consumers.

H.R. 1858 was reported out of the House Commerce Committee in August of 1999⁹¹ and the two competing bills were then cross-referred (H.R. 354 to Commerce and

H.R. 1858 to Judiciary) for possible resolution. Given the basic differences in approach between the two bills, as well as the jurisdictional dispute that has arisen between the two committees, it is not surprising that the competing bills were not reconciled. Neither bill was brought to the floor of the 106th Congress.

E. Prospects for the 107th Congress

Rep. Coble's sharply worded remarks in the October 11, 2000 *Congressional Record* seemed to leave no doubt that database legislation proponents planned to continue their efforts into the 107th Congress. In the Spring of 2001, the new House Judiciary Committee Chairman James Sensenbrenner (R-WI) and House Energy & Commerce Committee Chairman Billy Tauzin (R-LA) directed their staff to co-host a series of meetings between the proponents and opponents of database legislation in an attempt to find a common ground between the two divergent approaches represented by HR 354 and HR 1858 from the previous Congress.⁹² The meetings were unsuccessful and eight months into the second session of the 107th Congress, no database legislation has been introduced in either chamber of Congress. At this point, it appears as if the continuing stalemate is as much about competing committee claims to jurisdiction as it is about disagreement on the merits of the issue.

F. Database Legislation in the States? The Georgia Bill

On February 16, 2001, *the Georgia Database Protection and Economic Development Act of 2001* (S.B. 214) was introduced in the Georgia State Senate. The bill's stated purpose is "to help foster the development of an information market in this state and related investment in information storage, processing, and communications

systems by establishing limited protections for the owners of databases against unauthorized commercialization in order to reward investment of time, money, and effort in the creation of databases.”⁹³

The operative prohibition of the act provides “any person other than the owner of a database shall not commercialize such database,”⁹⁴ and seeks to frame itself in terms of a commercial misappropriation measure rather than as a *sui generis* property right. But the definition of “commercialize” is so broad that the bill reaches the conduct of end-users as well as competitors. Section 10-1-902 provides that the term:

'Commercialization' or 'Commercialize' means to extract for use in commerce, or to use in commerce, all or a substantial part, measured either quantitatively or qualitatively, of the contents of a database.

The scope of the prohibition is left vague by this definition. Is “use in commerce” limited to engaging in wholesale copying of a database for purpose of entering into competition with the original producer (as in H.R. 1858)? Or could “use in commerce” be stretched to include conduct by end-users that could have an actual or potential adverse economic effect on the database owner (as in H.R. 354)? While the meaning of the law may be vague, the intention of its proponents is clear. According to the Georgia Electronic Commerce Association,

“Passage of the bill is ‘part of the effort to try to create a favorable economic environment in Georgia for the high-tech community,’ SB 214 would position the state as a safe harbor for database owners. Bring your intellectual assets to Georgia and we will protect them” (Keck, 2001).⁹⁵

The measure sailed through the Georgia Senate in less than two weeks, but was stalled in the House and did not become law in the 2001 session. Was the introduction of this bill in Georgia an anomaly, or does it foreshadow a new strategy on the part of

database protection proponents who are increasingly frustrated with their inability to pass federal legislation?

G. Assessing the Proponent's Arguments: The Kastenmeier Test

In assessing the merits of the arguments advanced by proponents of *sui generis* database legislation, it is useful to look to standards that have been applied in the past to arguments for new forms of statutory protection. In an often-cited article chronicling the enactment of the Semiconductor Chip Protection Act of 1984,⁹⁶ Robert Kastenmeier⁹⁷ and Michael Remington argued that “[i]n a constantly changing society... the legal system must be continually restructured to reflect larger changes that occur outside the law” (1984, p. 438). But they condition the exercise of this legislative power on the need to meet specific standards. They crafted a specific four-prong standard that Congress should apply before enacting any new intellectual property laws. Under this standard, the proponents of any new protectable interest must show that:

- 1) the interest can fit harmoniously within the existing legal framework without violating existing principles or basic concepts; (p. 440)
- 2) the new interest must be explained with a reasonably clear and satisfactory definition; (p. 441)
- 3) an honest analysis of all the costs and benefits has been presented; (*id.*) and
- 4) giving additional protection to an interest will enrich or enhance the public domain, the aggregate public benefit should outweigh the proprietary gains (pp. 440-41).

The case for *sui generis* database legislation does not pass muster under these standards. Extending copyright-type rules to facts and compilations departs from the originality requirement, a central component of the existing copyright framework. This departure from the originality requirement also raises questions about the constitutionality of the measure (Benkler, 2000). Nor has the proposed new *sui generis* interest been defined with reasonable clarity. One of the recurring objections to this type of legislation has been the imprecise and broad nature of prohibiting the extraction of a “material portion” of a database as well as the seemingly boundless definition of “economic harm” to the owner of a database. As drafted, previously proposed legislation does not place the user of a database on reasonable notice of the limits of lawful activity. This problem would leave users to act at their peril or risk civil and criminal liability, a condition that is likely to chill the exercise of otherwise lawful activity.

Sui generis proponents have also failed to demonstrate the full costs of the proposed legislation. The legislative record is devoid of any significant policy analysis that attempts to show the full costs of restricting access to data. The most substantial piece of evidence proffered by the proponents to date has been the Tyson-Sherry Report (1997) commissioned by Reed-Elsevier and the Thompson Corporation in support of H.R. 2652. But as Pamela Samuelson (1997) has argued, the Report itself is devoid of serious economic analysis, it is based on a misunderstanding of the law, and it overemphasizes the threat of the EC Directive:

“First, it “reflects a substantial misunderstanding of some basic principles of intellectual property law and policy. Second, it significantly understates the harm to competition that an exclusive property rights regime to protect the contents of databases would likely produce. Third, it is almost entirely

devoid of empirical data in support of its proposal to grant exclusive property rights in database contents. . . Fourth, . . . the Tyson-Sherry report has rung a premature alarm about the need for Congressional action arising from the material reciprocity provision in the European Directive on the Legal Protection of Databases. Fifth, the Tyson-Sherry report does not meet the standard for *sui generis* intellectual property legislation articulated by former House Subcommittee Chair Robert Kastenmeier who shepherded the Semiconductor Chip Protection Act of 1984 through Congress.”

Samuelson concluded her rebuttal of the Tyson-Sherry Report by encouraging the Committee to “actively seek out comments on database legislation from a wide variety of American companies and industry associations, as well as scientific, educational, and research organizations, that would be affected by it, rather than relying principally on assertions of need from British and Canadian publishing giants, Reed Elsevier, Inc. and Thomson Corp., who paid for the Tyson-Sherry report, and their allies.”

The costs and unintended consequences of database legislation have been studied by the National Research Council (1999) and discussed by various authors (e.g., Maurer, 1999, 2001; Maurer and Schottmer, 1999; and Reichman & Uhler, 1999). Maurer’s (2001) identification of three negative unintended consequences of the Database Directive, (excessive monopoly, disruption of data aggregation, and increased transactions costs) exemplifies the type of extended policy analysis that needs to be incorporated into the policy making process itself. And the detailed commentary proffered by the participants in the 1999 NRC Workshop and the resulting analysis in the NRC Report (1999a) stand in stark contrast to the paucity of the evidence provided by the proponents. *Sui generis* proponents have failed to show that there will be a net aggregate public benefit through enactment of the proposed legislation. Their arguments about the

broad public interest are thin; and as argued in the following section, they are merely rhetorical devices. They fail to address the three general areas of concern raised by Maurer (2001, p. 48), excessive monopoly, disruption of data aggregation, and increased transactions costs. In marking-up and reporting to the floor the legislation in the 105th and 106th Congresses, the House Judiciary Committee failed to engage in the sort of sustained and serious policy analysis called for by Rep. Kastenmeier, the previous subcommittee chair.

In an often-cited 1970 law review article, Stephen Breyer, now an Associate Justice on the United States Supreme Court, pointed to the unsatisfactory nature of Congressional hearings on the Copyright Revision Bill then under consideration:

“The hearings reveal little critical analysis of industry claims that protection is needed. They show little awareness of the possible harms of extending protections. Rather the data amassed at the hearings is unsifted, often irrelevant, fact and opinion, and many critical facts about affected industries are missing. Of course, the hour is late; the revisors have long been hard at work. Yet one cannot escape the conclusion that more empirical work and more thoughtful analysis is needed before the Copyright Law is significantly revised” (Breyer, 1970, p. 351).

Breyer’s comments seem equally apropos to the paucity of the record that has been built in favor of *sui generis* database legislation.

IV. The Rhetorical Strategy of the Database Proponents

The purpose of this section is to examine the rhetorical strategy of the proponents of *sui generis* database legislation. There is one theme that runs throughout the proponents' testimony, briefing papers, press releases and other promotional materials. That is the need for new legislation is consistently framed in terms of a broader public interest. The proponents advance their legislative program in terms of universal interests such as a vibrant economy, the security of jobs, international harmony, the availability a wide selection of information resources, and even the health and safety of the American people. In contrast, opponents of such legislation are portrayed as pirates, copyists, and free riders. The proponents' program is phrased in terms of the quest for greater "protection," not the imposition of additional "restrictions." This theme is not unique to the database issue; it is present in the discourse surrounding the other copyright policy issues discussed earlier in this chapter. The statement of the Software and Information Industry Association on the need for database legislation shows how the interests of the proponents are recast as universal:

"U.S. database producers, ancillary industries and database users will all benefit from a new, uniform federal law extending protection to this type of information content. Moreover, such a law will help secure the predominance of the American database industry in the world marketplace and foster new attempts to create an international treaty to bring uniformity to various nation's database protection efforts."⁹⁸

Some further examples taken from the proponents' congressional testimony help illustrate this point:

"America's database producing community and its customers need a new federal law to protect databases that are otherwise noncopyrightable, and a law very much like H.R. 354 should accomplish that goal. Such a statute is

absolutely critical if this important industry sector is to continue creating and maintaining high-quality, accurate and reliable products and services to meet the ever-growing market demand for comprehensive collections of information. Without such a law, market instability will only grow, due to a combined fear of unfair competition and unstoppable piracy” (Duncan, 1999).

Publisher Paul Warren (1997) expresses similar themes in his testimony before the House Committee on the Judiciary Subcommittee on Courts and Intellectual Property in support of H.R. 2652:

“...we believe that both creators and users alike will benefit from a clear, well-defined statute setting out permissible and impermissible uses of protected information products. ... H.R. 2652, is an important first step towards striking the correct balance between the important interests of both owners and users of collections of information.”

Warren also warned of the risk to society from “data-base pirates:”

“Today, database pirates can use widely available technologies to copy or print electronic databases and distribute them around the world. The advent of digital, high-speed computer networks adds greatly to this threat of piracy. Internet users can copy and distribute large collections of information with the click of a mouse and at a fraction of the enormous costs required to develop these products. These risks will only increase as our society becomes more dependent on computers and digitized information, and as technologies provide new and even more efficient ways to copy and distribute informational products (*id*).

At the same hearing, Laura D’Andrea Tyson, speaking on behalf of database vendors, argued that:

“...databases produced and disseminated by private producers require legal protection to ensure that they are provided in amounts and forms consistent with their market demand. At the same time, there is a valid public interest both in maintaining access to information among the scientific, educational and library communities and in preventing the potential abuse of market power by private database providers. The public policy challenge is to find the appropriate legal means to balance the interests of database producers... -and database users.... In the end, both producers and users are seeking to ensure that there is information

available to support education, scientific progress, and economic growth. An appropriately crafted law providing statutory protection can meet this challenge to the benefit of both producers and users.”

Dr. Robert Ledley, President of the National Biomedical Research Foundation,

linked the need for statutory protection to the advancement of medical research:

“...the only way effectively to keep privately developed databases or derivatives of databases available to the scientific community -- and the benefits of those collections available to the public -- is by providing adequate protection to the database developer. This is necessary in order to provide a reasonable measure of security for the developer's investment of labor and effort, and to thereby promote financial and other incentives to the compilation, maintenance, enhancement, and currency of the database. This principle has been known for several centuries” (Ledley, 1997).

Ledley goes on to point to how his work on genomic databases “has been an essential component of the research currently underway to establish treatment and prevention of Alzheimer's disease.” While he acknowledges that the database was funded by a grant from the National Library of Medicine, and hence freely available to the public, he makes the argument that:

“Had we initially considered undertaking our efforts in an absence of adequate government funding and in an atmosphere of uncertain private sector support attributable to a perceived deficiency of legal protection, I have grave doubt this widely used and relied upon collection of protein information could have seen the light of day.”

Dramatizing the plight of database producers as the concern of all Americans, Rep. Thomas G. Tancredo (R-CO) offered this remark on the floor of Congress on the occasion of National Poison Control Week. It is reproduced in its entirety as it effectively captures the essence of the rhetorical strategy of the database proponents:

“Mr. Speaker, today marks the beginning of National Poison Prevention Week, an event each and every parent ought to mark in big, bold letters on their calendar. Ever since 1962, we've set aside one week each year to

raise awareness about accidental poisonings and how to prevent them. But we also know poison prevention is a round-the-clock, day-in, day-out concern. Between two and four million poisonings occur each year, sending thousands to the hospital. Most accidental poisonings occur in the home, and more than half of the victims each year are children. It is critical we all learn how to prevent children from accidentally gaining access to these products.

The theme of this year's poison prevention campaign is "Children Act Fast. So Do Poisons." Poisonings can occur in the blink of an eye, when parents or caregivers are briefly distracted by the telephone or doorbell, leaving curious children alone for a split second. Because poisons act quickly, quick action is needed to save the child's life. Often, the first and best response is to call the nearest Poison Control Center or local emergency personnel. Time after time they are quickly able to determine what the child has swallowed and what's the best remedy.

How do they do it? How do they do it so fast? And most miraculously, how do they do it while a distraught parent waits and prays on the phone? Do these heroes have encyclopedic memories? No, but they have the next best thing. They have access to a comprehensive electronic database called POISINDEX which identifies and provides ingredient information with 1.2 million entries for commercial, pharmaceutical and biological substances. It also provides treatment protocols--or antidotes--for poisons. Every day, emergency teams are tapping into POISINDEX to get answers while a life hangs in the balance.

I am proud to have MICROMEDEX and their 500 employees which provide such important products in my district. It is especially appropriate we recognize the value of this under-appreciated database as Congress prepares to take steps to prevent database piracy. MICROMEDEX, of Englewood, Colorado and the producer of POISINDEX, has grave concerns that unless we close a gap in the law its work could be stolen, an act of piracy that could endanger the safety of many people.

Some might argue that the more widely we distribute information about poisons and their antidotes, the better. Although this notion is well intended, it is also misguided and could have serious consequences. Scientific knowledge is constantly moving forward, and as a result, medical information can rapidly go out-of-date. The POISINDEX team of 125 industry expert editors is dedicated--as a business and as corporate citizens--to providing unbiased information of unsurpassed breadth and depth. For 25 years they have invested a lot of time, money and effort doing precisely that. The problem is, a commitment to the integrity of the

information is not necessarily shared by people who would pirate the contents of POISINDEX and distribute or sell them on the Internet or elsewhere. This is the type of ‘sweat of the brow’ databases that Congress needs to prevent from being pirated.

If POISINDEX can be copied and distributed by pirates, it raises a truly frightening specter: the emergency team searching frantically for information, only to find it is incomplete, out-of-date or inaccurate. Imagine yourself as the parent in that nightmare.

Legislation pending before the House, H.R. 354, of which I am a cosponsor, will prevent database piracy and ensure that POISINDEX will continue to help save lives. By preventing piracy, H.R. 354 maintains the incentives database publishers need to stay in business. It also encourages competition within this growing industry, which will lead to the creation of more high quality products.

Yes, POISINDEX is an extreme example with potentially extreme consequences. But even in less dire cases, the principle is the same. Unless we do something about database piracy, we will undermine the commitment of producers to build and maintain the integrity and accuracy of the databases we depend on every day.

We can all be grateful to MICROMEDEX for creating and maintaining such a vital product, and for showing how accurate information can literally save lives. It is the most graphic example I can imagine of how poison prevention and database protection go hand-in-hand.

I urge my colleagues to join me in supporting this year's National Poison Prevention Week and timely action on H.R. 354. We must prevent database piracy and maintain the integrity of databases that is critical to us all. We owe that to every child and every parent who picks up that phone in their moment of distress” (Tancredo, 2000, pp. E-303-304).⁹⁹

This strategy of framing the need for *sui generis* in terms of a broader public interest is not limited to American speakers, as shown in this presentation of a European Commission official (Jörg Reinbothe, 1999):

“The *sui generis* protection of non-creative databases is an essential building block for the Information Society and for electronic commerce. It constitutes an important incentive for investments and safeguards legal certainty and access under appropriate terms. Such protection does not interfere with research, or with the exchange of information.

The sui generis right does not constitute overprotection. It only protects databases and not mere 'data items'. Moreover, the right is based on certain conditions, such as 'substantial investment', which other neighbouring rights do not require.

The sui generis right restructures existing patterns of protection in a carefully balanced way. It is the cautious and mature response to a real problem, namely the need to provide non-creative databases with appropriate protection. . .

Sooner or later, we will have to find a reply also at international level, if all our economies want to benefit from electronic databases and from a world-wide exchange of valuable data under appropriate terms and conditions. Electronic commerce without a level playing field for intellectual property protection for those databases, which are crucial for its operation, would be a contradiction in terms."¹⁰⁰

By framing the issue of database protection in the general interest of consumers, uniformity, and in the broader national interest, proponents attempt to mask the "special-interest" nature of the legislative changes they are seeking.

V. Database Legislation as a Reflection of the *Information Society* Model

Changes in intellectual property laws, like other changes in laws governing the ordering of social relationships, do not arise in a vacuum but are instead embedded in an historical, political, social and economic context. The National Research Council's perspective that the *Feist* decision, the EC Directive, and technological change have provided the impetus for the drive to enact *sui generis* database legislation is a fundamentally sound description. But as an analysis it is incomplete as there are additional processes at work under the surface. The drive towards *sui generis* database legislation is a component of a broader strategy to develop an information policy regime that construes information and information technology in a manner compatible with the logic of commodification. Such a process is firmly rooted in this logic; it is not a new

aspect of the information age. Proponents of the “new economy,” or the “information economy” often gloss over the fact that the commodification of information is a deep reflection of, and arises out of, the economic logic of the industrial age.

How is one to make sense of the developments outlined in this chapter? At first glance, there are three explanations that might be considered. The first explanation relies on legal formalism, a self-referential analysis of legal rules and regulations. Under this view, changes in database laws are brought about by the exigencies of reconciling historical case law, the need for international harmonization, or compliance with directives or treaties. That is, the explanations are internal to the law in itself, and law is viewed as an autonomous force in society. This legal-centric analysis fails to take other relevant social, economic and political factors into account.

The second explanation relies on notions of liberal pluralism. Under this view, various interest groups compete over policy outcomes. In the case of database legislation: (1) a court issues a decision that adversely affects the interests of some stakeholders; (2) proponents of stronger protection for databases respond with legislation they think will cure the adverse effect of the decision; (3) the legislation prompts a counter-response by other stakeholders who see the proposed legislation as against their interests; and (4) the stakeholders essentially play to a draw. The pluralist analysis can be faulted because it fails to take disparate levels of power and influence upon decision-makers into adequate account.

Under the third explanation, the policy apparatus is seen as an instrument or tool of particular actors and interests. Under this viewpoint, database legislation can be

explained in terms of industry groups capturing the policymaking process, and then directing it towards their own narrow interests. This theory can be applied in an overly simplistic manner. In the case of intellectual property policy, it fails to account for the divisions that often arise within the broader high-technology industry. It hardly explains the database issue inasmuch as the legislation has not been enacted to date.

Although each of these theories have some explanatory power, it is important to avoid a one-dimensional reliance on any one of them. The evidence points to a strong congruence between the values and assumptions of the proponents of *sui generis* database legislation and the values and assumptions of the *information society* model described in chapter 1. This observation may be generalized to the broader drift towards proprietary rights in intellectual property policy. But it is particularly acute in the case of *sui generis* database legislation because of the critical role databases and compilations play in the production of new knowledge in a variety of fields.

The proponents of *sui generis* database legislation adopt an approach to the construction of information that emphasizes the quantifiable aspect of data. Shapiro and Varian's (1999, p. 3) definition of information bears repeating as it is particularly applicable to how the discourse surrounding databases has been constructed:

“We use the term *information* very broadly. Essentially, anything that can be digitized - encoded as a stream of bits - is information. For our purposes, baseball scores, books, databases, magazines, movies, music, stock quotes and Web pages are all *information goods*. We focus on the value of information to different consumers. Some information has entertainment value, and some has business value, but regardless of the particular source of value, people are willing to pay for information.”

This narrow construction of information helps pave the way for rampant commodification regardless of social consequences. Data is constructed as an entity capable of precise measurement, not to aid in its utilization, but in order to facilitate an efficient pricing and payment mechanism, or for determining whether there has been a substantial extraction from a database in violation of that model. The qualitative aspects of the utilization of data, (e.g., how the data interacts with other information resources in the process of producing new knowledge) is marginalized. To use Michael Buckland's (1991, 1991a) terminology, *sui generis* proponents understand "information as thing," but not "information as process," and certainly not "information as knowledge." And their construction of "information as thing" is limited to a particular type of thing, that is, a commodity.

Sui generis proponents implicitly adopt an instrumentalist theory of technology and their arguments often lapse into a form of technological determinism. In the process of urging passage of their legislation, they promote the idea that technological change is an autonomous and independent variable, one that only needs to be followed by an appropriate policy response. They argue that advances in information technology enable increased "piracy" of digital goods, thereby warranting a change in the law to keep up with technology. While this viewpoint may contain some merit, the claims have been widely exaggerated, and the resulting legislation generally overshoots the goal of preventing infringement. The proponents' outlook on technology is closely related to their historical viewpoint, one that should be characterized as a strong version of "information-age exceptionalism." Advances in information technology are so rapid,

under this position, that society has entered a qualitatively new type of era, one that demands the implementation of new “protections” for intellectual property as a matter of urgency. The possibility that advances in information technology might actually *lessen* the need for such new measures are not acknowledged in the policy discourse. The following chapters will build on the discussion of database legislation in order to develop an alternative theory of intellectual property policy, one that is rooted in the *information-for-society* mode

Endnotes to Chapter 2

- ³⁷ These examples all relate to copyright law. Numerous additional examples could be provided from other branches of intellectual property law: patent, trademark and trade secret. For example, the recent patentability of “business methods” and the “development of the “inevitable disclosure” rule in trade secrets evidence this trend. Space does not permit an adequate treatment of the proprietary drift in other areas of intellectual property law and this chapter will limit itself to copyright and related issues. For a critique of the expansionary tendencies within the patent system, see Kahin (2001). For a discussion of the inevitable disclosure rule in trade secrets, see Halligan (2001).
- ³⁸ The Copyright Act of 1790 (1 Stat 124) provided for a term of 14 years with the privilege of renewal for an additional 14 years by an author or assign. In 1831, the term was extended to 28 years with the privilege of renewal for 14 years limited to the author and their widows and children. (4 Stat 436). The 1909 Act extended the renewal term to 28 years, bringing the maximum term to 56 years (35 Stat 1075).
- ³⁹ See Sabra Chartrand, *Congress has Extended its Protection for Goofy, Gershwin and some Moguls of the Internet*, N.Y. TIMES, Oct. 19, 1998, at C2.
- ⁴⁰ *Eldred v Reno* 239 F.3d 372 (D.C. Cir. 2001). The plaintiffs included a non-profit association that distributes free electronic versions of books in the public domain; a company that reprints out-of-print books that are in the public domain; a vendor of sheet music and a choir director; and a company that preserves and restores old films. In each case, the plaintiff alleged that their respective activities were hampered by term extension. They argued that the law was beyond the power of the Congress and therefore unconstitutional. Due to the change in administration, the case is now entitled *Eldred vs Ashcroft*. In February 2002, the U.S. Supreme Court issued an order granting certiorari in this case.
- ⁴¹ Public Law 105-304, codified at 17 U.S.C. section 1201, *et seq.* Unless otherwise indicated, all section references in this section are to the DMCA as codified in title 17 of the United States Code.

⁴² The notion of rights management systems is conceptualized in Mark Stefik's (1996, 1997) vision of the "trusted system," a technologically based approach to rights management. The technical core of the approach is based on the ideas "(1) that digital works can be bought and sold among trusted systems, and (2) that works have attached usage rights that specify what can be done with them and what it costs to exercise those rights." (1996, p. 226). Producers will distribute their works in an encrypted format such that they can be displayed or printed only by "trusted machines." Critical to this shift is the technological development of hardware and software that can be relied on to follow certain rules. Termed "usage rights," these rules will specify the cost and a series of terms and conditions under which a digital work can be used. A trusted computer would refuse to make unauthorized copies or to play audio or video selections for a user who has not paid for them. In addition to utilizing encryption, trusted systems place identifying watermarks in distributed works which facilitate the identification of unauthorized duplications or alterations. The watermarks maintain an invisible record of each work, including the name of the purchaser and a code for the devices on which they are being played.

"Watermarks" originally referred to marks on paper that would be visible upon close examination. Here it refers to a series of technologies that embed information in digital files. They provide a means for tracing the source of an unauthorized copy.

⁴³ Article 11 of the WIPO Treaty obliges contracting parties to "provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights . . . and that restrict acts . . . which are not authorized by the authors concerned or permitted by law. "

Article 12 requires that contracting parties "provide adequate and effective legal remedies" against the removal or alteration of any electronic rights management information without authority ("rights management information" is used to mean information which identifies the work, the author of the work, the owner of any right in the work, or information about the terms and conditions of use of the work, and any numbers or codes that represent such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public.)

44 House Report 105-551 (Part II), *Additional Views of Scott Klug and Rick Boucher*, (p 85-87).

⁴⁵ 111 F.Supp.2d 294 (S.D.N.Y. 2000). The decision was upheld on appeal *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 2001 (2d Cir. N.Y. 2001).

⁴⁶ DeCSS decrypts movies on DVDs that have been encrypted by a computer program called CSS. Decryption of DVD movies is necessary in order to make fair use of the movies as well as to play DVD movies on computers running the Linux operating system, among other uses. The Studios object to the publication of DeCSS because they claim that it can be used as part of a process to infringe copyrights on DVD movies.

⁴⁷ For an archive of documents pertaining to the case, see http://www.eff.org/IP/Video/MPAA_DVD_cases/ [accessed November 11, 2001].

⁴⁸ ElcomSoft's Advanced eBook Processor (AEBPR) removes the technological protection from eBooks that are in Adobe's eBook format and converts them into Adobe's Portable Document Format, so that end-users can utilize eBooks in more expanded ways than currently available under the Adobe eBook format. The product also allows the eBooks to be read or processed by third-party software,

not just Adobe's eBook Reader software. The AEBPR program removes the various restrictions (against copying, printing, text-to-speech processing, etc.) that publishers can enable or disable under Adobe's digital rights management system. However, the program is designed to work only with eBooks that have been lawfully purchased from sales outlets. For an archive of documents pertaining to the case, see <http://www.eff.org/IP/DMCA/US_v_Sklyarov/> (visited May 16, 2002).

- ⁴⁹ On May 8, 2002, the US District Court for the Northern District of California denied Elcomsoft's motion for dismissal of the indictment on constitutional grounds. The memorandum of decision is available online at <http://www.eff.org/IP/DMCA/US_v_Elcomsoft/20020508_dismiss_deny_order.pdf> (visited May 16, 2002).
- ⁵⁰ For example, see the essay by Dutch cryptographer Niels Ferguson (2001) (claiming that he is unwilling to publish a paper describing his recent discovery that Intel's encryption scheme for Firewire connections, known as the high-bandwidth digital content protection (HDPC) system, had a major flaw, for fear of prosecution should he travel to the United States.). Ferguson's concerns are widespread. After Sklyarov's arrest, the government of Russia issued an official travel advisory warning programmers of the risks of prosecution in the United States under the DMCA's anti-circumvention provisions.
- ⁵¹ UCITA was originally proposed as a new Article 2B to the Uniform Commercial Code. The project was co-sponsored by NCCUSL and the American Law Institute (ALI). In 1999, ALI withdrew from the drafting project because their members continued to have strong reservations about the substance of the proposed law. Without the co-sponsorship of the ALI, the project could no longer be considered part of the Uniform Commercial Code, hence the change of name to UCITA.
- ⁵² Further details of these and other concerns about UCITA can be found at <http://www.arl.org/ucita.html>; <http://www.ala.org/washoff/ucita.html>; <http://www.badsoftware.com>, and <http://www.4cite.org>. (all sites visited May 16, 2002). For a detailed critique of the UCC Article 2B project, the predecessor to UCITA, see Reichman and Franklin, 1999, McManis, 1999, and Cohen, 1998.
- ⁵³ Virginia Acts of Assembly, 2000, chapter 101 (effective July 1, 2001); Laws of Maryland, 2000, chapter 11 (effective October 1, 2000).
- ⁵⁴ A provision in a contract may refer to the law of a particular state in the event of a dispute. For example, a purchaser of software in California may find that UCITA governs the transaction even though UCITA has not been passed in California. In order to protect state residents against such provisions, anti-UCITA legislation has been enacted in two states, West Virginia and Iowa. These provisions declare that a choice of law provision pointing to a UCITA state is voidable by the consumer.
- ⁵⁵ UCITA Section 102(a)(35) defines "information" as "data, text, images, sounds, mask works, or computer programs, including collections and compilations of them." There are several exclusions from the coverage under UCITA set forth in section 103 (d) and non-copyrightable data is not among them.
- ⁵⁶ The NRC Report (1999a), entitled *A Question of Balance: Private Rights and the Public Interest in Scientific and Technical Databases* was based, in part, on a Workshop held in Washington D.C. on January 14-15, 1999 in Washington D.C. The proceedings of the workshop (NRC, 1999) are

only available online at <http://books.nap.edu/html/proceedings_sci_tech/>.

⁵⁷ Article 1(2).

⁵⁸ FOLDOC (Free Online Dictionary of Computing) Available online at <<http://foldoc.doc.ic.ac.uk/foldoc/>> (Visited May 15, 2002). A simpler definition is given by the online Knowledge Base Dictionary as “[a] file of information assembled in an orderly manner by a program designed to record and manipulate data. A telephone directory is an example of output from a database.” Available online at <<http://www.hansenmedia.com/>> (visited May 15, 2002).

⁵⁹ Word-oriented databases can be further divided into bibliographic, directory, dictionary, full-text, patent/trademark and other (*id*, p. xxi).

⁶⁰ Numerical databases are subdivided into transactional, statistical, time-series, properties, and other (*id*).

⁶¹ Electronic services databases include bulletin boards, electronic mail, and electronic conferencing (*id*).

⁶² In 2001, word-oriented databases were the largest entry (68%), followed by number-oriented (17%), image-oriented (12%), audio (3%) and the remainder (<1%) (*id*, p. xxii).

⁶³ The countries with 100 or more databases entries are the United States (6889), England (921), Germany (418), Finland (406), Canada (350), Denmark (316), France (262), Norway (236) Sweden (231), Netherlands (229), Republic of Korea (198), and Australia (164) (*id*, p. xxiv).

⁶⁴ For 2001, the largest medium of distribution is online (49%) followed by CD-ROM (36%), diskette (8%), magnetic tape (5%), batch (2%) and hand-held (<1%) (*id*, p. xxvii).

⁶⁵ For 2001, commercial/industrial publishers produced 82% of the database entries, followed by non-profit/academic (8%), governmental (8%) and mixed (2%) (*id*, p. xxviii).

⁶⁶ In many instances, it would be feasible to assign a database to this production/consumption category by simply examining the record in the compilation. In many cases, however, the line would not be clear as there would be a dual use. For example, the LEXIS-NEXIS database (element of which span all four of Maurer’s classifications) is accessed by end-users for private research as is also used as a source of information in the process of producing some other work or product.

⁶⁷ Cuticchia describes the GDB Human Genome Database as an amalgam of various other collections of data that is made available to the public free of charge. He points to the importance of central collections of databases and argues that GDB will “spend increasing amounts of time culling together data from major sites of biological discovery in order to create its compilation” (2000, p. 66).

⁶⁸ Laura D’Andrea Tyson and Edward F. Sherry, “Statutory Protection for Databases: Economic & Public Policy Issues” <www.house.gov/judiciary/41118.htm>. (Only the executive summary is posted here. The full text of the Tyson-Sherry report, which previously was prominently featured on the website of the Information Industry Association, does not appear on the website of its successor, the Software and Information Industry Association). For the response, see Pamela Samuelson, Letter to Representative Coble regarding database legislation, October 22, 1997. <<http://www.arl.org/info/frn/copy/psamlet.html>>. (visited May 16, 2002). Samuelson’s response effectively discredited what purported to “economic analysis” in the report. The Report began with

the statement “This paper presents the economic rationale for statutory protection of databases, building on the general economic concepts of private property rights. It argues that databases produced and disseminated by private producers require legal protection to ensure that they are provided in amounts and forms consistent with their market demand.” But by 2000, the website for the Software and Information Industry Association included the disclaimer: “Although we are not aware that anyone has conducted a thorough and detailed economic analysis of the U.S. database industry, one commentator has estimated business-to-business sales in the tens of billions of dollars and notes that the number of online databases has grown from 59 in 1979 to 899 in 1997.” (13th paragraph at <<http://www.siiia.net/ga/ip/dbWIPO4-20.htm>> visited 5/8/00, the link has been subsequently removed).

⁶⁹ See note 64, *supra* Tyson was the former National Economic Advisor to President Clinton and former Chair of the Whitehouse Counsel of Economic Advisors. She is currently the Dean of the Haas School of Business at the University of California, Berkeley. She addressed the Judiciary Committee here as a consultant to Reed-Elsvier, Inc. and the Thompson Corp., the owners of Lexis-Nexis and Westlaw, respectively. The Executive Summary of her written report, “STATUTORY PROTECTION FOR DATABASES: ECONOMIC & PUBLIC POLICY ISSUES (co-authored by Edward F. Sherry) is available at online at <<http://www.house.gov/judiciary/41118.htm>>. (visited May 16, 2002)

⁷⁰ Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases, 1996 O.J. L77-20. (hereinafter referred to as the *EU Database Directive*). For background on the adoption of the Directive, see Jörg Reinbothe (1999). Prior to the adoption of the final directive, the European Commission submitted a proposal to the World Intellectual Property Organization (“WIPO”) (European Community, 1996). The United States submitted a similar proposal in May of 1996. (United States, 1996). A draft treaty on the legal protection of databases was published by WIPO on August 30, 1996 (WIPO, 1996). At the December 1996 WIPO Conference in Geneva, action on the matter was postponed.

⁷¹ The court issued a declaration of non-compliance with the Directive against Ireland in January (Case C-370/99).

⁷² Maurer’s (2001) study was prepared for use by Canadian policymakers and was presented at a May 23-24, 2001 conference sponsored by Industry Canada. His conclusions are also relevant for policymakers in the United States.

⁷³ Maurer argues that the evidence suggests that some European database owners have used their new property rights in order to block the function of aggregation of previously disparate material. For example, he cites instances of realtors associations using the new laws to try to block third party search engines that allow consumers to search multiple records from different sources (2001, p. 44).

⁷⁴ 104th Congress, H.R 3531, the Database Investment and Intellectual Property Antipiracy Act of 1996 (Moorhead R-Cal).

⁷⁵ Rep. Moorehead was Chair of the House Judiciary Subcommittee on Courts and Intellectual Property.

⁷⁶ In many ways, the yardstick of economic interest as used here is similar to the fourth prong of the fair-use test (107 U.S.C. section 107). But in the case of fair-use, there are three other factors that must be balanced with the economic interest. Here, the economic interest is given a unique and

privileged status.

⁷⁷ Section 107 of the Copyright Act provides that the “fair use of a copyrighted work . . . for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright.”

⁷⁸ SEC. 7. CIVIL REMEDIES FOR VIOLATION OF SECTION 4.

(a) CIVIL ACTIONS- A database owner injured by a violation of section 4 may bring a civil action for such a violation in an appropriate United States district court without regard to the amount in controversy: Provided however, That any action against a State governmental entity may be brought in any court that has jurisdiction over claims against such entity.

(b) TEMPORARY AND PERMANENT INJUNCTIONS- Any court having jurisdiction of a civil action arising hereunder shall have the power to grant temporary and permanent injunctions, according to the principles of equity and upon such terms as the court may deem reasonable, to prevent the violation of section 4. Any such injunction granted upon hearing, after notice to the party sought to be enjoined, by any district court of the United States, may be served on the party against whom such injunction is granted anywhere in the United States where such person may be found, and shall be operative and may be enforced by proceedings in contempt or otherwise by any United States district court having jurisdiction over such party.

(c) IMPOUNDMENT- At any time while an action hereunder is pending, the court may order the impounding, on such terms as it deems reasonable, of all copies of contents of databases extracted and or used or reused in violation of section 4, and of all masters, tapes, disks, diskettes, or other articles by means of which such copies may be reproduced. The court may, as part of a final judgment or decree finding a violation of section 4, order the remedial modification or destruction of all copies of contents of databases extracted, used or reused in violation of section 4, and of all masters, tapes, disks, diskettes, or other articles by means of which such copies may be reproduced.

(d) MONETARY RELIEF- When a violation of section 4 has been established in any civil action arising hereunder, the plaintiff shall be entitled, subject to principles of equity, to recover (i) defendant's profit, (ii) any damages sustained by the plaintiff, and (iii) the costs of the action. The court shall assess such profits or damages or cause the same to be assessed under its direction. In assessing profits the plaintiff shall be required to prove defendant's sales only; defendant must prove all elements of cost or deduction claimed. In assessing damages the court may enter judgment, according to the circumstances of the case, for any sum above the amount found as actual damages, not exceeding three times such amount. If the court shall find that the amount of the recovery based on profits is either inadequate or excessive, the court may in its discretion enter judgment for such sum as it finds just. The court in its discretion may award reasonable attorney fees the prevailing party.

(e) Subsections (b) and (c) shall not apply to any action against the United States Government.

(f) The relief provided under this section shall be available against a State governmental entity to the extent allowed by applicable law.

⁷⁹ Reichman and Samuelson concede that additional legal protections are needed because the “risk of market failure inherent in [the current] state of chronic under-protection tends to keep the

production of information goods at suboptimal levels” (p. 55). In this respect, they differ from other critics who believe no new protections are warranted (i.e., Maurer and Scotchmer, 1999). They wanted instead to rely on “either the use of unfair competition principles to protect database contents, or the adoption of an intellectual property regime based on more refined liability principles, rather than on exclusive property rights” (1997, p. 55).

⁸⁰ H.R. 2652, the “Collection of Information Antipiracy Act (Coble R-SC).

⁸¹ Status of Copyright and Intellectual Property Legislation. (4/16/98) available at <http://arl.cni.org/info/frn/copy/status.html#dcia> (visited May 16, 2002).

⁸² See, Collections of Information Antipiracy Act; Hearings Before the Subcommittee on Courts and Intellectual Property of the Committee on the Judiciary House of Representatives, (October 23, 1997) Statement of Jerome A. Reichman, p. 123 and *id.*, Statement of James Neal, p. 253.

⁸³ H. Rep. 105-796. A measure substantially similar to H.R. 2651 had been introduced in the Senate in July 1998 (S. 2291), but it died in the Judiciary Committee.

⁸⁴ Section 1401(3) defines primary market as “all markets: (A) in which a product or service which incorporates a collection of information is offered; and (B) in which a person claiming protection with respect to that collection of information under section 1402 derives or reasonably expects to derive revenue, directly or indirectly.”

⁸⁵ The definition of related market in section 1401(4) goes even further. It includes any market:

“(A)(i) in which products or services which incorporate collections of information similar to a product or service offered by a person claiming protection under section 1402 are offered; and (ii) in which persons offering such similar products or services derive or reasonably expect to derive revenue, directly or indirectly; or

(B) any market in which a person claiming protection with respect to a collection of information under section 1402 has taken demonstrable steps to offer in commerce within a short period of time a product or service incorporating that collection of information with the reasonable expectation to derive revenue, directly or indirectly.”

⁸⁶ The proposed statute provided an exemption for extracting or using information for nonprofit educational, scientific, or research purposes, “unless the market for the underlying database would be “directly” harmed. The exemption for teaching, research or analysis,” is also qualified if the result is “likely to serve as a market substitute” for the underlying database. In both of these cases, the exception to the exception threatens to destroy its meaning, especially given the broad definition of “market in section 1401.

⁸⁷ In addition to actual monetary damages and injunctive relief, a court may order impoundment of all copies of a violating database. Additional monetary relief up to three times actual damages, costs and attorney’s fees costs and attorney’s fees may also be assessed. Criminal penalties apply where a willful violation for commercial gain causes damages of \$10,000 or more penalties are a maximum fine of \$250,000 and/or imprisonment for no more than 5 years; subsequent offenses are punishable by a maximum fine of \$500,000 and/or imprisonment for no more than 10 years

⁸⁸ It should also be noted that the coalition against H.R. 354 seemed to be growing during the 106th

Congress. The New York Times published an anti-354/pro-1858 editorial, "Fair Use of Databases" on November 15, 1999, and it was immediately distributed to every member of the House by the library associations. In February 2000, a letter opposing H.R. 354 was sent to every member of Congress. In addition to the usual non-profit educational and library interests, the letter was signed by a broad cross-section of companies in the high-technology sector (including AOL, AT&T, Amazon.com, Lycos and MCI). The list included firms that are part of the information sector (Dun & Bradstreet, Reuters, Bloomberg and Charles Schwab) and even included the U.S. Chamber of Commerce. The letter is available online at <http://www.ll.georgetown.edu/aallwash/lt02082000.html> (visited May 16, 2002).

⁸⁹ In chapter 4, this difference will be explained in terms of the difference between "use-value" and "exchange-value."

⁹⁰ The House Commerce Committee has been renamed the Energy and Commerce Committee. The Committee's 2001 Oversight Plan indicates that it intends to expand the ability of the Federal Trade Commission to regulate electronic commerce: While the Federal Trade Commission (FTC) has authority to protect consumers from deceptive practices and advertising over various mediums, including the Internet and electronic networks. The Committee plans to review the FTC's exercise of its authority in the high tech and e-commerce areas, as well as in other areas within the Committee's jurisdiction, such as energy policy, healthcare policy, and the regulation of food and drugs. (available online at <<http://www.house.gov/commerce/oversightplan.pdf>>, visited May 16, 2002).

⁹¹ The bill reported by the Commerce Committee included an amendment offered by the American Association of Law Libraries (AALL) that would explicitly and unambiguously insure that primary legal materials remain accessible to end-users:

Section 104(f). Protection under this chapter shall not extend to primary legal materials including court opinions, statutes, codes, regulations, or administrative agency decisions, from any Federal, state, or local jurisdiction, unless such materials were permanently available on an interactive computer network, without restriction, in an official, no-fee, publicly accessible electronic form at the time that the extraction occurred.

⁹² The meetings are described by Mary Alice Baish on behalf of the American Association of Law Libraries: "Each session focused on one specific issue, such as the scope of a new protection, ISP liability, exclusions for government data, or transformative uses. It became increasingly apparent to us during these sessions that the proponents are adamant about creating a broad new intellectual property regime that we believe will stifle the growth of e-commerce, as well as scientific and educational research. Rep. Sensenbrenner has already signaled to Rep. Tauzin that he intends to move forward on database fairly quickly, and that this is an intellectual property issue within the Judiciary Committee's jurisdiction. Staff of the Commerce Committee view database legislation as an e-commerce issue and therefore very much within their own committee's jurisdiction." AALL Issue Brief, July 2001, available online at <<http://www.ll.georgetown.edu/aallwash/ib0720012.html>> (visited August 10, 2002).

⁹³ 2001, Georgia General Assembly, S.B. 214 (adding a new Article 34 to Chapter 1 of Title 10 of the Official Code of Georgia Annotated, relating to selling and other trade practices, is amended), Section 10-1-901.

⁹⁴ *Id.*, Section 10-1-903.

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- ⁹⁵ The mission statement posted on group's website (<http://www.geca.org/about/mission.html>) states that "GECA advocates a favorable environment for electronic commerce and government by supporting public policy that is: Market Driven. Good public policy is market driven rather than purely political in origin. Market economies are founded on the premise that the market develops, tests and implements new ideas and then the law adapts."
- ⁹⁶ Public Law 98-620, title III (codified at 17 U.S.C. 901-914). This Act was considered a form of *sui generis* legislation as it added a new form of intellectual property protection to the statutes.
- ⁹⁷ Kastenmeier was the Chairman of the House Committee on the Judiciary Subcommittee on Courts, Civil Liberties and the Administration of Justice (the predecessor to the Subcommittee on Courts and Intellectual Property now chaired by Rep. Coble.)
- ⁹⁸ See <<http://www.siiia.net/sharedcontent/govt/issues/ip/dbbrief.html>>. The homepage of this site describes the mission of the Association as "As SIIA works towards building the digital economy, we have three distinct missions that help us keep us focused on our goal. First, we seek to show the world that the software and digital information industry is the fastest growing industry sector and a major contributor to the global marketplace. Second, we protect the intellectual property of members, and advocate a legal and regulatory environment that benefits the entire industry. Finally, SIIA empowers our member companies with knowledge by serving as a resource to them on a wide range of traditional and emerging subjects that affect their businesses." (visited April 2, 2001).
- ⁹⁹ According to Tancredo's personal website, before being elected to Congress, he served as the President of the Independence Institute, a conservative, public policy research organization. Before that, he served as the Secretary of Education's Regional Representative under Presidents Reagan and Bush. <<http://www.house.gov/tancredo/bio3.htm>> (visited May 16, 2002).
- ¹⁰⁰ Jörg Reinbothe, a German national, is Head of Unit DG XV/E-3 (Copyright and Neighbouring Rights including International Aspects, Internal Market and Financial Services) of the Commission of the European Community, and served as Head of the EC Delegation at the WIPO Diplomatic Conference of 1996.

Chapter 3: The Need for New Models: The Efficiency Model and its Challengers

I. The Limits of the Efficiency Model

The increasing significance of intellectual property law is aptly summarized by Keith Aoki:

“Not long ago, intellectual property was a somewhat eccentric and arcane area far from the center stage of American law and best left to technical experts. However, in the past few decades, intellectual property law and policy have moved to the front of the legal agenda in controversies both within and between nations” (1998, p. 258).

The rationale for intellectual property law is stated in Article I, Section 8 of the U.S. Constitution, which grants Congress power to enact legislation:

“To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writing and discoveries.” (clause 8).¹⁰¹

It is important to note how this language distinguishes between *means* and *ends*. The *ends* to be achieved are the promotion of progress in science and the useful arts. The *ends* are not framed in terms of securing exclusive property rights in authors, inventors, their assignees and employers.¹⁰² Nothing in this clause mandates the congressional grant of any particular level of exclusive rights. The clause enables Congress to employ a particular *means*, the granting of exclusive rights, but only insofar as they advance the explicit *ends* of promoting progress and the useful arts. And in other clauses of Article I, section 8, Congress is given broad authority to collect taxes, expend revenue, and regulate commerce.¹⁰³ As illustrated by the examples in the previous chapter, there has been a continuing tendency to elevate the exclusive rights from a *means to an end* into an *end in itself*. This transformation is illustrated in Table 3.1.

	Means	Ends
From the language of the constitution	granting exclusive rights	to promote the progress of science and useful arts
Transformation in practice	granting exclusive rights	the protection of rights in intellectual property to promote the progress of science and useful arts

Table 3.1: The Transformation of Exclusive Rights from a Means to an End

Over the years, numerous authors from various perspectives have questioned an over-reliance on the granting of monopoly-like exclusive rights, the centerpiece of the efficiency model. In a letter to James Madison, Thomas Jefferson expressed his concern about the scope of the intellectual property monopoly that was enabled by the recently-drafted Constitution:

“I do not like... the omission of a bill of rights providing clearly and without the aid of sophisms for freedom of religion, freedom of the press, protection against standing armies, *restriction against monopolies*, the eternal and unremitting force of the habeas corpus laws, and trials by jury in all matters of fact triable by the laws of the land...”¹⁰⁴ (emphasis added)

In this passage, Jefferson places freedom from monopolies such as copyrights and patents to be of similar importance to freedom of speech, religion, and the press. He reiterated this view in another letter (July 31, 1788) to Madison the next year:

“I sincerely rejoice at the acceptance of our new constitution by nine states. It is a good canvas, on which some strokes only want re-touching. What these are, I think are sufficiently manifested by the general voice from North to South, which calls for a bill of rights. It seems pretty

generally understood that this should go to juries, habeas corpus, standing armies, printing, religion and monopolies. I conceive there may be difficulty in finding general modification of these suited to the habits of all the states. But if such cannot be found then it is better to establish trials by jury, the right of Habeas corpus, freedom of the press and freedom of religion in all cases, and to abolish standing armies in time of peace, and monopolies, in all cases, than not to do it in any... The saying there shall be no monopolies lessens the incitements to ingenuity, which is spurred on by the hope of a monopoly for a limited time, as of 14 years; but the benefit even of limited monopolies is too doubtful to be opposed to that of their general suppression.”¹⁰⁵

Madison's response shows a similar concern for the problem of monopolies:

“With regard to monopolies they are justly classed among the greatest nuisances in government. But is it clear that as encouragements to literary works and ingenious discoveries, they are not too valuable to be wholly renounced? Would it not suffice to reserve in all cases a right to the public to abolish the privilege at a price to be specified in the grant of it? Is there not also infinitely less danger of this abuse in our governments than in most others? Monopolies are sacrifices of the many to the few. Where the power is in the few it is natural for them to sacrifice the many to their own partialities and corruptions. Where the power, as with us, is in the many not in the few, the danger can not be very great that the few will be thus favored. It is much more to be dreaded that the few will be unnecessarily sacrificed to the many.”¹⁰⁶

Given the history of copyright, it was reasonable for Jefferson and Madison to express such concern, even hostility, to the granting of monopolies of exclusive rights. The Framers were concerned that the censorial abuses practiced by the English Crown through the early copyright acts could undermine the new form of government by chilling the robust exchange of ideas necessary for a democracy, and the First Amendment to the Constitution was an expression of this concern.¹⁰⁷

English historian Thomas Macaulay raised a similar objection to the broad scope of the copyright monopoly in an 1841 speech to Parliament. He argued that “copyright is a monopoly, and produces all of the effects which the general voice of mankind attributes

to monopoly. The effect of monopoly generally is to make articles scarce, to make them dear and to make them bad.”¹⁰⁸ Arnold Plant (1934) questioned whether the monopoly conferred by copyright law promotes the creation of new ideas sufficiently so as to offset its costs.

Stephen Breyer (1970) similarly argued that copyright protection has faults and that these drawbacks should be considered before extending its scope.¹⁰⁹ While Breyer readily conceded that he failed to demonstrate the need for drastic revision of the copyright laws,¹¹⁰ his article was written in response to changes proposed in the other direction in favor of stronger proprietary limitations. And despite the limitations of Breyer’s discussion of abolishing copyright protection, his analysis continues to have important implications for copyright policy, if for no other reason than he now sits as a Justice on the Supreme Court. The arguments most often advanced to increase copyright protection are shallow in Breyer’s view. In particular, the disparity between the publishers’ high fixed costs and the lower costs of copying is in itself insufficient to demonstrate the need for protection.

Criticism of the reliance on monopolies, characteristic of the efficiency-centered analysis, continues in the digital era. In addition to the concern with monopolies, many authors continue to point to the inability of an efficiency-centered cost-benefit analysis to capture qualitative factors in an adequate manner. Timothy Brennan (1992) suggests that these gaps in traditional economic analysis may be filled utilizing concepts from communications policy such as freedom of expression, localism, artistic freedom and diversity. Such concerns are often lost in economic analysis precisely because they are not readily quantifiable.

Other critics point to the inability of the traditional economic model to operate in the digital environment. John Perry Barlow (1994) likens attempts to shore up the intellectual property regime through the stricter enforcement of property rights to a "frenzy of deck chair rearrangements" and "stern warnings to passengers" on a ship about to sink. Ejan Mackaay (1996) uses the metaphor of a crumbling fence to describe the Internet's effect on intellectual property rights. In questioning whether the law should be called upon to shore up these rights in the face of crumbling fences, he distinguishes between legitimate property rights and illegitimate rent seeking.¹¹¹ Mackaay does not believe that extending the reach of the law to repair the crumbling fences is within the proper scope of government. Nor does he believe this abstention will leave a vacuum or a breakdown of law and order as the development of norms will create order and the designer of new products may create their own fences.¹¹² Mackaay thinks that technology will provide owners of information with at least adequate protections for their property, and is critical of efforts to impose direct legal regulations in the form of extensions of the same monopoly privileges of which Jefferson and Madison were so suspicious.

One may safely presume that Jefferson and Madison would concur with Mackaay's concerns about overbroad laws. It is reasonable to surmise that the Framers would not have resorted to the granting of monopoly privileges if adequate technological alternatives were then available.¹¹³

As to the continued effectiveness of efficiency-centered analysis, Bradford DeLong and A. Michael Froomkin (1997) observe that modern technologies undermine

the features that make the invisible hand an effective and efficient system for organizing production and distribution.¹¹⁴ DeLong and Froomkin conclude that defenders of the invisible hand will need new arguments to justify their system of competitive markets when its traditional prerequisites for optimality are gone. But like the other authors discussed in this section, they stop short of providing an alternative framework to replace the utilitarian based efficiency model.

II. Situating the CyberLaw Literature

In recent years, a growing body of work has focused on new developments in intellectual property law; changes largely attributed to the rapid digitization of information resources and the growing diffusion of electronic networks. This section will situate this body of work within the framework outlined above. Authors such as Pamela Samuelson (1994, 1996, 1996a, 1996b, 1997, 1997a, 1999)¹¹⁵ Jessica Litman (1990, 1994, 1994a, 1996, 2001), Julie Cohen (1996, 1997, 1998), Lawrence Lessig (1996, 1997, 1999, 2001), Peter Jaszi (1992, 1996), and James Boyle (1992, 1996, 1997, 2001), a group of writers often referred to as *cyberprofs*, have done much to call attention to the expanding reach of proprietary interests and the dangers that commodification presents to the free flow of information.¹¹⁶ While the cyberprofs have addressed various policy developments from what may be broadly characterized as a critical perspective, their work is typically framed in terms of the need to maintain a balance between the interests of owners and users of intellectual property in a rapidly changing technological environment. While these authors strive to protect the public's access to information resources by working against an undue enlargement of the copyright monopoly, their

arguments often remain, at least implicitly, situated within the efficiency-centered economic model.¹¹⁷ In a sense, they seek to rehabilitate the efficiency model through a more equitable balancing of interests.

But the discourse of “balancing of interests” fails to address several fundamental problems. First, it accepts the contradiction between promoting innovation and ensuring access as an underlying premise, seeking mostly to ameliorate the tension. While some element of tension no doubt exists in the current framework, this tension needs to be understood not as a universal condition, but one that is rooted in the particular historical setting of capitalist markets. Further attention needs to be given to how this tension may be ameliorated through the construction of alternative institutional arrangements that are not rooted in market practices. Second, the “balancing” approach implicitly accepts a pluralistic framework of policy analysis without adequately considering differential power relationships that constitute the creation and dissemination of knowledge through the flow of information resources. While the balancing approach may be conceptually separated from the question of differential power relationships, the two issues become conflated under pluralistic analysis. Third, centering copyright analysis on the balancing approach tends to focus attention exclusively on the economic rights strand of copyright law. It does not adequately account for the other strand of copyright theory, moral (or personal) rights of authors.¹¹⁸ While a balancing approach does not inherently imply economic analysis to the exclusion of other factors, the privileging of economic issues has been the general tendency. More work needs to be done to develop a critical theoretical framework that can justify a clean break from the efficiency model of

economic analysis and go beyond the discourse of balancing of interests. Such a framework needs to go beyond an internalist self-referential legal analysis and attempt to explain policy developments in their broader social, political and economic contexts. While such an analysis needs to explicitly situate the proprietary drift in intellectual property policy within the expansionary logic of capital, it must also avoid lapsing into a simplistic instrumentalist analysis that simply attributes developments to the will of powerful industry interests. At the same time, it must explain why the underlying goal of “promoting progress in the science and useful arts” will not be endangered by placing less emphasis on financial incentives.

An expanded dialog between the cyber literature and Critical Legal Studies would help to fill a gap that exists in the literature. Taking the work of the *cyber-profs* and other critical legal scholars as a starting point, the next chapter will attempt to fill this gap by articulating an alternative critical theory of intellectual property policy. In order to accomplish this goal, it is necessary to make a clean break with the efficiency-centered model of intellectual property policy analysis.

The need for a critical reformulation of intellectual property theory is made all the more compelling by the wide-ranging legislative changes recently adopted or under consideration. These proposed changes would have serious long-term effects on how information is conceptualized, created, organized, retrieved, used, disseminated, and transformed in society. If the current period is indeed an era of rapid technological, economic and social transformation, it should follow that policy makers become even more sensitive to the implications of their actions. But to the contrary, the policy process

itself seems devoid of significant critical analysis about the nature of the transformations that are occurring. There is indeed a blindspot, a conceptual void, in contemporary information policy discourse that fails to recognize the potentialities enabled by advances in information technologies. This blindspot is not simply an oversight on the part of analysts committed to the efficiency model; it is reflective of the assumptions of the *information society* model itself. But before intellectual property policy can be properly placed within the *information-society / information-for-society* debate, it would be useful to review several recurring analytical issues in the field of jurisprudence.

III. Competing Traditions in the Philosophy of Law

The study of the philosophy of law is marked by a variety of different approaches concerning the nature of the legal process, the appropriate sources of law, and the relationship between law and society.

A. The Sources of Law: Legal Positivism versus Natural Law

The positivist/natural law debate is concerned with the source of law itself. Legal positivists hold that the only legitimate sources of law are those that are expressly enacted (or posited) by a government entity. These sources include legislative enactments, judicial opinions and administrative regulations. Such express written commands of the sovereign are thought to place all members of society on notice of their rights and obligations. Positivists reject the consideration of extrinsic principles such as morality, ethics, religion, and justice because these values interfere with the integrity of a neutral and objective judiciary. In contrast, natural law proponents look to a broader source of law based on eternal principles as well as express pronouncements. They argue that religion, philosophy, justice, reason, and conscience are legitimate sources that must inform the development of legal principles.

The Anglo-American positivist view of law is influenced by the writings of Thomas Hobbes, who believed that the only authority to be recognized is the express commands of the sovereign. In contrast, John Locke's notion of natural law stressed that individuals possess certain inalienable rights in a state of nature that cannot be abrogated by the sovereign. Locke's theories influenced Thomas Jefferson's statement in the United States Declaration of Independence that "all men are created equal" and are "endowed by

their Creator with certain inalienable Rights” including the rights to “Life Liberty and the pursuit of Happiness.”

Locke’s theory of natural law would justify intellectual property protection on the grounds that the intellectual labor supplied by the author or inventor establishes a prima facie claim sufficient to exclude others:

“[t]he ‘labour’ of his body and the ‘work’ of his hands, we may say, are properly his. Whatsoever, then, he removes out of the state that Nature hath provided and left it in, he hath mixed his labor with it and joined to it something that is his own and thereby makes it his property. It being by him removed from the common state Nature placed it in, it hath by this labour something annexed to it that excludes the common right of other men. For this ‘labour’ being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to, at least where there is enough and as good left in common for others.”¹¹⁹

This entitlement is based on two further conditions. First, the act of appropriation must leave as much and as good for others.¹²⁰ Second, one must not take more than one can use.¹²¹ Adam D. Moore (2001) adopts a Lockean analysis of intellectual property while rejecting justifications based on utilitarian considerations. In respect to copyright, Moore argues that limitations on duration, as well as the first sale and fair use doctrines, as government policy, should be replaced by a contract-based system based on private choice (2001, p. 147-79). But Edwin C. Hettinger (1989) argues that even if the Lockean theory has merit, the result should be limited to the rights of possession and personal use, and should not extend to exchange rights:

“Having a moral right to the fruits of one’s labor might also mean having a right to possess and personally use what one develops. This version of the labor theory has some force. On this interpretation, creating something through labor gives the laborer a prima facie right to possess and personally use it for her own benefit. The value of protecting individual

freedom guarantees this right as long as the creative labor, and the possession and use of its product, does not harm others.

But the freedom to exchange a product in a market and receive its full market value is again something quite different. . . There is a gap – requiring extensive argumentative filler – between the claim that one has a natural right to possess and personally use the fruits of one’s labor and the claim that one ought to receive for one’s product whatever the market will bear” (1989, pp. 39-40).

Hettinger makes the distinction on two grounds. First, “market value is a socially created phenomenon” (p. 38), one that depends on a variety of factors extrinsic to the effort expended. Second, the value of the intellectual object itself derives from the thoughts of many persons, not just the immediate producer (*id*). Based on these distinctions, Hettinger makes the point that “the mistake is to conflate the created object which makes a person deserving of a reward with what the reward should be” (*id*, p. 41). Hettinger’s critique of Lockean justifications for appropriation is particularly applicable to *sui generis* database legislation. Proponents invoke Locke when they wrap their arguments for entitlements based on the “sweat of the brow.” Yet the interactive, dynamic, and cumulative nature of databases point to the need to spread whatever reward is appropriate amongst the many contributors. Paul David’s (2000, p. 9) observation that “in many contexts the value of the information to users is enhanced by the very fact that its use has been, and will continue to be shared with other researchers” speaks to this point as well.

Hettinger’s point about the extrinsic nature of market value is also relevant to databases inasmuch as *sui generis* proponents seek to appropriate the entire market value of the data, not simply the value that added themselves added.

The positivist/naturalist debate has been a recurring issue in the area of copyright law and remains active to this date. The natural law theory, as applied to copyright law was rejected by the United States Supreme Court in *Wheaton v Peters* (1834):

“That congress, in passing the act of 1790, did not legislate in reference to existing rights, appears clear, from the provision that the author &c. ‘shall have the sole right and liberty of printing,’ &c. Now if this exclusive right existed at common law, and congress were about to adopt legislative provisions for its protection, would they have used this language? Could they have deemed it necessary to vest a right already vested. Such a presumption is refuted by the words above quoted, and their force is not lessened by any other part of the act.”¹²²

Despite the formal rejection of natural law concepts by the court and the predominant stature of utilitarian justifications for intellectual property, natural law concepts remain the subject of much contemporary discussion. Former Senate Judiciary Committee Chair (and now ranking Republican member) Orrin Hatch (R-UT), recently wrote this defense of natural rights theory with respect to copyright law:

“The mere fact that one’s rights under federal copyright law are limited does not mean that copyright law must be excluded from natural rights theory. Most would acknowledge that American property rights jurisprudence was influenced by natural rights theory, if not based upon it; yet we have tolerated a wide range of restrictions on property rights--too many, in my estimation...[I]t is possible effectively to collapse utilitarian and natural theories of property: it will bring the greatest good to the greatest number if property rights are honored more or less absolutely.

Combining the natural law tradition of common law copyright and the utilitarian purpose expressed in the Copyright Clause yields the first principle of a contemporary copyright philosophy: copyright rights should be protected, unless it can be shown that the extent of protection is hampering creativity or the wide dissemination of works. The Copyright Clause, after all, talks about securing for authors the ‘exclusive’ right to their writings. The burden of persuasion should be on those who seek to diminish copyright rights” (1998, pp. 722-23).¹²³

B. The Nature of Law: Legal Formalism versus Legal Realism

While the positivism/natural law debate focuses on the source of law, the debate between legal formalists and legal realists centers on the nature of the judicial decision making process. Legal formalism views the law as an exact science, much like mathematics or physics. Under this view, an established set of legal principles may be applied to any particular set of facts to reach a “correct” result. The role of the judge is simply to apply existing rules to a controversy thereby properly determining the outcome. In the United States, the orthodox formalist position is traced to Alexander Hamilton, who characterized the judiciary as the “least dangerous branch” because it has “neither force nor will, but merely judgment.”¹²⁴ This tradition was followed by Christopher Columbus Langdell, a nineteenth century Harvard Law professor, who argued that legal principles could be classified and arranged much like the taxonomies in biological sciences. Langdell likened the law school classroom to a laboratory of jurisprudence and his case-study method of legal instruction became the mainstay of American legal education.

To the formalist, the values or predilections of jurists was irrelevant, case law could be reconciled in a perfectly logical system free of the taint of subjectivity or ethical values. In describing his “Pure Theory of Law,” Hans Kelsen (1967, p.1) emphasizes its descriptive, objective, and value-free nature:

“The Pure Theory of Law is a theory of positive law. It is a theory of positive law in general, not of a specific legal order. It is a general theory of law, not an interpretation of specific national or international legal norms; but it offers a theory of interpretation.

As a theory, its exclusive purpose is to know and to describe its object. The theory attempts to answer the question what and how the law is, not how it ought to be. It is a science of law (jurisprudence), not legal politics.

It is called a “pure” theory of law, because it only describes the law and attempts to eliminate from the object of this description everything that is not strictly law: Its aim is to free the science of law from alien elements. This is the methodological basis of the theory.”

In contrast, the realist movement denied that law was a scientific enterprise, but was often determined based on the individual proclivities and psychological outlook of a judge (Frank, 1949). American legal realism is traced to Oliver Wendell Holmes, Jr.’s classical essay, *The Common Law* (1881). Holmes rejected the view that the law was based simply on logical consistency:

“The life of the law has not been logic: it has been experience. The felt necessities of the time, the prevalent moral and political theories, intuitions of public policy, avowed or unconscious, even the prejudices which judges share with their fellow men, have had a good deal more to do than the syllogism in determining the rules by which men should be governed. The law embodies the story of a nation’s development through many centuries, and it cannot be dealt with as if it contained only the axioms and corollaries of a book of mathematics” (1881, p. 1).

Realists were skeptical of formalist claims of precise algebraic determinations. Rather they held that jurists often balance the competing interests of the parties, and this inquiry is made in the context of a particular psychological and political attitude that necessarily impacts the outcome. Benjamin Cardozo (1921) argued in *The Nature of the Judicial Process* that the law is neither autonomous nor objective. Cardozo stressed the growth of legal doctrines such as *reasonable care* and *unreasonable restraint of trade* to demonstrate how judges are able to justify a wide range of outcome depending on their viewpoint. The realist movement became influential in the United States in the 1930’s, a

reflection of the changing role of the federal government in social affairs. Two modern offshoots of American Legal Realism, the Law and Economics movement and Critical Legal Studies will be further discussed in the following section.

This dichotomy between formalism and realism is also referred to as a debate between orthodox jurisprudence and the sociology of law. Alan Hunt (1993, p. 303) characterizes the main debate in legal theory as “an on-going and ever-shifting engagement between self-referential theories of law and those that insist that if we wish to understand law it is possible to do so only through the project of tracking law in its interrelationships with nonlegal social phenomenon.” The former position may be referred to as legalism, legal formalism, or what Frederick Engels (1877) called the “juridical world outlook.”

“This was the theological outlook which had acquired a secular character. The place of dogma and of divine law had been taken by the law of man, and the place of the Church by the State. Economic and social relationships, which earlier, having had the sanction of the church and regarded as creations of the church and dogma were now seen as being founded on law and created by the state.”¹²⁵

The formalist outlook is described as a collection of rules, applied by specialized personnel, in specialized institutions that impose sanctions ultimately backed by the coercive power of the state (Hunt, 1993, p. 301). Studying the minute details of the formalist system has been the predominant occupation of Anglo-American jurisprudence. Dragan Milovanovic (1988, p. 3) similarly identifies two broad approaches to the study of law. The first approach is often referred to as legal science, legal dogmatics, or jurisprudence:

“Jurisprudence is the study of: existing written rules, established in codified form by the state, and their logical consistency; the formal application of abstract and general legal propositions to “factual” situations by a specialized staff and; the form of decision-making rooted in a form of discourse, reasoning and system of justification which, when formally applied, give a high degree of probability of resolution.”

In contrast, the second approach, characterized as the “law and society” or the “sociology of law” position, seeks to break with the internalist viewpoint of traditional jurisprudence by viewing law in interaction with other social processes. While the internalist viewpoint claims to be able to resolve conflicts through correct legal reasoning, the sociology of law:

“...is the study of: the evolution, stabilization, function, and justification of forms of social control; the forms of legal thought and reasoning as they relate to a particular political economic order the legitimation principles and their effects that evolve with it; the “causes” of the development of the form of social control and staff of specialists that are its promoters; the transmission of “correct” methods of legal reasons; the creation of the juridic subject with formal rights; the evolution of the juridico-linguistic coordinate system (legal discourse) in use and its nexus with the political economic sphere; and the degree of freedom and coercion existing in the form of law” (Milovanovic, 1988, p. 4).

Pierre Bourdieu characterizes the dominant debate concerning law as between formalism and instrumentalism:

“...formalist jurisprudence sees the law as an autonomous and closed system whose development can be understood solely in terms of its “internal dynamic.” This insistence upon the absolute autonomy of legal thought and action results in the establishment of a specific mode of theoretical thinking, entirely freed of any social determination” (1987, p. 814).

Bourdieu points to Kelsen's “pure theory of law” as the final result of the effort of formalist thinkers to construct a body of doctrine and rules totally independent of social constraints. In contrast, the instrumentalist view, according to Bourdieu, “tends to

conceive law and jurisprudence as direct reflections of existing social power relations, in which economic determinations and, in particular, the interests of dominant groups are expressed: that is, as an instrument of domination” (*id*). Bourdieu rejects both viewpoints in favor of looking at the “juridical field” as a social universe:

“In order to break with the formalist ideology, which assumes the independence of the law and of legal professionals, without simultaneously falling into the contrary instrumentalist conception, it is necessary to realize that these two antagonistic perspectives, one from within, the other from outside the law, together simply ignore the existence of an entire social universe (what I will term the “juridical field”), which is in practice relatively independent of external determinations and pressures. But this universe cannot be neglected if we wish to understand the social significance of the law, for it is within this universe that juridical authority is produced and exercised” (*id*, p. 816).

A growing dissatisfaction with what has been termed the “instrumentalist / formalist dichotomy” is exemplified by the approach taken by Isaac Balbus (1977). In attempting to outline a Marxian theory of law, Balbus rejects both instrumentalist and formalist approaches. Balbus defines an instrumentalist approach as one that “denies that the legal order possesses any autonomy from the demands imposed on it by actors of the capitalist society in which it is embedded” (1977, p 571). The instrumentalist approach “conceives of the law as a mere instrument or tool of the will of dominant social actors” (*id*). Balbus also rejects the formalist approach “which asserts an absolute, unqualified autonomy of the legal order from this society” (*id*). Faulting both approaches for their respective failures to pose the problem of the specific form of the law, Balbus argues, “neither approach is capable of explaining why a specifically legal form of the exchange of people is inextricably intertwined with a specifically capitalist form of the exchange of products” (*id*, p. 572).

Hunt, Milovanovic, Bourdieu, and Balbus all seek to theorize legal phenomena in a manner that goes beyond the limitations of the instrumentalist/ internalist dichotomy. Hunt wants to avoid the relegation of the “sociology of law” to a subdiscipline of law, but at the same time he denies a “neat impermeable boundary between sociological and jurisprudential approaches” (Hunt, 1993, p. 3). He locates his “constitutive theory of law” within the project of critical legal studies, and adopts an ambivalence to law itself:

“ . . . law is an important constituent of the conditions of social practice, but neither does it determine those practices. Hence there is an important sense in which law is unimportant, always in need of having its pretensions to self-importance punctured. The attraction of the thematic of constitutive theory is I suggest not that it offers itself as some about-to-be-unveiled “new theory” that provides approaches to the general field of inquiry. Rather, its significance is that it serves as a way out of the uncomfortable dichotomy between the importance and the unimportance of law. It serves to focus attention on the way in which law is implicated in social practices, as an always potentially present dimension of social relations, while at the same time reminding us that law is itself the product of the play and struggle of social relations” (*id.*).

Hunt proposes to avoid the “slide toward a narrowing subdisciplinary status for the sociology of law” (1993, p. 4) by considering the interaction of a diverse range of social theories including classical, Marxian and poststructuralist (*id.*, p. 5).¹²⁶

The alternative approaches advanced by Balbus and Hunt will be discussed in more detail in section IV. This discussion will be preceded by a further review of some of the other recurring dichotomies in the philosophy of law.

C. Law and Economics versus Critical Legal Studies

Two offshoots of the American Realist movement, the “Law and Economics” school and “Critical Legal Studies,” represent diametrically opposed positions on the

political and economic spectrums. These disparate schools of thought warrant further discussion as they both have direct implications for intellectual property policy.

Law and Economics (also referred to as the economic analysis of law) is rooted in the values of free-market efficiency and is centered on the issue of utility maximization. Its adherents presume that all members of society are rational actors who seek to maximize their own self-interest and accordingly enter into exchange relationships. They believe in the free market as the ideal model for allocative efficiency and that government regulation of the exchange relationship undermines this efficiency and should be avoided. This traditional model of economic analysis has had a major impact on the development of Anglo-American intellectual property law. While the economic analysis of law is focused on promoting the aggregate wealth of society, it is not concerned with the actual distribution of that wealth. It is concerned with aggregate efficiency, not distributive justice. Its proponents start with the assumption that free markets are the ideal allocative model, but that assumption is neither tested nor questioned.

In contrast, the Critical Legal Studies (CLS) movement questions the existing social, economic, and political relationships in society and seeks to challenge and overturn existing norms in legal theory. Proponents of CLS do not view law as a rational and ordered system, but rather as an ideology that legitimates an unjust social system. The Langdellian method of legal education was an early target for CLS theorists. Roberto Unger (1983, p. 675) described the law faculty in the 1960's as "a priesthood that had lost their faith and kept their jobs." CLS theorists rejected the internalist study of law as a system of rational rules in favor of a multi-disciplinary approach borrowing from

philosophy, social theory, literary criticism and history. While CLS was heavily informed by the work of Karl Marx and Marxian theorists such as Antonio Gramsci and Herbert Marcuse, it also relied on the works of Max Weber as well as post-structuralists such as Michel Foucault and Jacques Derrida.

Duncan Kennedy (1997, p. 9) defines CLS as a goal-orientated project undertaken by a loosely identifiable group of legal academics contained in a literature of shifting content. David Trubek, (1984, p. 577) calls CLS both a continuation of and a challenge to an older tradition in legal studies. Trubek calls this older tradition, “critique of legal order,” an outgrowth of American Legal Realism and one of the sources of the “law and society” movement. Like the realists, CLS theorists see law as indeterminate, something that can be molded to achieve particular ends.

Roberto Unger claims that the CLS movement has “undermined the central ideas of modern legal thought and put another conception of law in their place” (1983, p. 563). Unger identifies two overriding concerns of the movement. The first is a critique of formalism and objectivism. By “formalism,” Unger means the invocation of “impersonal purposes, policies, and principles as an indispensable component of legal reasoning” (*id*, p. 564). By “objectivism,” he means “the belief that the authoritative legal materials – the system of statutes, cases, and accepted legal ideas – embody and sustain a defensible scheme of human association” (*id*, p. 565). The second characteristic of CLS identified by Unger is “the purely instrumental use of legal practice and legal doctrine to advance leftist aims. . .” (*id*, p. 567).

Much of the work in CLS has focused on issues of race and gender. Feminist Legal Studies and Critical Race Theory have survived as active strands of CLS scholarship. In addition, much work has been done within CLS around issues such as labor relations and the criminal justice system (Kairys, 1998). However, there has been little discussion of intellectual property issues within CLS.¹²⁷

James Boyle has characterized the CLS movement as a set of contradictions:

“[c]ritical legal scholarship appears to be a strange blend of legal realism, the New Left, and literary criticism. It oscillates between wildly esoteric European philosophy and painstaking descriptions of the fine texture of mundane social interaction. It is left-wing, yet it is deeply critical of Marxism. It is avowedly against hierarchy, yet it is often accessible only to those at the top of the educational pyramid. It is generally criticized as being too theoretical, yet its protagonists seem to believe that it informs an immediate and concrete type of political action, both within and outside the law school. Finally, it is antiformalist, yet it probably takes doctrine more seriously than any other contemporary school of legal scholarship” (1985, p. 688).

While Boyle concurs with the general view that American Legal Realist movement was a precursor to CLS, he argues that CLS has transcended the realist position in three ways. First, CLS scholars have pushed beyond legal realism into a social-theoretical analysis of the politics of law by “analyzing the role that the myth of “neutral law” plays in legitimating legal discourse and by examining the way that the legal system translates a politically loaded social reality into a world of depoliticized operational signs or ideological chimeras” (*id.*, p. 706). Second, “critical legal theorists have rejected the legal realists' attempt to reconstitute the neutrality of the legal system around policy argument, balancing of interests, or the supposedly objective expertise of policy scientists trained as lawyers” (*id.*). Finally, Boyle argues that among the

descendants of legal realism, CLS is the only movement that has attempted to “deal with the politics of reason” (*id*). Boyle argues that CLS concentrates “on the idea that is the common obsession of feminist theorists, literary critics, and philosophers of science, language, and art: that the very concept of rationality has become problematic” (*id*). This thematic critique of instrumental rationality mirrors many of the strands of the *information-for-society* model described in chapter 1.

While the economic assumptions of the *information society* model are strongly influenced by proponents of the Law and Economics school, the *information-for-society* model is based on the values of Critical Legal Studies. As Boyle points out, these concerns are not limited to economic or legal analysis but span a wide range of disciplinary concerns.

IV. The Relative Autonomy of Law and the Commodity Exchange Theory

In developing a criticism of legal formalism, it is easy to point to the influence on the legal system held by powerful forces in society. The orthodox instrumentalist viewpoint holds that the legal system is simply a reflection of the interests of the dominant interests in society. This approach has come under increasing criticism by writers who argue that this analysis is overly simplistic and overlooks the fact that there are often significant disputes within the dominant classes in society. It also ignores the fact that the dominant interests are often forced to make concessions in order to maintain stability in the system. These criticisms of the orthodox approach have been articulated by Hunt (1993), Balbus (1977) and others within the CLS tradition. Of particular concern

is the problem that both the instrumentalist and formalist positions tend to ignore the question of the specific form of the law.

Isaac Balbus (1977) presents an alternative approach that is centered on the question of how and to what extent law may be considered autonomous from other extra-legal social actors. His resulting theory of “relative autonomy” is not proposed in the sense of a compromise between the instrumentalist denial of autonomy and the formalist assertion of absolute autonomy of law. Rather it is suggested as an attempt to “transcend the opposition between these positions by ...elaborating a wholly different theoretical terrain,” one that is based on Marx's analysis of the commodity form (*id*, p. 573).

While Marx's theory of the commodity form will be discussed at length in the following chapter, for current purposes it is sufficient to say that a commodity becomes an item of exchange *only* because it is able to assume a relationship of *equivalence* with other commodities that are qualitatively different. This relationship of equivalence is facilitated by money, a particular commodity that has become a universal economic equivalent. Referring to Marx's discussion on the fetish of commodities, Balbus points out that the logic of the commodity form masks the nature of the concrete human labor that went into producing the commodity. That is, products take on a life of their own, and appear to have an autonomous and independent form.

Balbus then argues that the logic of the legal form and the logic of the commodity form are homologous (*id*, p. 575):

“[T]he logic of the legal form and the logic of the commodity form are one and the same.

If, in a capitalist mode of production, products take on the form of individual *commodities*, people take on the form of individual *citizens*; the exchange of commodities is paralleled by the exchange of citizens.”

Like commodities, individuals are qualitatively distinct. But a relationship of equivalence is made possible “by the law which . . . becomes the universal political equivalent by means of which each individual is rendered equal to every other individual” (*id.*, pp. 575-76). Balbus, like Marx, is critical of bourgeois legal rights because they function to mask the real inequalities present in capitalist society:

“The ‘equality’ established and protected by the legal form is thus purely formal insofar as it is established in and through an abstraction from the real social inequalities of capitalist, class society, which nevertheless continue to exist, of course, even if denied political recognition . . . The formality of legal equality, however does not prevent it from having substantive consequences which are anything but equal and are in fact *repressive* . . . [L]egal equality functions to mask and occlude class differences and social inequalities, contributing to the ‘declassification’ of politics which militates against the formation of the class consciousness necessary to the creation of a substantively more equal society” (*id.*, p. 577).¹²⁸

Marx’s skepticism towards bourgeois notions of equality is captured in the closing passage of chapter 6 of *Capital*, Volume I:

“The sphere of circulation or commodity exchange, within whose boundaries the sale and purchase of labor-power goes on, is in fact a very Eden of the innate rights of man. It is the exclusive realm of Freedom, Equality, property and Bentham. Freedom, because both buyer and seller of a commodity, let us say of labour-power, are determined only by their own free will. They contract as free persons, who are equal before the law. Their contract is the final result in which their joint will finds a common legal expression. Equality, because each enters into relation with the other, as with a simple owner of commodities, and they exchange equivalent for equivalent. Property, because each disposes only of what is his own. And Bentham, because each looks only to his own advantage. The only force bringing them together, and putting them into relation with each other, is the selfishness, the gain and the private interest of each. Each pays heed to himself only, and no one worries about the others” (Marx, 1977, p. 280).

Marx ends the passage by summarizing the respective role of the capitalist and the worker in the realm of contractual exchange:

“He who was previously the money-owner not strides out in front as a capitalist; the possessor of labour-power follows as his worker. The one smirks self-importantly and is intent on business; the other is timid and holds back, like someone who has brought his own hide to market and now has nothing else to expect but – a tanning” (*id*).

Individuals become the bearer of juridic “rights.” A central right of the individual is the freedom to contract, allowing the individual to enter into exchange relations as an equal in the eyes of the law. Balbus acknowledges he was not the first theorist to make the connection between the commodity form and the legal form. He points to the work of Evgeny Pashukanis (1891-1937) as the first Marxist to specify the homology, a likeness in structure, underlying both the commodity form and the legal form.¹²⁹

Pashukanis was the most influential Soviet legal theorist in the 1920's and early 1930's. In *The General Theory of Law and Marxism*, first published in 1924, Pashukanis argued that there was an essential homology between the logic of the commodity form and the logic of the legal form as both stood as universal equivalents that appear to equalize the essentially unequal.

“... law, most generally defined, exists as a form not just in the minds and theories of learned jurists. It parallels a real history which unfolds itself not as a system of thought, but as a special system of social relationships. People enter these relationships not because they have consciously chosen to do so, but because the conditions of production necessitate it. Man is transformed as a legal subject in the same way that a natural product is transformed into a commodity with its mysterious quality of value” (1924/1979, p. 51).

Pashukais argued this transformation is a “natural necessity which is confined to the bourgeois conditions of existence” (*id*). He traced bourgeois theories of law to natural law doctrine:

“The natural law school was not only the clearest expression of bourgeois ideology in the period when the bourgeoisie, acting as a revolutionary class, formulated its demands openly and consistently; it also provided a model for the most profound and distinct understanding of the legal form. It is no accident that the flourishing influence of the doctrine of natural law closely coincided with the appearance of the great classical writings of bourgeois political economy” (*id*).¹³⁰

Pashukanis then traced the development of legal thought from natural law to the subsequently predominant notions of legal positivism and formalism:

“ . . . we may note some parallels between legal and economic thought. Thus, their historical direction may in both cases be regarded as a phenomenon of the feudal aristocracy, and partly also of the petit bourgeois reaction. When their revolutionary ardour was finally dissipated in the second half of the nineteenth century, the bourgeoisie ceased to be attracted by the purity and clarity of classical doctrines. Bourgeois society now sought stability and strong authority. The central focus of legal theory became not the analysis of the legal form, but the problem of justifying the coercive power of legal rules. A unique blend of historicism and legal positivism was created which led to the denial of all law other than law emanating from the state” (*id*, p. 52).

Here Pashukanis is referring to the displacement of legal naturalism by legal positivism as well as the ascendancy of Holmesian realism by the late nineteenth century. He makes the same connection between legal and economic thought in the case of the psychological school of law:

“The psychological school of law may be categorized alongside the psychological school of political economy. Both try to transfer the object of analysis to the realm of the subjective conditions of consciousness . . . failing to see that the corresponding abstract categories express social relationships in the regularity of their logical structure – social

relationships which are hidden from individuals and which extend beyond the limits of their consciousness” (*id*).

As for Kelsen’s “pure theory of law,” Pashukanis said:

“Finally, the extreme formalism of the normative school (Kelsen) undoubtedly expresses the most recent general decadence of bourgeois scientific thought. This is accomplished by its exhaustion in the fruitless subtleties of method and formal logic, and the tendency to divorce itself from reality. In economic theory, a similar position is occupied by representatives of the mathematical school” (*id*).

Pashukanis carefully weaved a consistent thread across the various schools of legal thought, always stressing the interrelationship between legal theory and the economy as a material foundation. He then focused his analysis on the centrality of the “subject” in bourgeois legal thought: “Every legal relation is a relationship between subjects. A subject is the atom of legal theory, the simplest and irreducible element” (*id*, p. 74). Pashukanis argued that while bourgeois jurisprudence proceeds from the legal relation as an antecedent form, Marx views every social form as historical, creating the need to explain the conditions that make any social category real:

“The material premises of legal relationships, or the relationships of legal subjects, are explained by Marx himself in the first volume of *Capital*. It is true that he did this obliquely, and in the form of the most general allusions. However, these allusions provide much more for the understanding of the legal element in the relationships between people than the multi-volume treatises on the general theory of law. For Marx the analysis of the form of the subject flows directly from the analysis of the form of commodities” (*id*, p. 75).

Bierne and Sharlet (1979, pp. 9-10) summarize Pashukanis’ thesis on the homology of the legal form and the commodity form:

“Pashukanis illustrates how commodity fetishism complements legal fetishism. Exchange transactions based on the *vi et armis* principles of feudalism create a form of property which is too transient and too unstable

for developed commodity exchange. *De facto* possession must be transformed into an absolute and constant right which adheres to a commodity during its circulatory process...

The legal form itself is therefore cast as both an essential part and simultaneously as a consequence of the exchange of commodities under capitalism. At the very same time that the product of labour is assuming the quality of commodities and becoming the bearer of value, man acquires the quality of a juridic subject and becomes the bearer of a right. In the development of legal categories, the capacity to perfect exchange relationships is merely one of the concrete manifestations of the general attribute of legal capacity and the capacity to act. Historically, however, it was specifically the exchange arrangement which furnished the notion of a subject as the abstract bearer of all possible legal claims.”

In a similar analysis, Alan Hunt (1982, p. 89) observes, “Pashukanis sought to go beyond the mere attribution of a class content to substantive law. In place of such limited analyses he proposed to derive the irreducibly bourgeois character of the legal from the commodity exchange relationship and the legal form characterized by exchange relations between formally equal legal subjects.”

For these reasons, Pashukanis argued that law is essentially a bourgeois form and he stood opposed to the concept of constructing a proletarian or Soviet law. He understood Marx's concept of “withering away” to mean “the withering away ... of bourgeois law does not signify their replacement by new categories of proletarian law” (1980, p. 46). In the 1930's his theories of law came into increasing conflict with a Soviet regime that was not “withering away” and that was increasingly occupied with constructing a framework for Soviet Law.

The main argument advanced by Pashukanis' critics was the orthodox instrumental view that bourgeois law is created by the state, an instrumentality in the hands of the ruling class. Under this viewpoint, when the Bolshevik revolution destroyed

the existing state apparatus and created a new mechanism of state authority, bourgeois law was simultaneously destroyed. Pashukanis was purged in 1937, and was posthumously rehabilitated and honored after Stalin's death (Bierne and Sharlet, 1979).

In applying Pashukanis' work to the contemporary legal system, it is important to distinguish his general methodology from the particular historical setting in which he was writing. The important lesson that may be taken from his methodology is that it is necessary to consider the form of legal rules, not simply their substance. The central controversy facing post-Bolshevik jurists was the tension between the need to develop a uniquely Soviet form of proletarian law from the viewpoint that law was itself a bourgeois institution that must inevitably wither away as the forces of production were developed. While Pashukanis' methodology concerning the correspondence between the legal form and the commodity form may be usefully employed to the problem of contemporary intellectual property policy, the current historical conditions present very different problems from those facing Soviet legal theorists in the 1920's and 30's.

Yet the debate over the withering away of law as an institution under socialism persists. For example, Hugh Collins (1982, p. 14) points out the centrality of the issue of withering away in developing an overall Marxist view of history. Collins faults Pashukanis for utilizing a narrow definition of law:

“[Pashukanis'] account of the withering away of law in a Communist society rests upon an unconvincing definition of law. In order to make his argument work, Pashukanis falls prey to one aspect of the error of legal fetishism. He is led to insist upon the existence of one unique phenomenon which can be identified as law. This is clearly a logical step in any argument which purports to demonstrate that law will wither away, for we must be able to recognize the distinctive attributes of legal systems in order to be certain that all aspects of them have been finally buried” (*id*, p. 114).

Collins would avoid the assumption that there is but one form of social institution known as law and instead leave open the possibility that “in each historical epoch,” there are “a variety of kinds of institutions designed to preserve order and facilitate the smooth running of the relations of production” (*id*).

But given the contemporary realities (*i.e.*, the persistence of a mature capitalist system that presents the expansion of intellectual property as a technological and legal imperative) such a debate seems remote.¹³¹ A more immediate concern should be the how a historical-critical perspective can explain contemporary policy phenomena and provide a basis for an oppositional response that avoids both an orthodox instrumentalist or liberal pluralist response. In the context of the current study, the particular issue is how to explain the expansion of an intellectual property regime at a moment when technological advances provide the opportunity to transcend the problems of scarcity inherent in market-oriented economic analysis. In this sense, Pashukanis’ commodity exchange theory provides a useful methodological framework without having to resolve issues that were particular to his historical period. Following this aspect of Pashukanis’ general theory, the analysis of the commodity form, as applied to information, will be raised as the central component of the critical theory of intellectual property in the next chapter.

V. Situating Database Legislation

This chapter has reviewed some of the main theories of law and society. It is useful at this juncture to take stock of how the arguments raised by the stakeholders in the contemporary intellectual property debates fit within these theories. The proponents of

expanded proprietary restrictions borrow from most of these theoretical traditions, as necessary, to bolster their arguments at any given time.

For example, advocates of *sui generis* database legislation point to how the *Feist* case deprived them of an important source of legal protection for “sweat of the brow” activities. This line of reasoning relies on the natural law notion that the law should provide protection for the “fruits of one’s labor.” Proponents repeatedly point to the fundamental unfairness that resulted from *Feist*’s departure from this Lockean principle. While this line of reasoning tries to apply Locke’s general justification for appropriation, it fails to account for the two Lockean provisos that limit the justification.¹³² *Sui generis* database legislation, at least as it has been framed to date, fails to satisfy either of the two provisos. First, the creation of new property rights in data, including the right to exclude others, most certainly does not leave “as much and as good for others” as existed in the state before appropriation. Second, the injunction against appropriating “more than one can use” is also violated. As such, the frequent attempts to fall back on Lockean justifications for *sui generis* legislation by invoking “fruits of one’s labor” or “sweat of the brow” arguments are nothing but a careless gloss on the entirety of the Lockean rationale of property rights.

Relying on utilitarian principles to justify *sui generis* legislation fares no better in light of the strong arguments that have been made with respect to its possible deleterious effects. *Sui generis* proponents attempt to invoke utilitarian justifications when they claim that stronger incentives are needed in order to promote the production of databases. But

this line of argument has been well rebutted by reference to the growth of the database industry in countries that have not enacted database legislation (Maurer, 2001).

Sui generis proponents also rely on concepts of legal formalism in two respects. First, in their criticism of the *Feist* case, they echo the concerns of orthodox formalists who would restrict the judicial role to a strict interpretation of existing law. Second, they point to the need for rationality and internal order in the legal system of database protection that can only be assured if the United States adopts a form of legislation similar to the European Union Database Directive. At the same time, the industry's arguments that the challenge of database piracy can only be met by stronger legal protections is an appeal to economic efficiency, strongly rooted in Law and Economics analysis, an offshoot of legal realism. Their arguments that the law must change to accommodate changes in technology have a strong realist bent.

The opponents of database legislation have primarily relied on the realist conception of balancing of interests. A strand of the opposition to database legislation also relies on the formalist conception that such legislation is beyond the constitutional authority of Congress under the copyright clause. And yet another strand of the opposition comes from industry groups (i.e. the financial services industry, rival database producers, hardware manufacturers, and internet service providers) who would themselves be disadvantaged by the strong form of *sui generis* legislation. They invoke utilitarian considerations by pointing to the deleterious effects such legislation would have on competition, innovation and the development of vibrant e-commerce. All of these positions have merit, and they have coalesced into an ambiguous opposition

capable of neutralizing the proponents, at least for the time being. Yet beyond the call for such balancing, constitutional consistency, and open competition, there has been little in the way of a consistent theoretical underpinning to efforts to reverse the rampant proprietary drift in information. The articulation of an oppositional strategy rooted in the tradition of Critical Legal Studies would help provide such a consistent conceptual framework.

It is also evident that such an oppositional strategy must avoid the pitfall of an orthodox instrumentalist critique. To characterize the drive towards *sui generis* legislation as the operation of the will of the ruling class, or dominant industry interests, would be an oversimplification. For one thing, the legislation has yet to pass. For another, there are other powerful industry groups that are opposed to the legislation.¹³³ By focusing on the form of law and the question of its autonomy from other social forces, Hunt, Balbus, and Pashukanis are able to engage in a mode of policy analysis that avoids the problems of both a rigid formalism and a simplistic instrumentalism. They avoid formalism by rejecting the viewpoint that law is an autonomous force in society. They avoid a lapse into orthodox instrumentalism by focusing on the legal form, and its relationship to the contradiction between use-value and exchange value,¹³⁴ instead of simply its content. Their approaches provide a useful groundwork for the critical theory of intellectual property policy that will be developed in the following chapter

The commodity exchange theory also helps fill the gaps in trying to reconcile *sui generis* database legislation with justificatory principles. While database legislation cannot be adequately justified on either utilitarian or Lockean grounds, the commodity

exchange theory helps provide an explanation, one that is grounded in neo-realism of a sort, that flows from the tension between use-value and exchange-value that is inherent in every commodity. These concepts will be further developed in the next chapter.

Endnotes to Chapter 3

¹⁰¹ Under this limited authority, Congress has enacted various laws including the Copyright Act, the Patent Act and the Semi-Conductor and Chip Protection Act of 1984. (Codified respectively at 17 USC Sections 101, *et. seq.*; 35 USC Sections 1, *et. seq.*; and 17 USC Sections 901-914.)

¹⁰² As the U.S. Supreme Court stated in *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975), “The purpose of Article I, § 8, clause 8 is not to create private censorship nor to grant monopolies, but to enhance a long-term goal of public benefit.”

¹⁰³ The constitution gives Congress broad power to tax and spend. Article I, section 8, clause 1 grants Congress the power to "lay and collect Taxes . . . , to pay the Debts and provide for the . . . general Welfare of the United States." Article I, section 8, clause 3 gives power broad power to "regulate Commerce with foreign Nations, and among the several States, . . ."

¹⁰⁴ Jefferson is referring to the artificial monopolies created by patents and copyrights. Thomas Jefferson, in 12 *The Papers of Thomas Jefferson* 438, 440 (Julian P. Boyd, Ed., 1950).

¹⁰⁵ Thomas Jefferson, in 13 *The Papers of Thomas Jefferson* 440, 442-43 (Julian P. Boyd, ed., 1950). In *Graham*, 383 U.S. 1, 7 (1966), the U.S. Supreme Court said, “Jefferson, like other Americans, had an instinctive aversion to monopolies. It was a monopoly on tea that sparked the Revolution and Jefferson certainly did not favor an equivalent form of monopoly under the new government." Jefferson wrote in more detail about the need to limit the temporal duration of the monopolies granted.

¹⁰⁶ James Madison, in 14 *The Papers of Thomas Jefferson* 14, 21 (Julian P. Boyd, ed., 1950).

¹⁰⁷ Perhaps because the First Amendment has achieved a large degree of freedom of speech, censorship is not often associated with copyright or the promotion of innovation. Several legal scholars have written about problems of censorship and copyright law. (Cohen , 1998; Gordon, 1990; Netanel, 1996; and Wilson, 1990). Significantly, the United States Supreme Court has characterized the fair-use doctrine as a First Amendment protection. See *Harper & Row, Publishers, Inc. v. Nation Enterprises.*, 471 U.S. 539, 560 (1985). For a history of copyright law in England, and its relationship to censorship, see Rose (1993).

¹⁰⁸ Quoted in Plant (1934, p. 170-171).

¹⁰⁹ Breyer argued that lack of copyright protection would produce no more than a modest fall in publishers’ revenues and even this decline would normally be limited to high volume works. He states that a

modest fall in college textbook publishing revenue should not cause much concern. Even if this threatens the royalty income of professors, they would then turn their time to other endeavors such as scholarly articles or teaching. Breyer also noted several benefits from copying including lower prices and wider distribution. He contended that the most significant fall would be in the price of textbooks and that this would have a positive social value in terms of increase in the dissemination of scholarly work, more productivity, increased research, and the elimination of the transaction costs of obtaining permissions to reproduce. Breyer concluded that while the case for copyright in books as a whole is weak, it is stronger in the case of tradebooks than textbooks and scholarly works.

¹¹⁰ Breyer concedes that on four grounds he has not demonstrated the need for drastic revision. First, he recognizes that many of his judgments are impressionistic and unsupported by empirical evidence. Second, much of the harm which copyright threatens could be mitigated without radical change in the law. Third, special protection would need to be provided for the high cost, high volume reference book. Yet he indicates a hesitancy to consider different treatment for different types of works. Finally, since the expectancies of authors and publishers are based on the current system, he would be hesitant to impose considerable “demoralization” costs. But he was much less ambivalent when considering incremental changes in the law in the direction of greater copyright protection (*id.*, p. 351).

¹¹¹ “Rent-seeking” is a series of activities whereby special interests are able to use the political system to gain special advantages they could not obtain merely through market mechanisms.

¹¹² See also the discussion of Lawrence Lessig's notion of “code,” discussed in Chapter 2, section IIC, *supra*.

¹¹³ This discussion leaves open the remaining problem that technological controls (even without additional legal protections) may themselves impose unacceptable levels of interference with the usage rights of end-users of information products. The solution to this problem would be a ban on the imposition of technological restrictions that effectively limit the otherwise lawful use of a work. At the very least, the law should explicitly provide that it is not an act of infringement to circumvent a restriction (or to provide a such a device) that interferes with an otherwise lawful use (i.e. gaining access to a work for purposes of fair use, gaining access to a work that is in the public domain, or gaining access to materials in which copyright does not subsist (i.e non-protectable data).

¹¹⁴ The authors maintain that three pillars of the classical economic system, rivalry, exclusivity and transparency, are imperiled in a digital environment. Rivalry and exclusivity will be treated in more depth in section II (A)(2)(a) *infra*. Transparency is based on the ability of consumers to know what it is they want and what they are buying and represents the problem of imperfect information. Physical commodities were rivalrous and excludable and the structure of the distribution network delivered a reasonable degree of transparency. While these assumptions failed at the margins, they worked well enough. While DeLong and Froomkin recognize that producers of information have economic incentives to reintroduce rivalry and exclusion, they point to the negative repercussions of these moves.

¹¹⁵ Samuelson's now classical article in WIRED magazine (1996) alerted a broad audience of digerati, cyberpunks, anarchists, hackers and netizens to the dangers of the expansionary copyright regime being promoted by the Clinton Administration. And her regular columns in *Communications of the ACM* continue to translate the legalisms of the copyright debate into terms that non-legally

trained computer professionals and enthusiasts could both comprehend and act upon.

- ¹¹⁶ See also, Marci Hamilton (1996); Jerome.H. Reichman (1996); Yochai Benkler (1999, 2000, 2000a, 2001).
- ¹¹⁷ James Boyle's work may be taken as an exception to this general limitation. Of all of the cyber-profs, he has stood out as adopting the strongest critique of capitalist markets.
- ¹¹⁸ For an explanation of moral rights as separate and apart from economic rights, see Chapter 5, Section III,B, *infra*.
- ¹¹⁹ Quoted in Menell (2000,, p.157).
- ¹²⁰ John Locke, *Second Treatise of Government*, chapter 5, section 27.
- ¹²¹ John Locke, *Second Treatise of Government*, chapter 5, section 31
- ¹²² 33 U.S. 591, 661 (1834). For a detailed discussion of the history of the natural law doctrine in English copyright law, see Rose (1993).
- ¹²³ Senator hatch has been a key figure in the Congressional database saga. During his tenure as Committee Chair, database legislation was never heard nor reported out of the Senate Judiciary Committee. No doubt influenced by the needs of his Utah constituents to access and reuse genealogical database, Hatch has never supported *sui generis* database legislation. This is true despite his strong commitment to notions of private property in general.
- ¹²⁴ The Federalist, No, 78. Hamilton's views were reflected in the early decisions of the United States Supreme Court under Chief Justice John Marshall. Marshall often wrote about the limited nature of judicial discretion, the precursor to the philosophy of 'strict constructionism' popular among contemporary conservative critics of judicial activism.
- ¹²⁵ This passage from Engels' *Juristen-Sozialismus* is quoted in V.A. Tumanov (1974, p. 39-40). Tumanov also points to the stress Marx gave to legal forms as a defining feature of capitalist society: "Marx pointed out that in capitalist society, in contrast to feudalism, legal forms predominate. *The German Ideology* traces many of the factors which led to the conclusion that '...political and civil history becomes merged in a history of the rule of successive laws.'" In later works, Marx returned again and again to his critique of that juridical thinking which saw in the law the base of society, and not society as the base of the law, and which, because of the legal tangle of socio-economic relations, failed to appreciate their true content." (1974, p. 41).
- ¹²⁶ Hunt's call for the interrogation of a broad range of social theoretical perspectives in the field of law is similar to Frank Webster's method in *Theories of the Information Society* (1995). As Hunt rejects the internalist claims as to the autonomy of law, Webster is skeptical of many of the claims of post-industrial enthusiasts. And like Hunt, Webster seeks to subject the concept of the "information society" to close scrutiny by considering a broad range of social theoretical perspectives. Webster's intention is to focus on the divergent thinking about the form of information, how it becomes central in the present system, and how it affects social, economic and political relationships (1995, p. 2). Arguing that "a rash of pronouncements on the information age...have infected...a vast amount of opinion on the information society," Webster proposes the alternative starting point of contemporary social theory combined with empirical evidence.

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- ¹²⁷ For a collection of essays representative of the field of Critical Legal Studies, see Kairys (1998). A chapter on intellectual property law (Aoki, 1998) was finally included in this third edition of David Kairys' collection of essays.
- ¹²⁸ Balbus' characterization of the relationship between the equivalence of commodities and the equivalence of the juridic subject as a homology, and his resulting critique of bourgeois right, should not read in the sense of negating the need to struggle for certain extensions of individual rights within the capitalist framework. In this regard, it is important to distinguish between a particular and limited reading of equality from equality as such. Balbus' (as well as Marx's and Pashukanis') critique of the abstract notion of rights should be understood in the limited sense of a critique of formal equality, not as a critique of equality as such.
- ¹²⁹ Balbus says that he discovered Pashukanis' work only after he had worked out the homology between the commodity form and the legal form.
- ¹³⁰ Pashukanis linkage of natural law and bourgeois law may at first appear questionable given the distinctively pre-capitalist origins of natural law theories. In the cited passage, Pashukanis is stressing how existing natural law doctrine provided theoretical justifications for the emerging bourgeoisie *vis a vis* their conflicts with feudal institutions. At a certain point of capitalist development, these natural law justifications became less important, as more emphasis was placed on positivistic or formalist theories of law.
- ¹³¹ Nonetheless, the final point in the program for a reconstituted copyright regime (see Chapter 5, Section III,B, *infra*) emphasizes the transitional nature of the set of rules proposed and specifies that they are to be subject to periodic review with an eye towards progressive simplification.
- ¹³² See text accompanying notes 120 and 121, *supra*.
- ¹³³ This divergence is explained in the following chapter as an instance of a firm's relationship to the use-value/exchange-value dichotomy in the information commodity.
- ¹³⁴ These concepts will be further developed in section I, A of the following chapter, *infra*.

Chapter 4: Toward a Critical Theory of Intellectual Property Policy

The central component of the critical theory of intellectual property policy is an analysis of the commodity form and its application to information. Crucial to this discussion is the growing tension that exists between use-value and exchange-value in regard to information as a commodity. While Pashukanis' commodity exchange theory, introduced in the previous chapter, was concerned with the legal form in general, this chapter will apply Pashukanis' work to the legal relations governing the creation, dissemination and use of information.

Beyond the centrality of the commodity form, the critical theory of intellectual property policy also requires a consideration of three additional concepts: (1) an application of the labor theory of value to the products of intellectual labor; (2) the growing tension between the relations of production and the productive forces; and (3) the relationship between economic incentives and innovation.

Why the emphasis on Marxian theory? Douglas Kellner (1995) argues that Marxian theory provides the best perspectives and resources for the task of accounting for the restructuring of capitalism and the new system of "technocapitalism" that is emerging. In particular, Kellner argues that "Marxian concepts can be used to demonstrate the problems of an unrestrained capitalism and can be used to justify regulation and social control of capitalism" (p. 22). This chapter seeks to apply Kellner's claim to the realm of intellectual property policy; a realm that I argue is itself constitutive of the relations of production in the emerging "technocapitalist" era. The study in Chapter 2 pointed to how such an unrestrained capitalism would seek to enclose

intellectual resources that historically have been available for public use. This tendency evidences what Kellner says is an inherent weakness of contemporary capitalism:

"Putting the imperative to maximize the accumulation of capital over the needs of people is one of the structural limitations of capitalism that radical discourse could attack in efforts to legitimate social change that could win the favor of large numbers of people" (*id.*).¹³⁵

The proprietary drift in intellectual property policy is an instance of such a structural limitation of capitalism, and the theory here presented is an instance of attacking the imperative towards accumulation in order to legitimate social change.

I. The Contradiction Between Use-Value and Exchange-Value: The Paradox of the Information Commodity

A. Marx's Commodity Form

This section begins with a brief review of the commodity form as presented in Marx's *Capital* and other works.¹³⁶ Marx begins *Capital* with an analysis of the commodity form:

The wealth of those societies in which the capitalist mode of production prevails, presents itself as "an immense accumulation of commodities," its unit being a single commodity. Our investigation must therefore begin with the analysis of a commodity. (*Capital*, Ch 1, section 1)

For Marx, a commodity has two separate aspects: "use-value" and "exchange-value." The distinction between the two is critical. While use-values existed in all historical periods (or under all modes of production), exchange values are unique to the capitalist mode of production. All societies produce things that satisfy human needs in some manner. Use value is a quality that satisfies human needs and meets an effective

demand of whatever kind. Marx describes use-value in the opening chapter in *Contribution to a Critique of Political Economy*,

A use-value has value only in use, and is realized only in the process of consumption. One and the same use-value can be used in various ways. But the extent of its possible application is limited by its existence as an object with distinct properties. It is, moreover, determined not only qualitatively but also quantitatively. Different use-values have different measures appropriate to their physical characteristics; for example, a bushel of wheat, a quire of paper, a yard of linen (1970, p. 27).

Marx was not the first theorist to write about use-value as shown through his references to Aristotle¹³⁷ and John Locke.¹³⁸ Marx's original contribution was looking at the concept of use-value in its overall relationship to exchange value under particular historical conditions:

Although use-values serve social needs and therefore exist within the social framework, they do not express the social relations of production... Use-value is the immediate physical entity in which a definite economic relationship -- exchange-value -- is expressed. (*Contribution to a Critique*, 1970, p. 28)

The utility of a thing makes it a use-value. But this utility is not a thing of air. Being limited by the physical properties of the commodity, it has no existence apart from that commodity. A commodity, such as iron, corn, or a diamond, is therefore, so far as it is a material thing, a use-value, something useful. This property of a commodity is independent of the amount of labour required to appropriate its useful qualities. When treating of use-value, we always assume to be dealing with definite quantities, such as dozens of watches, yards of linen, or tons of iron. The use-values of commodities furnish the material for a special study, that of the commercial knowledge of commodities. Use-values become a reality only by use or consumption: they also constitute the substance of all wealth, whatever may be the social form of that wealth. In the form of society we are about to consider, they are, in addition, the material depositories of exchange-value. (*Capital*, Chapter 1).

As a particular characteristic of the capitalist mode of production, "exchange value," is a quantitative relation by which use-values of differing kinds exchange for each

other. The differences between use value and exchange value are summarized in Table 4.1.

	Brought into Being by...	Nature	Realized in	Purpose
Use-Value	Concrete labor	Qualitatively distinct object	Consumption	Exists to satisfy a concrete human need
Exchange-Value	Abstract labor	Qualitative equivalence is facilitated by money	Exchange	Can be exchanged for another commodity

Table 4.1: Aspects of Use-Value and Exchange-Value

But use-values and exchange-values are not only different; they are also contradictory. Harry Cleaver (2000, pp. 97-98) emphasizes the contradictory nature of the two aspects of a commodity:

“A commodity is a use-value only if it is immediately useful to whoever has it. It is an exchange-value only if it is not immediately useful but is used only for exchange to get something else. Exchange-value is thus not only different from use-value; it is exactly its opposite; they are defined by their contradictory position with respect to each other. Yet they are only the twofold aspects of the commodity, and the commodity is the unity of these opposites. The strange combination of unity and opposition, in which the opposites only have their meaning vis a vis each other and are thus inextricably joined, is exactly what Marx means by a contradictory relation.”

The distinction between use-value and exchange-value is homologous to another crucial distinction; that between concrete labor (or useful labor) and abstract labor.

Concrete labor corresponds to and produces use-value while *abstract* labor corresponds

to and produces exchange-value. Concrete and abstract labor are different aspects of the same activity just as use-value and exchange-value are different aspects of the same commodity.

In the *Contribution to a Critique of Political Economy*, Marx says:

“...the labour embodied in exchange-values could be called human labour in general. This abstraction, human labour in general, exists in the form of average labour which, in a given society, the average person can perform, productive expenditure of a certain amount of human muscles, nerves, brain, etc. It is simple labour [English economists call it ‘unskilled labour’] which any average individual can be trained to do and which in one way or another he has to perform.” (1970, pp. 30-31)

The concept is refined in *Capital*, where Marx says that the two-fold nature of the labour contained in commodities is the ‘pivot on which a clear comprehension of Political Economy turns.’ (ch 1, section 2) ¹³⁹

Both exchange-value and abstract labor are based on a notion of equivalence. In *Value, Price and Profit*,¹⁴⁰ Marx (1974) explains how the relationship of equivalence allows commodities to take on quantitative values. Marx asks, “How are the proportions in which commodities exchange with each other regulated?”

“We know from experience that these proportions vary infinitely. Taking one single commodity, wheat, for instance, we shall find that a quarter of wheat exchanges in almost countless variations of proportion with different commodities. Yet, its value remaining always the same, whether expressed in silk, gold, or any other commodity, it must be something distinct from, and independent of, these different rates of exchange with different articles. It must be possible to express, in a very different form, these various equations with various commodities” (1974, p. 29).

To demonstrate how the qualitatively distinct aspect of use-value is related to the equivalence required for exchange-value, Marx utilizes the metaphor of the geometric form of a triangle:

“In comparing the areas of triangles of all possible forms and magnitudes, or comparing triangles with rectangles, or any other rectilinear figure, how do we proceed? We reduce the area of any triangle whatever to an expression quite different from its visible form. Having found from the nature of the triangle that its area is equal to half the product of its base by its height, we can then compare the different values of all sorts of triangles, and of all rectilinear figures whatever, because all of them may be resolved into a certain number of triangles” (1974, p. 30).

Marx extends this analogy to the value of commodities, pointing to the need to reduce all commodities to a common expression that is distinguishable only in its proportions. But what is the common substance from which the values of commodities may be determined?

“...[w]e must first ask, What is the common social substance of all commodities? It is labour. To produce a commodity a certain amount of labour must be bestowed upon it, or worked up in it. And I say not only labour, but social labour. A man who produces an article for his own immediate use, to consume it himself, creates a product, but not a commodity. As a self-sustaining producer he has nothing to do with society. But to produce a commodity, a man must not only produce an article satisfying some social want, but his labour itself must form part and parcel of the total sum of labour expended by society. It must be subordinate to the division of labour within society. It is nothing without the other divisions of labour, and on its part is required to integrate them” (*id.*, pp. 30-31).

The quantity of labor is measured in time. But in order to make this point; Marx needs to reduce different types of labor to a unit of average or simple labor.

“But how does one measure quantities of labour? By the time the labour lasts, in measuring the labour by the hour, the day, etc. Of course, to apply this measure, all sorts of labour are reduced to average or simple labour as their unit. We arrive, therefore, at this conclusion. A commodity has a value, because it is a crystallization of social labour. The greatness of its value, or its relative value, depends upon the greater or less amount of that social substance contained in it; that is to say, on the relative mass of labour necessary for its production. The relative values of commodities are, therefore, determined by the respective quantities or amounts of labour, worked up, realized, fixed in them. The correlative quantities of

commodities which can be produced in the same time of labour are equal. Or the value of one commodity is to the value of another commodity as the quantity of labour fixed in the one is to the quantity of labour fixed in the other” (*id.*, p. 31).

Throughout his discussions of the commodity form, Marx was using tangible goods as examples. Harry Cleaver (2000, p. 98) makes the important observation that the examples used by Marx “played a key role in the period of capitalist development which Marx analyzed: linen in the textile industry, iron in the production of machinery and cannon, watches in the timing of work, wheat as the basic means of subsistence of the working class.”

The basic concepts are likewise applicable to the information commodity, which plays a key role in the current period of capitalist development. To be more precise, it is necessary to distinguish between information as a commodity itself, and the commodity nature of the physical container in which it is embodied. Marx's definition of use-value is broad; a quality that satisfies human needs and meets an effective demand of whatever kind. Information has always had a use-value. It has also had, to some extent, an exchange-value associated with it. However, it is the use-value itself that was predominant; the exchange-value associated with information goods was associated with the physical embodiment of the container, be it a book, tape, phonogram, film, or microfiche card. As physical items, the characteristics of rivalry of consumption and the ready availability of an exclusion mechanism were both present.¹⁴¹ As the flow of information resources could be relatively controlled by the availability of its containers, the underlying issue of the commodification of the information itself was not a central concern. The introduction of exclusion mechanisms was due to the technical limitation

that information could only be effectively transferred in a container. Insofar as use-value was concerned, physical containers were simply a necessary means in order to allow users to derive utility from the information itself. But as for exchange-value, the physical embodiment was not merely a means to an end; it was the end in itself inasmuch as the physicality enabled both the rivalry in consumption and the exclusion mechanism necessary to bring the information container within the operation of the pricing mechanism of the market. In other words, information has intrinsic use-value, but it has exchange-value only extrinsically.

The contradiction between use-value and exchange-value in information becomes particularly acute in the digital environment where the need for particular physical containers is increasingly obviated. While information products such as texts, music, or videos remains available in a physical container through normal market channels, digital technology enables the dissemination of the ultimate use-values without the need for the physical container. While works could be copied in the pre-digital era, the reproduction technology was imperfect and resulted in a marked degradation of quality. Hence, the level of substitutability of digital copies for the original embodied version has markedly risen. While exchange-value was enabled by the limitations imposed by the container in which the information was contained; it is similarly threatened by the ability to substitute digital versions of a work *sans* container, or to transfer the same content from one container to the other. Technological advances serve to heighten the contradiction between use-value and exchange-value in the case of the information commodity. As will be further discussed in subsection E, technological advances also serve to heighten the

contradiction between the relations of production and society's productive forces. Laws that reflect the relations of production at a given time become unstable in periods of rapid technological change, and this accounts for much of the current activity in the intellectual property policy front.

Property relationships in information, intellectual property laws, developed in an era when information was necessarily attached to a particular physical container. As information is increasingly being released from these constraints, the status of exchange-value *vis a vis* the information commodity becomes threatened. This contradiction between use-value and exchange-value can be brought into clearer focus by considering a concept from mainstream public finance theory, the distinction between public and private goods. While public goods theory suffers from structural limitations and has resulted in poor policy choices, its specific components, non-rivalry in consumption and the role of the exclusion mechanism are useful concepts that may be related to Marx's tension between use-value and exchange-value.

B. The Public Goods "Problem"

The distinction between information as the commodity itself (information *qua* commodity) and the information container as the commodity (information in a commodity) is crucial. Before proceeding with further analysis of the commodity form, it would be useful to discuss the difference between public goods and private goods at this point.¹⁴²

1. Public Goods as Complete Market Failure

According to traditional economic analysis, the invisible hand of the market results in the optimal allocation of resources. But certain types of market failure or imperfection arise in practice that often require, or at least justify, different degrees of non-market intervention.

Many economists consider market failures a rationale for government activity. Partial market failures include the failure of competition, externalities, and information failures.¹⁴³ These partial market-failures are corrected through regulations mediated through public policies. But the case of the pure public good represents total market failure, supposedly incurable through regulation. A non-market mechanism for supplying the good becomes necessary, usually governmental action. The scope and degree of the role of government varies considerably and is a normative question. But even classical proponents of free markets accept minimal governmental activity based on the public goods problem. Adam Smith noted that the Sovereign had but three duties: national defense; administration of justice and public safety; and maintenance of public works and institutions. Smith justified a departure from market provision since these public projects “can never be for the interest of any individual, or small number of individuals, to erect and maintain because the profit could never repay the expense of any individual or small number of individuals...”¹⁴⁴

Pure private goods (or commodities) have the characteristics of rival consumption and excludability. When someone consumes a rivalrous commodity, such as food or fuel, it is unavailable for another person to use.¹⁴⁵ When a good is subject to exclusion, there

is some effective mechanism to exclude persons from enjoying the use of the item unless the owner of the good consents to a transfer. Exclusion mechanisms may be in the form of technological constraints, legal restrictions, or both. The common vending machine presents a technological restraint to the customer; you must place coins in a mechanism in order to obtain the desired product. But legal restrictions reinforce the technological constraint, as it would be considered an act of theft to break into the machine or use slugs instead of coins to obtain the product.

Market-oriented economists consider competitive markets to be the optimal method of efficiently allocating private goods. Their model assumes that producers and consumers of private goods will disclose their preferences for how much a given good they will provide or buy at different levels of prices on the market. These preferences are represented for producers in the aggregate by an upwardly sloping supply schedule demonstrating that more goods will be supplied as the price level increases. Consumers disclose their willingness to purchase different quantities of goods at different price levels. The demand schedule is a downward sloping function as more goods will be purchased as the price drops. The two schedules intersect at a point of equilibrium, the price where the market will be cleared leaving no over-production or unmet consumer demand. These notions are shown in a simplified form in Figure 4.1.

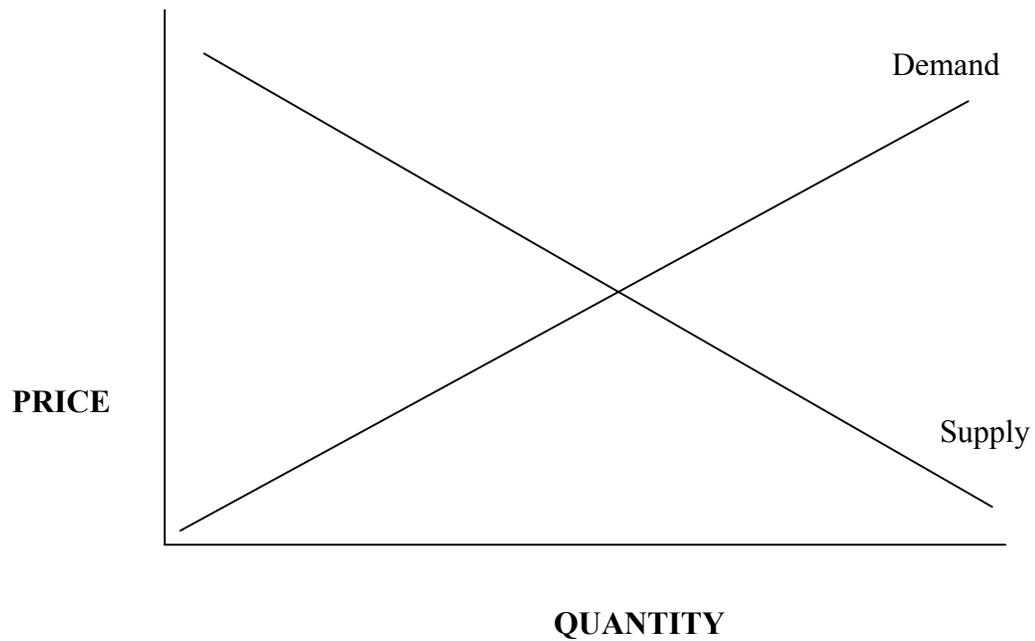


Figure 4.1: Simple Supply and Demand Curve

The price model assumes that buyers and sellers, as rational economic actors, will disclose their preferences for how many goods they will buy and sell at various price levels. This assumption is required for supply and demand schedules to be constructed. It follows that rational consumers have no incentive to disclose their true price preferences for a good where it exhibits the qualities of joint non-rival consumption and is not subject to an exclusion mechanism. Simply put, they will receive the benefits of the good whether or not they voluntarily offer to pay for it, and the result is complete market failure.

In contrast to private goods, pure public goods exhibit non-rival consumption and lack effective exclusion mechanisms. These two aspects of public and private goods are illustrated in table 4.2.

	Consumption	Exclusion Mechanism
Pure Public Good	Non-rival (joint) consumption. Use does not result in depletion of the good.	Exclusion mechanism is not present
Pure Private Good	Rival consumption. Use results in depletion of the good.	Exclusion mechanism is present

Table 4.2: Comparison of Pure Public Goods and Pure Private Goods

Classical definitions of public goods stress both elements, non-rivalry in consumption and lack of exclusivity (Musgrave, 1959). A good is considered non-rival if it is capable of joint consumption. The use of the good by one person does not diminish the benefits of the good available to others.

Non-excludability means that there is no mechanism to exclude certain users from enjoying the benefit of the good whether or not they pay for the use. William Baumol and Alan Blinder (1985, p. 544) call this situation the “free-rider” problem and illustrate it with the question, “How many people . . . will voluntarily cough up \$3400 a year to support our national defense establishment?”

Public goods (also called social goods, collective goods, or public wants) provide indivisible benefits for large numbers of persons at the same time. Baumol and Blinder also note that “since the supply of a public good is not depleted by an additional user, the marginal cost of serving an additional user is zero. With zero marginal cost, the basic principle of optimal resource allocation calls for provision of public goods and services to anyone who wants them at no charge” (1985, p. 544).

These characteristics make it less likely for private market to directly provide public goods, as rational economic actors will not disclose their preferences without coercion. National defense, public safety and street lighting are commonly cited examples of pure public goods. Once the level of provision is determined, the benefits indivisibly accrue to all members of the community. Those who choose not to pay for the good cannot be excluded from enjoying the benefits of its use.

Given these criteria, profit seeking firms or individuals will not directly provide public goods.¹⁴⁶ They have no incentive to provide public goods because of (1) the lack of an exclusion mechanism and (2) the indivisibility of consumption. Since one may enjoy the full utility of such a good without paying for it, the requirement that consumers express their willingness to purchase goods at particular prices cannot be met. The operation of the supply and demand schedule, the *sine qua non* of free-market economics, breaks down. The efficiency model does not work, thereby creating a “problem” that economists need to “cure.”

As a practical result, the government often resorts to taxation in order to directly or indirectly finance public goods because of this market breakdown.¹⁴⁷ It is important to note that this collective provision of pure public goods as discussed thus far is not a matter of distributive equity, solely one of allocative efficiency.

Mancur Olson’s (1971, p. 14) often-quoted description of public goods focuses on the element of exclusion:

“The common or collective benefits provided by governments are usually called “public goods” by economists, and the concept of public goods is one of the oldest and most important ideas in the study of public finance. A common, collective, or public good is here defined as any good such

that, if any person X_i in a *group* $X_1, \dots, X_i, \dots, X_n$ consumes it, it cannot *feasibly* be withheld from the others in that group. In other words, those who do not purchase or pay for any of the public or collective good cannot be excluded or kept from sharing in the consumption of the good, as they can where noncollective goods are concerned.”(emphasis added)

Two aspects of this definition are highlighted. First, Olson defines public goods in reference to a group. A good may be a collective good from the perspective of a discrete group while it remains a private good as to the rest of society. While collective goods are usually thought of as funded by the government, any group may provide collective goods for its own members.¹⁴⁸ Second, Olson’s definition focuses on the element of exclusion; he is less concerned with rivalry in consumption. Michael Veeth also emphasizes the availability of an exclusion mechanism, stating that “public goods become private goods if transaction costs are low enough to make exclusion profitable” (1984, p. 58).¹⁴⁹

Others have emphasized the aspect of rivalry in consumption. In their textbook on public finance, Thomas Pogue and L.G. Sgontz define a pure public good as “*a good such that one person's consumption of the good does not reduce the amount available to others*” (1978, p. 49). In the context of the information commodity, the better approach would be to focus on whether or not an exclusion mechanism is feasible. As discussed below, the imposition of exclusion mechanisms is a crucial determinant of the appearance of exchange-value and the imposition of the commodity form. While non-rivalry in consumption is generally an intrinsic aspect of information,¹⁵⁰ the presence of an exclusion mechanism is in part dependent on various extrinsic factors. In a sense, one may think of rivalry as a fixed (or constant) attribute of information while exclusion is

variable.¹⁵¹ The problem with focusing solely on rivalry is that it masks the power relationships underlying the development of technology. It emphasizes the “thing-like” appearance of information rather than its essence as a social relationship.¹⁵²

Daniel Bell (1980, p. 512) falls into this trap by emphasizing the non-rivalrous aspect of information:

“...information is not a commodity, at least not in the way the term is used in neoclassical economics or understood in industrial society. Industrial commodities are produced in discrete, identifiable units, exchanged and sold, consumed and used up, like a loaf of bread or an automobile. *One buys the product from a seller and takes physical possession of it; the exchange is governed by legal rules of contract...* Information, or knowledge, even when it is sold, remains with the producer. It is a ‘collective good’ in that once it has been created, it is by its nature available to all.” (emphasis added).

While this description is valid, Bell fails to discuss the danger of artificial exclusion mechanisms that overcome the characteristic he is describing. In the emphasized portion, Bell actually presumes an exclusion mechanism, one that is regulated and enforced through the contractual exchange process. He does not explain why the exclusion mechanism is present even though rivalry, and hence scarcity, is absent.¹⁵³ Mark Poster (1990, p. 26) comments on Bell’s failure to build on the possibility that a non-market system may be appropriate for the production, dissemination and consumption of information and knowledge:

“[t]he edifice of capitalism appears to be threatened by the inexhaustibility of information, by its resistance to the commodity form. Instead of raising the theoretical question of the possibility of an economy beyond the limits of scarce commodities, Bell hurries to reconcile the new with the old.”

Poster complains that Bell thereby “lends legitimacy to the extension of the commodity form to information, reversing a longstanding liberal principle that, in a

democracy, knowledge and information in general must be freely available” (*id*, p 27).¹⁵⁴

He charges, “[i]t is somewhat of a scandal that a major liberal thinker of the twentieth century, like Bell, should reverse this principle” (*id*).

To complicate matters, rivalry and exclusion need not be stated solely as binary propositions. Rivalry of consumption and exclusion may both be present in various degrees, and these partial relationships may be illustrated by plotting values for jointness and exclusion along x and y-axis, as illustrated in Figure 4.2 (Aronson, 1985; Stiglitz, 1988).¹⁵⁵

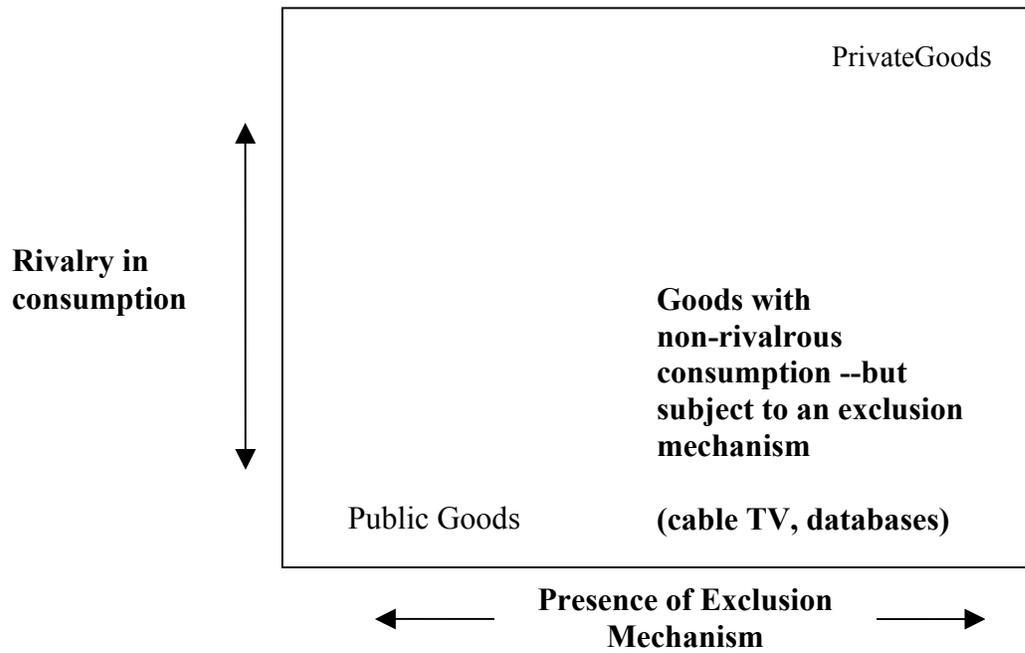


Figure 4.2: Illustration of Private and Public Goods by Rivalry in Consumption and Presence of Exclusion Mechanism

2. Non Polar Examples: The Cases of Mixed Goods

Most goods are neither public nor private in their pure form, but are mixed in various degrees. Different combinations may be considered as distinct policy problems. In the case of goods that are non-rival but subject to an exclusion mechanism, the good is capable of simultaneous consumption up to a point of congestion. But there is an exclusion technology is available that permits the charging of a price to participate. This good would appear in the lower-right portion of the chart as illustrated in figure 4.2.

Examples of goods that are partly non-rival and subject to an exclusion mechanism are private schools and clubs, subscription cable television and toll bridges, ferries and roads.¹⁵⁶ Goods in this category include offerings from the for-profit sector (cable services, for-profit schools), the non-profit private sector (non-profit private schools), and the public sector (where fees for service or use are often collected).

The ability to exclude is, at first, simply a question of personnel and equipment (a toll taker in a booth at the entrance to the bridge). It can then become a more complex technological question. Non-subscribers to cable television are excluded by use of a signal scrambling technology. If a consumer's phone service is terminated for non-payment, they are excluded by a change in the status of a switching device. The online database service is a modern example of this type of mixed good. Consumption is highly joint because the use of the service by a consumer does not diminish the ability of another user to enjoy the benefits of the same service. Yet exclusion is easily imposed through the assignment of a password that can be revoked.

Within a certain range of service, these goods are subject to joint consumption. In this respect, they are akin to public goods. At the same time, they exhibit the ability to exclude a consumer from enjoying the benefits of consumption and are therefore able to operate within the scope of the private market.

The most significant difference between these mixed goods and pure public goods is the technological and economic feasibility of imposing an exclusion mechanism. As new technologies develop, the range of economically feasible exclusion mechanisms increases. The technological requirement for the appearance of exchange-value has been met. Put another way, public goods may become private goods if the transaction costs associated with the exclusion mechanism are low enough to make exclusion profitable.

Mancur Olson's definition of a public good emphasizes the element of *feasibility* of exclusion. He points out that it is not necessary that exclusion be technically impossible, only that it be infeasible or uneconomic (1971, p. 14). Adequate technology may be thought of as a necessary, though not sufficient, condition for the imposition of an effective exclusion mechanism.¹⁵⁷

The issue of the feasibility of exclusion presents one of the crucial paradoxes of the role of technology in the information age. That is, technological advances that can be used to promote the broader provision of information goods and services can also be used to devise more advanced and feasible exclusion mechanisms.¹⁵⁸ The danger is that the availability of an exclusion mechanism can be used to avoid congestion in a manner that raises distributional equity concerns. There is an increasing tendency for information products and services to exhibit these characteristics. Goods that are rival and non-

excludable (upper-left section of figure 4.2) are more prone to the problem of “over-congestion,” and the over-congestion may be mitigated through the imposition of an exclusion mechanism. For example, in the case of overly congested public parks, a reservation system for facilities may be imposed. Public social services that are available to qualified consumers based on “means tested” criteria may fall into this category. For example certain public low-income housing or health services may not be subject to exclusion once the consumer satisfies the means test. But the ability to actually enjoy the benefits of the service may be impacted due to overcrowding.

This situation poses a policy problem for the entity providing the service. Either revenues must be allocated from other programs, (i.e., cutting another service) collective revenues must be raised (i.e., raising taxes), the program must be made more self-sufficient (i.e., imposing user fees) or the program must be cut back or eliminated (i.e., the provision of the need will be met, if at all, through the market). The options of cutting services (which would only aggravate the congestion problem) and imposing user fees (which is an attempt to increase the good’s attribute of excludability) raise significant distributional equity concerns.¹⁵⁹

3. The Provision of Merit Goods

Richard Musgrave (1959) acknowledges that some goods which are subject to exclusion mechanisms (and therefore subject to market provision) should nonetheless be provided as public goods. These “merit goods” may be provided by the market, but not in sufficient quantities to allow everyone to use them. Examples of merit goods include education and health services. Fritz Machlup addresses a similar concept using the

terminology of positive “externalities” (1980, p. 118). A good has a positive externality when its private consumption provides external benefits to others. For example, vaccination programs provide private benefits to direct recipients but also benefit the general public by reducing contagious disease.¹⁶⁰

While Musgrave readily acknowledges that the public provision of merit goods interferes with the free-market and its notion of consumer sovereignty, he justifies public provision on two grounds. First, the advantages of certain types of goods are such as to justify compulsion in the allocation of resources. Musgrave uses education as an example of such a merit good. Second, the doctrine of consumer sovereignty in the free market rests upon the assumption the complete market knowledge and its rational appraisal. Consumers often do not meet these conditions in the modern complex economy. In addition, the prevalence of advertising distorts the preference structure. To the extent that information resources become subject to an exclusion mechanism imposed by the market, Musgrave’s analysis provides a rationale for treating them as public goods.¹⁶¹ Private markets for information goods are more likely to be less optimal than public markets because ancillary social value is less likely to be incorporated into private market decisions.

The recognition and public provision of merit goods is not simply a matter of allocative efficiency; questions of distributional equity also arise. Hence, a necessarily normative element, one that must be resolved through the political process, is interposed. Since the failure to take adequate account of normative elements is a systemic weakness of cost-benefit analysis, it follows that positive economic analysis should be a highly

suspect basis for policy analysis.¹⁶² And this suspicion should be heightened in the case of goods that are non-rivalrous and not naturally prone to exclusion.¹⁶³ Information is generally such a good.¹⁶⁴

4. Correcting the Public Goods "Problem"

Information acts like a public good in that it exhibits a high degree of jointness of consumption (non-rivalry). Accessing a database and downloading its content leaves the data intact for the next user as well as the operator of the system. But more problematic is the presence of an exclusion mechanism. As non-rivalrous as information may be, it can still be brought within the control of an exclusion mechanism. Where the imposition of an exclusion mechanism is technically impossible or economically impractical, the private market fails. But once an exclusion mechanism is introduced in a practical and cost-effective manner, the private market will tend to displace public provision. The danger is that merit goods will be under-produced and public welfare will accordingly suffer, all quite consistent with positive efficiency criteria.

DeLong and Froomkin (1997) warn of three dangers in increasing rivalry and exclusion. As to rivalry, they warn that imposing it where it is not naturally found means imposing a socially unnecessary cost:

“[T]he result may look and feel like a traditional market, but it cannot, by definition, be an "optimum" since this artificial rivalry ensures that many users whose willingness to pay for the good is greater than the (near-zero) marginal cost of producing another copy will not get one. *Policy makers should therefore be very suspicious of any market-based arguments for artificial rivalry.*” (emphasis added)

They argue against increasing the level of exclusion on three grounds:

“First, technologies which permit excludability risk introducing socially unjustified costs if the methods of policing excludability are themselves costly. Second, as the example of broadcast television demonstrates, imperfect substitutes for excludability themselves can have bad consequences that sometimes are difficult to anticipate. Third, over-perfect forms of excludability, raise the specter that traditional limits on excludability of information such as fair use might be changed by technical means without the political and social debate that should precede such a shift. *We counsel caution: In the absence of any clear indication of what the optimum would be, the burden of proof should be on those who argue that any level of excludability should be mandated.*” (emphasis added)

It is instructive to relate this discussion about increased exclusion to Marx's use-value/exchange-value dichotomy. The implementation of an exclusion mechanism is the *sine qua non* of the recognition of exchange-value in a market. It is increasingly the case that research and development resources are expended not on the development of more useful technology (i.e., that which satisfies a need and is a use-value), but on the deployment of exclusion mechanisms. Sometimes the results are a failure in the marketplace, as in the case of the ill-fated DIVX.¹⁶⁵

Given that information exhibits public goods tendencies, the question becomes how best to address the resultant “market failures.” Yale Braunstein *et. al.* (1977) identified various solutions to the problem of non-exclusion. They noted that copyright, or other intellectual property laws, are not the only solution to the problem of non-excludability, and they pointed to investment by the public sector as another option:

“But there are reasons why ... direct government financing – should at least sometime be utilized. ...[F]or at least some potentially copyrightable products, the cost of serving additional users is negligible, so that a high price which discourages use is undesirable socially. However, a very low price is likely to be incompatible with recovery of initial investment outlays for its development. Where this is a significant consideration...then neither copyright nor secrecy will be in the social

interest, for both operate via the extraction of prices sufficiently high to bring a return that will be attractive to private investment. *It is clear that in such a case, if the investment in the product is worthwhile to society but compensatory pricing is not, then the only alternative is government financing*” (1977, p. 241). (emphasis added).

A similar argument is made by Robert Hurt and Robert Schuchman:

“...without some device to assist authors in receiving compensation for their services, [some works] may not be produced at all. However, it does not necessarily follow that the grant of a copyright monopoly is the only such device possible, nor that it is the most desirable device. If we wish to encourage works which require long periods of research or high costs of creation before they reach the publishing stage, it may be preferable to support authors during the period of production rather than during the moment of potential income protected by the copyright laws. This can be done through private patronage by tax-exempt foundations, universities... or even by government support...” (1966, p. 426).

Generally then, several broad categories of correctives may be applied to a market failure resulting from lack of an effective exclusion mechanism. The first involves the imposition of legal regimes that create property rights based on grants of monopoly powers. The second involves public support in the form of subsidies or direct public provision of a good or service. Indirect subsidies may be encouraged through tax policies favoring donations to charitable or philanthropic foundations providing the service, or through the formal recognition of professional associations in particular fields. A third approach would apply a variety of tort theories (i.e. misappropriation, unfair competition) to restrict particular egregious acts of commercially motivated infringement.¹⁶⁶ The first avenue is taken from the standpoint of the need to enhance exchange-value. The second focuses on the desirable use-values of information and the need to promote its uninhibited transfer through public support. While intellectual property law has historically sought to correct market failure through the first approach, it has been

tempered by a variety of safety valves such as the fair-use doctrine, the notion of the public domain and other legal devices. But in the digital environment, content owners as well as many policy makers and economists are increasingly dissatisfied with the levels of protection offered through existing laws, as illustrated in chapter 2. The first approach, the use of intellectual property restrictions, has emerged as the predominant policy tool. While Braunstein, *et al* foreshadowed a central problem of copyright policy in the digital era over two decades ago; their insights have not been adequately incorporated into the range of policy options given serious consideration.

Information, as well as its underlying data and the knowledge it was capable of creating, was tied to its container. This physical limitation obviated, for the most part, the need to grapple with the underlying contradiction between use-value and exchange-value. The development of the productive forces in the area of information technology had not yet risen to the level where it was being inhibited by intellectual property laws. But now that technology has enabled a release of content from the limitations imposed by its physical containers, this issue percolates to the surface. In addition to the rise of digital formats that release information from the constraints of its containers, information increasingly becomes a factor in increased productivity in the general production process. Advances in digital communications technology also enable information in the form of cultural products to circulate and reproduce at a higher level.

The paradox of information as a public good becomes a threshold question for public policy. While “information wants to be free”¹⁶⁷ has become a familiar refrain, it would be more accurate to say, “Society needs information to be accessible.” The

resolution of this paradox must be coupled with the de-reification and de-commodification of information.

So long as public goods are conceptualized as a market-failure “problem” that needs to be “corrected,” the tendency will be towards the promotion of ever more effective exclusion mechanisms. If the exclusion mechanisms are designed to inhibit what are otherwise socially desirable transfers of information, there is a net loss to society. This tendency is a hallmark of the *information society* model. On the other hand, recognizing the public good qualities of information, and developing policies designed to enhance production and dissemination through subsidies or public provision characterizes the *information-for-society* model. Unfortunately, traditional public goods analysis inevitably justifies policies in the proprietary direction. This analytical framework fails to adequately account for the negative social costs of restricting the flow of information resulting from the imposition of artificial exclusion mechanisms. And as Mark Poster pointed out, it fails to comprehend the distributional potentials enabled by technologies that are able to transcend the problems of scarcity. While the study of public goods literature provides the important conceptual tools of non-rivalry and exclusion, the continuing value of this framework for policy analysis must be questioned. Without losing sight of the importance of the concepts of non-rival consumption and exclusion mechanisms, traditional public goods analysis would should be replaced with an approach that focuses on the tension between use-value and exchange-value inherent in the information commodity and the consequent tension between the forces and relations of production.

C. Reification and the Information Commodity

Before leaving the category of the commodity form, mention should be made of Marx's notion of commodity fetishism. In his development of the commodity form, Marx stresses that commodity production is composed of social relations. At the end of the chapter on the commodity form, he looks at how these relations appear to society and argues that these social relations are manifest as existing between the products of labor, not between laborers themselves. Marx presents commodity fetishism as an example of how capitalism conceals the essence of underlying social relations.

“A commodity is therefore a mysterious thing, simply because in it the social character of men's labour appears to them as an objective character stamped upon the product of that labour; because the relation of the producers to the sum total of their own labour is presented to them as a social relation, existing not between themselves, but between the products of their labour. This is the reason why the products of labour become commodities, social things whose qualities are at the same time perceptible and imperceptible by the senses...[the commodity] is a definite social relation between men, that assumes, in their eyes, the fantastic form of a relation between things.” (Capital, Vol 1, Ch 1, section 4, 1967, p. 72)

Marx makes an analogy to the manner in which religion bestows an independent status on products of the human thought:

“In order... to find an analogy, we must have recourse to the mist-enveloped regions of the religious world. In that world the productions of the human brain appear as independent beings endowed with life, and entering into relation both with one another and the human race. So it is in the world of commodities with the products of men's hands. This I call the Fetishism which attaches itself to the products of labour, so soon as they are produced as commodities, and which is therefore inseparable from the production of commodities” (*id*).

Marx did not explicitly return to the subject and the idea was given little attention until George Lukacs resuscitated it through his theory of reification. Reification is closely

related to the concept of commodity fetishism and has been defined as “the act (or the result of the act) of transforming human properties, relations and actions into properties, relations and actions of man-produced things which have become independent (and which are imagined as originally independent) of man and which govern his life” (Petrovic, 1983).

Lukacs (1971, p. 83) argued that commodity fetishism was a central structural problem of capitalism:

“The essence of commodity-structure has often been pointed out. Its basis is that a relation between people takes on the character of a thing and this acquires ‘a phantom objectivity’, an autonomy that seems so strictly rational and all-embracing as to conceal every trace of its fundamental nature: the relation between people.”

As a concept, reification is particularly important for purposes of policy analysis because in the reified world the scope of available policy options becomes artificially constrained. Lukacs describes “the reified world” as the only possible conceptually accessible world “vouchsafed to us humans” (*id*, p. 110). Accordingly, reification constricts the scope of admissible policy options. Peter Gabel (1982, p. 262) argues that legal reasoning itself “is an inherently repressive form of interpretive thought which limits our comprehension of the social world and its possibilities.”

In his essay on the relative autonomy of law, Isaac Balbus (1977, p. 582-83) raises the similar point about how legal form itself evades critical review:

“The legal form is normally not called into question, I would argue, because the form itself ordinarily precludes the possibility of performing this critical operation. The calling into question of the legal order presupposes individuals who conceive themselves as subjects evaluating an object which they have created and over which they have control. It is just this presupposition, however, which is nullified by the perverse logic

of the legal form; this form creates a fetishized relationship between individuals and the Law in which individuals attribute subjectivity to the Law and conceive themselves as its objects or creations. Under these conditions, the calling into question and subsequent delegitimation of the legal order is literally ‘unthinkable.’”

Balbus’ argument, that the legal order appears as an autonomous subject in itself, runs parallel to Marx’s notion of commodity fetishism. In a similar manner, the *information society* model assumes a reified form of information and intellectual labor, and is itself a reified model of reality.

Thinking about the contradictions between use-value and exchange-value provides a valuable framework for intellectual property policy analysis. One common feature of the contemporary policy environment is that the proposed laws, such as *as sui generis* database legislation and technological protection measures, tilt the balance in this historical contradiction in favor of exchange-value.

D. The Creation of Value in the Digital Age.

The applicability of the theory of value to the products of intellectual labor is the next component of the critical theory of intellectual property policy. A central claim of proponents of the *information society* model is that the labor theory of value has been superseded by a *knowledge theory of value*. The notion that the value of a product is a function of the labor necessary for its creation is scrutinized against this competing claim that knowledge is itself a source of value.

How is value created in the digital age? Is there something qualitatively different about this process in the networked world? These questions are at the center of debate between proponents of mainstream post-industrial/information society theory and their

critics. Put another way, the question becomes: What is the source of profit, and has it changed in the informational context? This section will begin with a review of the classical labor theory of value and how proponents of the information society model have challenged its continued relevance.

The labor theory of value was derived from the eighteenth century political economists Adam Smith¹⁶⁸ and David Ricardo¹⁶⁹ and used by Karl Marx to explain how commodities take on value.

Marx's version of the labor theory of value may be stated as:

...goods will exchange accordingly to their socially necessary cost of production measured in socially necessary abstract labor time.

There are two aspects to Marx's use of the term "socially necessary." First, in terms of cost, it refers to the average time necessary to produce the good at the average level of intensity of labor and at the average level of technique. The second aspect relates to demand; a good is only socially necessary if it meets an effective demand.

Marx identified the expropriation of surplus value in the process of production as the source of profit under capitalism. This claim was in contrast to the view of the classical political economists that profit was realized in the sphere of exchange. To reach this conclusion, Marx distinguished between *labor* and *labor power*. In the employment relationship, the worker sells labor power, not labor, to the capitalist. As such labor power is a commodity, which like any other commodity has the two-fold character of use-value and exchange-value. The exchange-value of the labor power is what the worker receives in wages. What the capitalist receives is its use-value, the ability to utilize labor power in the production process for a certain period of time. But unlike other inputs into

the production process, the use-value of labor has the special characteristic that it can produce greater value than the value for which it exchanged. For Marx, this special feature of labor power is the essence of surplus value, the ability of the capitalist to retain the excess value created by labor power in the production process.

David Harvey (1999, p. 24) summarizes the importance of this special feature of labor power:

“Marx. . . began . . . with the simple conception of the commodity as an embodiment of use value and exchange value. Out of the proliferation of exchange, he derived the necessity for money as an expression of value and showed a necessary relation between the capitalist form of circulation and the determination of exchange ratios according to socially necessary labour time. He has now shown us that the contradiction this generates between the equivalence presupposed by exchange and the inequality implied by profit can be resolved only by identifying a commodity that has the special characteristic of being able to produce greater value than it itself has. Labour power is such a commodity.”

Tom Bottomore (1988, p. 13) also points to labour power as a commodity that is different from other commodities in two ways. In the first instance:

“[L]abour (the realization of labour power) is, as Marx describes it in the *Grundrisse*, ‘living, purposeful activity’, or as he says in the *Economic and Philosophical Manuscripts*, it is ‘life activity, productive life . . . free, conscious activity’, which is the characteristic of man as a species being. The transformation of labour power into a commodity is an alienation of man’s nature that deforms and cripples him.”

Bottomore emphasizes the continuity between the *Manuscripts* and the *Grundrisse*, showing a direct line of continuation in Marx’s thought. The second difference between labour power and other commodities is that:

“[L]abour power as the capacity for productive activity has the unique characteristic of being able to create more value than is given in exchange for it. It creates ‘surplus-value’, and since this labour power has been

acquired by the capitalist through an act of exchange, the surplus-value which it produces becomes the property of the capitalist.”

Looking at these special characteristics of labour power serves several purposes for an analysis of the information commodity. First, as Bottomore suggests, it demonstrates the continuity in Marx’s thought from the early *Manuscripts* through the *Grundrisse* and through *Capital*. Second, the differences highlight the notion that the relationship between exchange-value and use-values is more than a difference; it is an antagonistic contradiction. Third, it helps to clarify the reasoning underlying the Marxian critique of bourgeois rights. As Bottomore (1988, p. 13) notes:

“Marx’s analysis of labour power as a commodity is intended to show that in capitalist society, in spite of the appearance of equal exchange, surplus value is created and appropriated by a particular class. In a slave society, or a feudal society, the production and appropriation of surplus value is obvious; the slave works for the slave-owner, the serf works for a part of the year on his lord’s demesne. In capitalist society this process takes place in a concealed form, but it still constitutes the basis of the whole social system.”

By identifying labor as having the special capacity to create more value than it possesses, Marx is able to break with the classical political economists who located the source of profit in the realm of exchange. There is symmetry between the views of classical political economists and information society theorists in that they both attribute the accumulation of profit to factors other than the exploitation of labor. In the case of the former, profit derived from selling goods on the market at a higher price than their component costs. In the case of the later, information technology is seen as an autonomous variable that is capable of creating value in its own right in the form of knowledge.

Marx and his predecessors developed their theory of value in the early stages of the industrial era. The question naturally arises, how is the labor theory of value applicable in the later stages of capitalism? How does the theory apply to the “intellectual labor” or “knowledge work” that goes into the production of the information commodity? Peter Drucker, Daniel Bell and others have claimed that the labor theory of value is no longer a viable concept. They claim that it has been superseded by the "knowledge theory of value." In Bell's post-industrial society, the crucial variables are information and knowledge, not labor and capital.

"[w]hen knowledge becomes involved in some systematic form in the applied transformation of resources (through invention or social design), then one can say that knowledge, not labour, is the source of value" (Bell, 1980, p. 506).

Bell notes that in industrial society, the “production function” used by economists sets forth the economic mix only as capital and labor thereby lending to a labor theory of value. But he maintains that this analysis neglects almost entirely the role of knowledge or of organizational innovation and management.

“Yet with the shortening of labour time and the diminution of the production worker (who in Marxist theory is the source of value, since most services are classified as nonproductive labour), it becomes clear that knowledge and its applications replace labour as the source of ‘added value’ in the national product. In that sense, just as capital and labour have been the central variables of industrial society, so information and knowledge are the crucial variables of postindustrial society” (*id*).

Bell's argument is flawed in at least two respects. First, this viewpoint is based on the notion of a supersession, or sharp break, from the social relations present in industrial society.¹⁷⁰ Second, the more specific problem involves the reification of intellectual labor, a problem that is characteristic of the historical discontinuity school.

Information society theorists who claim that knowledge is an independent source of value creation are engaged in a process of reification of human intellectual labor. Bell's claim that knowledge replaces labor as the source of added value is a classic example substituting a relationship between things for social relations. Disaggregating knowledge from its human source and then imputing an autonomous and independent character to this new force is analogous to Marx's allusion to religion in his passage on commodity fetishism:

“...[p]roductions of the human brain appear as independent beings endowed with life, and entering into relation both with one another and the human race. So it is in the world of commodities with the products of men's hands. This I call the Fetishism which attaches itself to the products of labour, so soon as they are produced as commodities, and which is therefore inseparable from the production of commodities.”

That we are now referring to the products of the human mind instead of the human hand is beside the point. The creation of value remains dependent on human labor. This issue is not just of historical or theoretical interest. It is germane to a modern policy environment that transforms the products of human labor into commodities and that legislates new property relations to enforce this transformation.

This problem is germane to intellectual property policy because proponents of an expansionary proprietary regime point to intellectual property as an objective source of value, deserving of protection in itself. As demonstrated in chapter 2, the discourse of the proponents of expansive laws is replete with references to how intellectual property must be given ever-greater levels of “protection” in the face of technological threats, the inadequacy of existing laws, and the imperatives of global competition. The individual creator, the source of the intellectual property in the first instance, has disappeared from

this discussion. This discourse is a clear instance of the reification of the products of the human mind. But once it is remembered that all intellectual property assets are the result of productive human labor, the logic of proprietary expansion dissolves.

How do intellectual property laws support the move to disaggregate knowledge from its human source, and then impute an autonomous and independent character to this new force?

Despite the historical grounding of modern intellectual property law in the concept of the author or inventor, most rights in intellectual property do not vest in the original creators or inventors. This decoupling of rights from the creator takes two forms in modern statutes. First, since the rights are cast in economic terms, they are freely assignable. Authors and inventors are endowed with the freedom to enter into exchange relations and assign their rights to others. For example, section 201 (d)(1) of the U.S. Copyright Act provides that “[t]he ownership of a copyright may be transferred in whole or in part by any means of conveyance or by operation of law, and may be bequeathed by will or pass as personal property by the applicable laws of intestate succession.”

The author or inventor is considered to be an autonomous holder of legal rights with the freedom to contract as they wish. But as a practical matter, this freedom of contract is illusory. In order to have a work published in a form where it will be widely circulated, authors are generally compelled to contract with intermediaries (i.e. commercial publishers) who have access to the necessary production and distribution facilities. The contract will typically involve a transfer of all or a substantial portion of the economic intellectual property rights to the publisher.

The second form of disaggregation is more direct. Where the author or inventor acts in the scope of an employment relationship, the original rights vest with the employer. In this case, the creator has been separated from the fruits of their creation in advance much like a worker on a production line. Section 201 (b) of the US Copyright Act provides that “[i]n the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author for purposes of this title, and, unless the parties have expressly agreed otherwise in a written instrument signed by them, owns all of the rights comprised in the copyright.”¹⁷¹ This “work for hire doctrine” effectively separates the author from his or her product without the need to resort to the form of contractual exchange after the fact. This separation has led authors such as James Boyle (1996) to question the validity of the “romantic entitlement theory of authorship” because it leads to too many intellectual property rights in the wrong hands.

The “work for hire” doctrine leaves the author in the same position as a worker on a physical production line assembling widgets in relationship to the finished product, to the employer, and to the other workers. This doctrine also leaves the concept of surplus value intact in the realm of intellectual labor. Theorists who claim that the theory of value has somehow been superseded in the information age have failed to confront the fact that the form of the legal relationship between worker and the owner of the means of production is qualitatively the same whether the final products is widgets, a computer program, film, cartoon, magazine or literary work.

E. Historical Continuity, Modes of Production, and Modes of Development

1. A Materialist Account of the Information Age

The critical theory of intellectual property policy must be rooted in a conception of history that avoids the “information age exceptionalism” of mainstream information society theory. The need to reconcile significant technological changes with existing forms of social relations is lost on information society theorists, and this failure helps create the conditions under which a proprietary intellectual property policy regime can expand. In order to be able to reconcile significant technological transformations as a stage in the logic of commodity exchange, it is crucial to consider the increasing tension between the developing productive forces and the existing relations of production. This tension is explained in Marx’s materialist conception of history, as explained in passage from the Preface of *A Contribution to the Critique of Political Economy*:

“In the social production of their existence, men inevitably enter into definite relations, which are independent of their will, namely relations of production appropriate to a given stage in the development of their material forces of production. The totality of these relations of production constitutes the economic structure of society, the real foundation, on which arises a legal and political superstructure and to which correspond definite forms of social consciousness. The mode of production of material life conditions the general process of social, political and intellectual life. It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness. *At a certain stage of development, the material productive forces of society come into conflict with the existing relations of production or -- this merely expresses the same thing in legal terms -- with the property relations within the framework of which they have operated hitherto. From forms of development of the productive forces these relations turn into their fetters. Then begins an era of social revolution.* The changes in the economic foundation lead sooner or later to the transformation of the whole immense superstructure. In studying such transformations it is always necessary to distinguish between the material transformation of the economic conditions of production, which can be determined with the

precision of natural science, and the legal, political, religious, artistic or philosophic -- in short, ideological forms in which men become conscious of this conflict and fight it out” (1970, p. 21-22). (emphasis added)

Marx uses the concept of mode of production as a way of describing the relations within the social system in which production is undertaken. For Marx, capitalism was the latest in a series of distinct modes of production that were typified by the basic structure of the relations of production involving exploited and exploiting classes. Marxian analysis generally describes the 'capitalist mode of production' as a *particular* historical period characterized by (1) the employment of free workers by capitalists; who are (2) engaged in the production of commodities for exchange.

Irving Zeitlin (1967) reiterates Marx's historical view that

“[i]n the early phase of a system’s development, the property-relations facilitate the constant growth of the productive forces, including the changing work-relations. In the later phases of the system’s development, however, the productive forces are retarded and hampered in their growth by the very same property-relations. These have to be ‘burst asunder’ in order to allow for the further expansion of the productive forces” (1967, p. 66).

Zeitlin further argues that the tension between property-relations and productive forces is not merely a lack of adjustment between technical innovation and their social application. Instead, the “mode of production” is divided into two parts, the static property-relations and the dynamic productive forces.¹⁷²

An important issue is to what extent intellectual property law should be considered to be constitutive of the “relations of production” insofar as the production, distribution and consumption of information commodities are concerned. If intellectual property law is considered a relation of production, how does this situation fit with the

classical “base-superstructure” duality, which in its orthodox form relegated law to a phenomenon of the superstructure? Unfortunately, neither Marx nor Engels ever provided a systematic theory of law. However, there are numerous fragments throughout their writings that suggest that that the often cited base/superstructure passage from the *Preface* was employed as a metaphorical device, one that should not be taken literally in all situations. There has been an ongoing debate between orthodox Marxists who read the quoted passage as creating a rigid base/superstructure duality and critical approaches that relax this notion. And the emphasized portion of the passage itself equates relations of production with property relations.

Whatever the merits of this debate, it seems evident that in the current environment, intellectual property law should be considered a constitutive relation of production. Laurence Harris (1983, p. 178) defines relations of production as “constituted by the economic ownership of productive forces; under capitalism the most fundamental of these relations is the bourgeoisie’s ownership of means of production while the proletariat owns only its labour power.” In this regard, it is important to distinguish the production of intellectual property that will be sold as a commodity itself to end-users from intellectual property as a factor in the process of production. In recent years, the second aspect is increasing in importance as the production process itself becomes more information-intensive and automated. If Marx's theory of the mode of production is to have any contemporary meaning, it needs to be placed in the context of a relationship between the laws that govern the distribution and use of information and the development of new sources of information. This contextualization is accomplished by the notion that

expansionary intellectual property policy environment is inimical to the goals of promoting innovation, ensuring access to information, and supporting society's collective symbolic capacity, and is therefore unsustainable.

Three points need to be made to elaborate on this notion. First, the current intellectual property law regime, which was developed in an environment in which information was necessarily attached to its physical containers (printed material, records, and tapes), represents a static set of property relations in an environment where content is removable from its physical containers. Second, advances in information technology represent a dynamic productive force that provides an opportunity for a significant expansion of society's collective symbolic capacity. The release of content from the limitations imposed by its physical containers is only one aspect of this dynamism. In a broader sense, the relative availability of ever more powerful tools for producing and disseminating information accelerates this process. Third, attempts to intensify restrictive property relations in light of technological advances that render moot many of the historical justifications for the restrictions themselves will undermine society's collective symbolic capacity, discourage innovation and exacerbate barriers to access to information.¹⁷³

The current intellectual property regime was developed and may be characterized in terms of a static set of property relations. As indicated in the preceding analysis of the commodity form, there has always been a tension between use-value and exchange-value in regards to information goods and services. Intellectual property law, as a strategy for

creating an exclusion mechanism to “solve” the public goods “problem,” has historically sought to enable the development of the exchange-value aspect of information.

While these relations may have been “dynamic” in the 18th century when modern copyright law was conceptualized, they were historically challenged by incremental changes in technology. A review of legislative changes to the American copyright statute will show a series of changes to accommodate new technologies such as photographs, recordings, radio and television transmissions and the photocopy machine. While these changes have traditionally been incremental, in the current environment technological change has been so rapid and has encompassed so many aspects of social, economic and cultural life, which incremental change could no longer accommodate advances in information technology. This view is notwithstanding the insistence of the advocates of the expansion of proprietary rights in information, as presented in chapter 2, that the changes they promote are simply incremental.

At some point in its development, the trajectory of intellectual property policy shifted from one of incremental (or quantitative change) to one of qualitative change. As Dan Schiller (1999, p. 76) notes,

“[e]xtending intellectual property law to the digital world mean something much more, however, than simply bringing private property rights up to date, as adherents tried to claim. It portended more, even, than enclosing and policing cyberspace in the interests of specialized corporate information proprietors...In the emerging era of digital capitalism, all major businesses were becoming informationally oriented --through research and production processes as well as through the outright sale of information products and services.”

The historical framework utilized by Manuel Castells (1989, 1996), which was discussed in chapter 1, involves a careful distinction between *modes of production* and

modes of development. Whereas the mode of production determines how the surplus is appropriated and distributed, the actual level of that surplus is determined by the mode of development, technological arrangements through which labor acts on matter (including information) to generate the product.

In differentiating the various modes of development, Castells looks at “the element that is fundamental in determining the productivity of the production process” (1989, p. 10). In the *informational mode of development*, the quality of knowledge constitutes that element; it is fundamental to productivity.¹⁷⁴ But by acknowledging that “knowledge intervenes in all modes of development, since the process of production is always based on some level of knowledge” (*id*), Castells avoids the trap of information age exceptionalism. Still, Castells emphasizes that there is something different about how knowledge is used in the production process in the informational mode of development: knowledge intervenes on knowledge itself, and information processing becomes a key component of new productive forces. In such a case, Castells (1989, p. 15-16) emphasizes the close relationship between a society’s symbolic capacity and its developmental process:

“The more a society facilitates the exchange of information flows, and the decentralized generation and distribution of information, the greater will be its collective symbolic capacity. It is this capacity which underlies the enhancement and diffusion of information technologies, and thus the development of productive forces.”

The other major component of Castells’ framework, the restructuring of capitalism, is consistent with the view of various Marxian theorists who have recognized

that significant shifts take place within the capitalist mode of production (Harris, 1983a; Mandel, 1978, Harvey, 1990).

Just as intellectual property laws have been characterized as constitutive of the relations of production in the digital age, information technology should be considered as constitutive of the productive forces. Lawrence Lessig's concept of "Code" may be considered as an example of forces of production in the digital arena. "Code" is the software and hardware that makes cyberspace what it is and which then constitutes a set of constraints on how actors may behave (Lessig, 1999, p. 89). Harris (1983, p. 178) defines forces of production to include "means of production and labor power [encompassing] such historical phenomena as the development of machinery, changes in the labour process, the opening up of new sources of energy, and the education of the proletariat." William Shaw (1983, p. 207) expands the definition, "[t]he productive forces, however, include not just the means of production, (tools, machines, factories, and so on), but labour power – the skills, knowledge, experience, and other human faculties used in work." And Douglas Kellner (1997, p. 105) explicitly characterizes media technologies and creative practices as forces of production. A broad definition of forces of production is appropriate in order for the concept to maintain its relevance. The development of information resources, as well as technologies employed to readily disseminate them should be considered part of the forces of production. By bringing to the fore the informational and technological content of the development of productive forces, the serious repercussions of restricting information flows enabled by shifts in intellectual property laws are underlined.

What then are the particular roles played by the expansion of intellectual property laws in the current period; particularly, how do they impact the relationship between the forces and relations of production? An expansionary intellectual property regime serves several important functions for the information industries. First, it intensifies their ability to extract technological rents in the short and medium time frame by extending the time frame of technologically enabled competitive advantage. Second, it allows firms that produce information resources to appropriate the surplus resulting from higher levels of productivity in information/knowledge work, insuring that these benefits are internalized to the firm. Third, it enhances the ability to extract rents from the consumers of information products. All of these advantages can be viewed as counter-tendencies that ameliorate the tendency for the falling rates of profit that Marx argued would result from a rise in the organic composition of capital, the ratio of constant to variable capital (or c/v). Dyer Witheford (1999, p. 44) defines the rate of profit ($S / (C+V)$) and its various components:

“The Marxian theory of value holds that the source of surplus value is the exploitation of living labor. Capitalist production can be represented in value by the formula $C + V + S$. C is “constant capital” – the part whose value is not increased in production but merely preserved by it - buildings, raw materials, and, especially machines. V is “variable” capital, the part used by the capitalist to buy labor power, so termed because it is the only part of the capital that lets the capitalist increase the value of his or her capital. S is the “surplus value” – the portion of the newly created value appropriated by the capitalist. The rate of profit is the ratio between surplus value and total capital, that is, $S / (C + V)$. The ratio between constant capital and variable capital, C / V is the “organic composition of capital.” The fundamental tendency of the capitalist system is to increase the ratio of constant capital (machines and raw materials) to variable capital (wages)”

Marx was able to foresee that technological advances would enable an increase in productivity associated with the elimination of human labor through automation. In terms of variable and constant capital, this elimination results in an ever-increasing organic composition of capital (as C grows relative to V, then C/V increases in magnitude). The value of constant capital (i.e., buildings, machinery, and raw materials) is not increased in the production process; its value is preserved as a constant or transferred directly into the finished product. But variable capital, which is used to purchase labour power in the form of wages, does have the ability to add value.¹⁷⁵ Tessa Morris-Suzuki explains the increase in the organic composition of capital in terms of management imperatives:

“For the past two decades, managers in advanced capitalist countries have regarded computer-based automation as a magical cure for two of their most pressing problems: the compulsion to reduce costs (particularly labor costs), and the need to increase the authority and control of the enterprise over its workforce” (1997a, p. 57).

For Ernest Mandel, the continuous increase in the organic composition of capital is the major contradictory force faced by capitalism; constituting its absolute inner limit:

“... the absolute inner limit [of the capitalist mode of production] . . . lies in the fact that the mass of surplus-value itself necessarily diminishes as a result of the elimination of living labor from the production process in the course of the final stage of mechanization-automation. Capitalism is incompatible with fully automated production . . . because this no longer allows the creation of surplus value. . . It is hence impossible for automation to spread to the entire realm of production in the age of late capitalism” (1978, p. 207).

Mandel’s argument, as well as an orthodox application of the tendency of falling rates of profit, is perhaps better suited to industrial manufacturing than the information or service sectors. The move towards service/informational economies is itself one of the countervailing forces acting to ameliorate this tendency. Marx himself pointed out, the

tendency of falling rates of profit is ameliorated by a variety of countervailing forces including an increase in foreign trade, the falling cost of constant capital, cutting costs of remaining wages, and an increase in the reserve army of the unemployed. Mandel was dismissive of the long-run efficacy of these countervailing factors, and he saw automation as a source of coming crises (hence his terminology, “Late Capitalism”). In contrast, Dyer-Witheford sees technological advancements as actually enhancing the countertendencies:

“Capitalism’s deployment of new technologies certainly drives living labor out of production (through automation), but it can also enhance the countertendencies against the falling rate of profit by increasing the rate of exploitation (through surveillance and monitoring) cheapening machine production (robots making robots), opening new areas of exploitation with a low organic composition (tertiarization), speeding circulation (through advertising, marketing and innovation), and integrating the world market (telecommunications). Mandel rejects such possibilities with arguments whose intricacy verges on the quasi-theological. But such possibilities seem significant enough to cast doubt on his teleological certainty. This is not to ratify the postindustrialists’ dreams of unimpeded market expansion. But it is to see crises as contingent on the outcome of series of social struggles over the scope, scale, and velocity of commodification rather than guaranteed by capital’s internal logic” (1999, p. 46).

Dyer-Witheford’s analysis is compatible with Morris-Suzuki’s claim that “[t]he spread of automated manufacturing, by sundering the labor process and squeezing out surplus value from the production of material objects, forces capitalist enterprises and capitalist economies to become perpetual innovators” (1997, p. 18). The crucial implications of the perpetual innovation economy, according to Morris-Suzuki, are that:

“[f]ewer and fewer workers will be engaged in directly productive manual labor, more and more in indirectly productive tasks involving limited physical activity. [And that] information –and not merely any information, but information which contributes to productive processes – will become a

commodity churned out by corporate enterprises almost as routinely and monotonously as cars flowing from an assembly line' (*id*, p. 19).

Dyer-Witheford and Morris-Suzuki's arguments are not foreign to Marx, as it they are rooted in the passages in the *Grundrisse* known as the "fragment on machines" in which Marx (1973) foresaw the time when a collective learning process would surpass physical labour as a productive force. For Marx, this process was consistent with the general tendency of capitalism to increase productive forces while negating necessary labour (1973, p. 693). Machinery absorbs, or subsumes, living labour:

"... the value objectified in machinery appears as a pre-supposition against which the value-creating power of the individual labour capacity is an infinitesimal, vanishing magnitude; it is already posited in the form of the product's production and in the relations in which it is produced that it is produced only as a conveyor of value, and its use value only as a condition to that end."

Marx likened the increasing productive forces to a "social brain," which is at first absorbed into fixed capital:

"In machinery, objectified labour itself appears not only in the form of product or of the product employed as the means of labour, but in the form of the force of production itself. The development of the means of labour into machinery is not an accidental moment of capital, but is rather the historical reshaping of the traditional, inherited means of labour into a form adequate to capital. The accumulation of knowledge and of skill, of the general productive forces of the social brain, is thus absorbed into capital, as opposed to labour, and hence appears as an attribute of capital, and more specifically of fixed capital, in so far as it enters into the production process as a means of production proper" (1973, p. 694).

Hardt and Negri (2000, p. 294) relate Marx's notion of the collective social brain to the contemporary networked environment:

"[T]oday we participate in a more radical and profound commonality than has ever been experienced in the history of capitalism. The fact is that we participate in a productive world made up of *communication and social*

networks, interactive services, and common languages. Our economic and social reality is defined less by the material objects that are made and consumed than by co-produced services and relationships. Producing increasingly means constructing cooperation and communicative commonalities.”¹⁷⁶ (emphasis added)

They also argue that traditional conceptions of property relations are becoming harder to justify:

“The concept of private property itself, understood as the exclusive right to use a good and dispose of all wealth that derives from the possession of it, becomes increasingly nonsensical in this new situation. There are ever fewer goods that can be possessed and used exclusively in this framework; it is the community that produces and that, while producing, is reproduced and redefined. The foundation of the classic modern conception of private property is thus to a certain extent dissolved in the postmodern mode of production.

One should object, however, that this new social condition of production has not at all weakened the juridical and political regimes of private property. The conceptual crisis of private property does not become a crisis in practice, and instead the regime of private expropriation has tended to be applied universally. This objection would be valid if not for the fact that, in the context of linguistic and cooperative production, labour and the common property tend to overlap. Private property, despite its juridical powers, cannot help becoming an ever more abstract and transcendental concept and thus ever more detached from reality” (*id*).

Johan Söderberg (2002) carries the point a step further, relating the concept to intellectual property policy:

“The productivity of social labour power impels corporations to subjugate the activity of communities. But here rouses a contradiction to capital, on one hand it prospers from the technologically skilled, unpaid, social labour of users; on the other hand it must suppress the knowledge power of those users to protect the intellectual property regime. To have it both ways, capital can only rely on its hegemonic force.”

Later in the fragment on machines, Marx seems to foreshadow the claims of post-industrial/ information society theorists that stress the ascendancy of knowledge in the production process:

“to the degree that large industry develops, the creation of real wealth comes to depend less on labour time and on the amount of labour employed than on the power of the agencies set in motion during labour time, whose 'powerful effectiveness' is itself in turn out of all proportion to the direct labour time spent on their production, but depends rather on the general state of science and on the progress of technology, or the application of this science to production" (1973, p. 704-05).

For the post-industrialists, this process presented no threat to the stability of the capitalist order; in fact they pointed to these very same tendencies as proof of their refutation of Marx. But those who caricature his work often overlook Marx's insights into the future of technology as presented in the *Grundrisse*. But for Marx, the subsumption of human labour into fixed capital is only a prerequisite to the limits of capitalism itself. In the Preface to *Contribution to a Critique of Political Economy*, Marx adds an important qualification to his earlier statement that the fettering of productive forces by the existing relations of production, begins the era of social revolution:

“No social order is ever destroyed before all the productive forces for which it is sufficient have been developed, and new superior relations of production never replace older ones before the material conditions for their existence have matured within the framework of the old society. Mankind thus inevitably sets itself only such tasks as it is able to solve, since closer examination will always show that the problem itself arises only when the material conditions for its solution are already present or at least in the course of formation.”¹⁷⁷ (emphasis added)

Given the frequency with which the earlier passage is quoted, it is surprising that this passage is so overlooked. Yet it contains an important temporal qualification that must be taken into account whenever a claim is made about the significance of

contradictions between the forces and relations of production. The passage gives rise to two related questions. First, do recent advances in information technology rise to the level of “sufficient productive forces” within the current social order as anticipated in the first emphasized clause? And second, have existing relations of production so matured within the framework of the old society such that they are ripe for replacement?

2. Database Legislation as a Fetter on the Productive Forces of Society

In order to make the assertion that any particular instance of restrictive intellectual property laws constitutes not only a fetter on the productive forces, but also a fetter of such magnitude that these relationships need to be “burst asunder,” both of the questions posed in the last paragraph need to be answered in the affirmative. In answering these questions, the expansive definitions of productive forces (to include media and cultural production, information technology, and the human knowledge, skill and experience that are embedded within them) and relations of production (to include the intellectual property laws that govern the information transfer process) will be presumed. As to the first question, the magnitude of recent advances in information technology is not a subject of serious dispute. Indeed, the very foundations of the *information society* model, to which this critical theory of intellectual property stands in opposition, are premised (overly premised) on the recognition of technological advance. In the particular case of databases, it is also clear that their creation and use contributes to the productive forces of society. The more difficult question is whether these technological advances render the existing relations of production as sufficiently “mature” so as to be ripe for replacement. This issue is necessarily a normative question,

one not susceptible to the type of precise determination afforded by positivistic experimental methods. Given that caveat, a strong argument can be made that the direction of the contemporary intellectual property regime, and particularly the drive toward *sui generis* database legislation, is indeed misdirected. It is attempting to reestablish control over technological forces that it has helped create and enhance.

Speaking to copyright exemptions in general, Jessica Litman (2001) makes the point that an expansion of current copyright rules in the direction of greater protection serves the interests of current market leaders and makes it more difficult for new players to emerge:

“If our goal in reforming current law were to make things more difficult for emerging technology, in order to protect current leaders against potential competition from purveyors of new media, then cleaving to old rules would be a satisfactory, if temporary, solution. . . It would probably delay the moment at which the current generation of dominant players in information and entertainment markets were succeeded by a new generation of dominant players in different information and entertainment market” (2001, p. 172).

In contrast, Litman asks how the question of copyright policy might be approached if viewed from the point of view of encouraging new technology and innovation. In that case, a policymaker would “recognize that copyright shelters and exemptions have, historically, encouraged rapid investment and growth in new media of expression” (*id.*). Her general observations are certainly applicable to the question of *sui generis* database rights. If the goal of public policy were to protect the position of the dominant commercial database producers at the expense of newcomers, then *sui generis* legislation would be an appropriate response. Yet this result is exactly what the dominant database producers seek.

As information and knowledge based resources constitute an expanding portion of the society's productive forces, efforts to enhance the exchange-value of those forces at the expense of their use-values acts as a fetter on the further development of the productive forces of society. Hence the terminology of the alternative model that frames this study, *information-for-society*.

The centrality of information in the automated production process, what Castells calls the essential characteristic of the informational mode of development, requires a reconceptualization of the rules regarding the ownership of information itself. From the point of view of intellectual property owners, this centrality of information points to the need for an expansionary intellectual property regime, particularly in the area of forms of information that are, in Morris-Suzuki's words churned out in a routine and monotonous manner. Such "industrial" information is found in the form of raw data contained in databases, the very type of information that existing copyright law, with its requirement of originality, does *not* protect.¹⁷⁸ Morris-Suzuki (1997, p. 17) highlights the importance of intellectual property law to the process of production:

“[the development of copyright and patent law] were crucial because the special properties of knowledge (its lack of material substance; the ease with which it can be copied and transmitted) mean that it can only acquire exchange value where institutional arrangements confer a degree of monopoly power on its owner.”

Information resources that are internal to a firm, including databases, may be protected through trade secret law. But one of the requirements for trade secret protection is that the firm takes reasonable steps to maintain the confidentiality of the information itself. In the case of trade secrets, the protected information presents a use-

value for the firm, that is, the information may be employed within the production process. But the requirement of confidentiality, or non-disclosure, removes the protected information from the realm of free-exchange, thereby compromising its exchange-value. While trade secrets have the potential of unlimited duration, they are fragile interests with significant limitations on transferability as well as disclosure through publication.¹⁷⁹ Patent protection may be available for certain processes, but like trade secrets, there are serious limitations on this form of protection. Patent protection would not apply to the data or information itself. And the inability of copyright law, with its requirement of originality, to reach individual data elements has been discussed at length.

Hence the move towards *sui generis* database legislation.¹⁸⁰ Unlike trade secret protection, database legislation enhances the exchange-value of information *vis a vis* its use-value. But not all branches of the “high-tech” industry stand in the same relationship to the information commodity as a component of the production process. In respect to the distinction between databases as an end consumer product and as an intermediate component in the production process, Morris-Suzuki is referring to the second instance. A high-tech firm that utilizes data as a component in its own production process would be likely to resist database legislation as part of its effort to keep the costs of constant capital down.

This divergence between the particular interests of different firms helps explain why different sectors of the information technology industries have taken contradictory positions on the database legislation issue.¹⁸¹ While the preceding analysis demonstrates the weakness in relying on simple pluralistic accounts of the policymaking process, it

also shows the danger in relying on the orthodox instrumental approach as well. An orthodox instrumental approach to policy analysis would try to explain database legislation as a reflection of the needs of the ruling class, the owners of the means of production. But in the diffuse information technology industry, it is impossible to locate the impetus for the legislation in such generalized terms. The commodity exchange theory present in chapter 3 provides an analytical frame that avoids the problems of liberal pluralist and orthodox instrumentalist accounts of the policy process because it focuses on the commodity form itself, the inherent contradiction between exchange-value and use-value. The same database presents this contradiction depending on the standpoint of the firm. For one company, the database is viewed as a use-value, something that is valuable because it presents some utility in the production process. For another, it is viewed as an exchange-value, produced not for satisfaction of an internal need, but for the purpose of exchange on the market. The contradiction between use-value and exchange value is just as visible in the case of the end-user consumer, who wants the data for its utility, its ability to satisfy an informational need.

To summarize the argument that *sui generis* database legislation would act as a fetter on the productive forces of society, it is useful to return to Stephen Maurer's Maurer's (2001) identification of three negative unintended consequences of the European Union Database Directive; excessive monopoly, increased transactions costs, and interference with data aggregation. The argument that new database restrictions would fetter society's productive forces can be made on any of the three grounds, but it is strongest with respect to interference with data aggregation.

The problem of excessive monopoly would make it more difficult for new players to enter the field, thereby solidifying the position of the established predominant firms. Yet even if monopoly power were adequately checked through heightened anti-trust and unfair competition law enforcement, the new database rights would still restrict access to and use of databases. The short run problem of monopoly control would still be significant. Even if a monopoly position were only temporary, the results would be significant, as the rapid pace of scientific research would nonetheless be slowed. The problem of increased transactions costs is most evident in the case where a database is derived from multiple contributors. Yet it would always be possible to implement collective licensing arrangements that would ease the severity of transaction costs, and such arrangements could no doubt be facilitated by technological controls. But like the problem of monopoly, the short-term implications of transactions costs are still sufficiently problematic to warrant concern. In a sense, the monopoly and transaction costs arguments are only a refraction of the contradictions underlying database protection. They are problems that are readily solvable within the existing framework of efficiency analysis, but such solutions do not address the underlying issue of the enclosure of previously common resources.

The problem of interference with data aggregation is more significant, and not as prone to longer-term palliatives. The need for database users to interact with and transform databases in the course of their research, and how the database rights would disrupt this pattern of usage has been discussed in chapter 2. Unlike the problems of monopoly or transactions costs, there is no feasible means to work around this problem

within the confines of liberal economic analysis. Once the contents of a database are enclosed through the application of the *sui generis* extraction and reutilization rights, access and use are thereby limited. The problem for researchers is not simply the increased costs of paying for databases that were previously available at little or no cost. That problem could perhaps be ameliorated through increased funding or the reallocation of resources, although it is unlikely that purchasing power would actually keep pace. The real problem is much deeper, going to the ability to actually use the database to its highest potential, that is, in an interactive and transformative manner. Once data is placed in a proprietary database that is subject to the extraction and reutilization right, the data becomes, in a sense, tainted. The broad use-value of the data has been dissolved by its now predominant exchange-value. The user is reduced to a mere consumer of a product that may be accessed and read only on a pay-per basis. The former ability to reutilize the data, combine it with other data, and store it for later use is lost.

Besides the significant impediments that *sui generis* database legislation would impose on the process of data use and aggregation, there is another unanticipated consequence of the European Database Directive that is only now beginning to emerge. Recently, European courts have interpreted the database right to preclude the practice of Internet deep linking.¹⁸² On July 5, 2002, a Danish court ruled that a news aggregator Web site's deep linking to individual articles on commercial newspaper Web sites violated the newspapers' rights under Denmark's implementation of the European Union Database Protection Directive.¹⁸³ A German court reached a similar result based on the German implementation of the Directive.¹⁸⁴ In the United States, a similar argument

based on copyright law was rejected by a Federal District Court in *Ticketmaster Corp. v. Tickets.Com, Inc.*:

“[h]yperlinking does not itself involve a violation of the Copyright Act... since no copying is involved. The customer is automatically transferred to the particular genuine web page of the original author. There is no deception in what is happening. This is analogous to using a library's card index to get reference to particular items, albeit faster and more efficiently.”¹⁸⁵

While the ultimate legal status of deep-linking remains to be clarified by the European courts, it is clear that many website owners read the Directive's extraction right very broadly, and such an interpretation has been accepted, at least by lower courts. In the United States, even without the adoption of *sui generis* database legislation, many website owners have similarly taken the position that deep linking to their sites is prohibited without their consent.¹⁸⁶ The inability of web designers to engage in the practice of deep linking would have profound consequences for the utility of the World Wide Web as a research tool.

A final problem resulting from the creation of database rights that warrants discussion is the phenomenon of crowding-out. There are two aspects to this problem. First, the private database industry is not willing to “peacefully co-exist” with the public provision or support of common pool data resources. A recent position statement of the Software and Information Industry Association (SIIA, 2001) requesting that the U.S. Department of Energy's discontinue its provision of PubSCIENCE,¹⁸⁷ an Internet portal, provides a case in point:

“The Department of Energy (DOE), through the Office of Scientific and Technical Information (OSTI) Web site, provides free, worldwide access to an extensive array of scientific and technical information. . . .

PubSCIENCE, one of ten Internet-based information initiatives offered by OSTI, is of great concern to the information industry because it: (1) enters into commerce, and (2) provides access to a database of bibliographic information that duplicates and competes with databases made available by private sector publishers.

PubSCIENCE facilitates a transaction between the user and the publisher for access to full text of information, a service similar to many products that were extant prior to the development of PubSCIENCE. These products were, and continue to be offered by multiple organizations as BIOSIS, Chemical Abstracts Services, Cambridge Scientific Abstracts, Reed Elsevier, the Institute for Scientific Information and the Institution of Electrical Engineers. However, the competition provided by PubSCIENCE makes it increasingly difficult for these private-sector companies (including both for-profit and not-for-profit) to continue offering their products. . . .

Current law and policies mandate agencies to take into consideration products and services already being provided within the private sector, and to utilize all dissemination channels, including the private sector, to perform information dissemination functions. SIIA urges DOE to review the OSTI Internet information products and resources, and to make changes accordingly to bring these efforts into compliance with existing policy. *Specifically, we request that PubSCIENCE be discontinued, and that other DOE products are reviewed to ensure that they do not provide similar unnecessary duplication of private sector activity*” (emphasis added).

In August 2002, the Department of Energy responded by proposing to discontinue the service. Their statement emphasizes the incompatibility between public and private provision of portal services:

Since its inception in 1999, PubSCIENCE has provided researchers and science-attentive citizens access to bibliographic records of peer-reviewed journal literature relating to DOE-supported work, addressing the need for a searchable gateway for the Department's Web patrons. Based on an extensive public/private sector collaboration, PubSCIENCE has covered journals of participating science publishers, including hyperlinks to the full text on publishers' servers.

More recently, private sector information products have emerged that freely offer bibliographic records to Web patrons. Provider systems such

as Scirus and Infotrieve have progressively increased the availability of freely searchable citations, and this trend is anticipated to continue. A recent comparison of the content between PubSCIENCE and Scirus and Infotrieve showed that 90% of the journal literature in the scope of PubSCIENCE was covered by these two products.

Taken as a whole, they provide coverage of information for DOE Web patrons. As a result of these findings, *DOE is hereby proposing to discontinue PubSCIENCE*” (emphasis added).¹⁸⁸

This development represents a marked change of DOE policy from when PubSCIENCE was unveiled at a ribbon-cutting ceremony in DOE’s office in October 1999. Three months after the opening, Walter Warnick (2000) the director of DOE’s Office of Scientific and Technical Information Director made the following comments:

“Today, almost all basic research is funded by the Federal government. But what good is basic research unless the resulting information is accessible and used? This is the driving factor in our push to make STI more accessible. A vision has emerged of the great potential that advanced digital technologies offer. By tapping into the Information Age, we can place STI right at the desktop, ready for use by DOE scientists and program managers to fuel the Department’s science mission. Secretary Richardson stated, ‘For science to rapidly advance at the frontiers, it must be open. And shared knowledge is the enabler of scientific progress.’ . . .

PubSCIENCE is the culmination of an agency’s lifetime tradition of scientific and technical information dissemination that now is bringing information to the desktop. It was developed to facilitate searching and accessing peer-reviewed journal literature in the physical sciences and other energy-related disciplines to meet the researcher’s growing need for scientific information at the desktop.”

Later in the presentation, Warnick spoke of his agency’s vision for expanding the portal and ultimately of plans for a National Digital Library that “not only fosters the dissemination of information, but its preservation as well. It would be the surest way to promote permanent public access to government information. Additionally, the term National Digital Library announces to the world that the agency has information

resources of which it is proud.” But within a year, plans were being made to dismantle the project. In June 2001, the House Appropriations Committee targeted PubSCIENCE for funding cuts.¹⁸⁹ Robin Peek (2001) reported that the proposal to cut PubSCIENCE’s funding resulted from lobbying efforts by the Software and Information Industry Association (SIIA). She added, “[i]t’s expected that SIIA, which represents member companies such as Reed Elsevier and ISI, will next go after the National Library of Medicine’s PubMed. Although it seems unlikely that the group could dismantle the widely supported PubMed, it could attempt to limit its growth.”

The second aspect to the crowding-out problem is the effect that database legislation could have on other non-profit database providers. Once a database right is in place, it may be increasingly difficult for non-profits to maintain open access databases, and the danger is that they may be induced to adopt a mimetic response to commercialization. Stephen Maurer (2000, p. 25) recognizes this problem as an additional potential consequence of database legislation:

“Current legislative proposals are designed to encourage commercial production. These incentives cannot be limited to traditional entrepreneurs. This means that new legislation will *also* encourage nonprofit and volunteer databases to go commercial. Over time, this could lead to a kind of avalanche in which new databases could no longer afford to buy startup data except by going commercial themselves.”

While Maurer presents a strong critique of database legislation, and the threats it poses to the research processes, he stops short of providing a critique of market mechanisms or of the commodification of information in general. His observations may be enriched by placing the contradiction between the use-value and exchange-value of data at the center of the analysis, and by reading policy developments as a moment in

their reconfiguration. In this way, the incompatibility between market mechanisms and the fullest possible beneficial use of information resources becomes visible.

Database legislation would not merely create inconveniences for researchers or marginally increase the cost of research activities. There is ample evidence to assert that the changes brought about by *sui generis* database legislation would not simply be quantitative or marginal; they would represent a qualitative shift in how productive forces could be employed. Advances in information technology have indeed led to a maturation of the productive forces in society such that they are ripe for replacement. Given the manner in which databases are used, the *sui generis* database right would act as a fetter on the productive forces of society in the sense anticipated by Marx.

II. The Critical Theory of Intellectual Property and Incentives

The critical theory of intellectual property policy attempts to de-couple the notion of economic incentives from innovation. Any critical theory of intellectual property must explicitly treat this issue of incentives because of its centrality as a justification in traditional intellectual property theory. The assumption that direct economic incentives are a requisite for innovative and productive activity lies at the heart of traditional intellectual property theory. Marx's theory of alienation provides the conceptual tools needed to show that the incentive theory of innovation is contingent on certain historical conditions that need not be accepted as universal.

Incentives are at the root of utilitarian justifications for intellectual property laws and proponents of expansionary laws often speak to the need for greater incentives. But they do not adequately consider the appropriate balance between incentives and costs of

over-protection. As Adam Segal (1997, p. 72) pointed out, overprotecting intellectual property is just as harmful as under protecting it:

“Creativity is impossible without a rich public domain. Nothing today, likely nothing since we tamed fire, is genuinely new: Culture, like science and technology, grows by accretion, each new creator building on the works of those who came before. Overprotection stifles the very creative forces it’s supposed to nurture.”

While incentives are no doubt a relevant policy consideration, the question of the minimum level of incentive needed to spur creativity and progress remains unanswered and mostly unasked. The failure of intellectual property policy analysis to seriously grapple with this important question is based on the strong coupling between the issues of innovation and economic incentives. It is simply presumed that direct economic incentives are a requisite for innovation in a strict causal sense. Taking this relationship as an unquestioned starting point results in distortions that are only complicated by the fact that there are different types of incentives for different sorts of works. As the examples in the next section indicate, many authors publish the results of their research or engage in software development work for reasons other than direct pecuniary remuneration.

A. Non-Pecuniary Incentives and Innovation

Paul Ginsparg’s work at the Los Alamos National Laboratory is widely pointed to as the leading prototype demonstrating the potential of electronic scholarly publishing outside of normal market structures. Ginsparg (1994, 1996) describes the automated archives for electronic communication in physics and other disciplines in operation since 1991. He argues that many of the lessons learned from this system should carry over to

scholarly communications in other disciplinary fields of where authors are not writing for direct financial remuneration. He emphasizes that the system is not simply an electronic clone of articles available in print since the electronic medium need not be constrained by any former print incarnation. In 1991, the initial database was limited to the sub-field of high-energy physics. It was intended to reach a community of less than 200 specialists working on a specific problem. But within a few months, there were over a thousand users. While the high-energy physics community had a pre-existing hardcopy preprint tradition, Ginsparg argues that such a pre-existing tradition is not a necessary condition for acceptance of an electronic preprint archive. Databases for additional areas of physics and some other fields were added and by 1996 there were over 35,000 users. Ginsparg is careful to distinguish scholarly communications from trade publications. The motivation driving scholarly communication is to communicate research information in order to establish a reputation or to demonstrate priority. But Ginsparg believes that if the author is willing to write without the expectation of making money in the form of direct royalty income, then no one else should do so either. But this arrangement runs counter to the expectation of commercial publishers, who seek to derive an income stream from the work of other authors based on an often-minimum amount of added value.

This reasoning applies to the humanities as well, as Robert Hurt and Robert Schuchman (1966, p. 425) point out:

“The massive literary and dramatic production during the centuries before copyright protection was enacted demonstrate that there are other motives for the creation of intellectual property than the expectation of monopoly profits. Many authors commit ideas to paper without any intention of having them published. Some, like Franz Kafka, express a wish that their creations be destroyed upon their death. Other authors actually pay for all

or part of the costs of publication of their creations, in order to satisfy other desires than direct economic remuneration.”

A recent report issued by the Association of Research Libraries (1998), stated that, “most faculty members understand that the economic value of research results lies not so much in the fact of publication as in the stature and hence market position that a consistent history of publication brings to an individual.”

Another example of non-remunerative incentives can be found in the open-source movement among software developers. In September 1983, MIT researcher Richard Stallman announced the formation of the GNU Project, an antecedent to what is now known as the open-source movement.¹⁹⁰

“Free Unix! Starting this Thanksgiving I am going to write a complete Unix-compatible software system called GNU (for Gnu's Not Unix), and give it away free to everyone who can use it. Contributions of time, money, programs and equipment are greatly needed.

To begin with, GNU will be a kernel plus all the utilities needed to write and run C programs: editor, shell, C compiler, linker, assembler, and a few other things. After this we will add a text formatter, a YACC, an Empire game, a spreadsheet, and hundreds of other things. We hope to supply, eventually, everything useful that normally comes with a Unix system, and anything else useful, including on-line and hardcopy documentation” (Stallman, 1983).

Stallman went on to explain his motivations for undertaking the project:

“I consider that the golden rule requires that if I like a program I must share it with other people who like it. I cannot in good conscience sign a nondisclosure agreement or a software license agreement. So that I can continue to use computers without violating my principles, I have decided to put together a sufficient body of free software so that I will be able to get along without any software that is not free” (*id.*).

Stallman ended his communiqué with a call for assistance:

“Individual programmers can contribute by writing a compatible duplicate of some Unix utility and giving it to me. . . If each contribution works with the rest of Unix, it will probably work with the rest of GNU.

If I get donations of money, I may be able to hire a few people full or part time. The salary won't be high, but I'm looking for people for whom knowing they are helping humanity is as important as money. I view this as a way of enabling dedicated people to devote their full energies to working on GNU by sparing them the need to make a living in another way” (*id*).

Stallman’s choice of words is instructive. He spoke of “sparing” developers from the need to otherwise make a living. Eric Raymond later wrote that:

“The history of Unix should have prepared us for what we're learning from Linux . . . That is, that while coding remains an essentially solitary activity, the really great hacks come from harnessing the attention and brainpower of entire communities. The developer who uses only his or her own brain in a closed project is going to fall behind the developer who knows how to create an open, evolutionary context in which bug-spotting and improvements get done by hundreds of people.

But the traditional Unix world was prevented from pushing this approach to the ultimate by several factors. One was the legal constraints of various licenses, trade secrets, and commercial interests” (Raymond, 1998).

Eschewing direct financial gain in order to engage in cooperative productive activities is not necessarily inconsistent with reaping eventual financial benefits. In a 1998 interview with *First Monday*, Linux developer Linus Torvalds was asked what motivated him to work on Linux. His response stressed reputational factors:

"There's a lot of tangible indirect value for doing Linux. I may not get paid directly from the Linux project itself, but my current work position is obviously in large part due to Linux: without Linux I would never have gotten the name in the computer industry that I now have, and without Linux I wouldn't have had the same kinds of possibilities open to me as I now have" (First Monday, 1998).

Non-monetary motivations include altruism, the propagation of political, ethical or religious ideas as well as the desire for recognition and ultimately promotion and

security. But if productive research and development is inhibited because of lack of access to necessary materials, little is gained by pointing to the financial incentives of those who control the inaccessible information. Nonetheless, little attention has been paid in intellectual policy analysis to putting the issue of economic incentives into some reasonable perspective. Rather, it is taken as a given. The case study in chapter two is replete with examples of how proponents of an expansionary policy legitimate their positions by pointing to the need for incentives. The concepts of economic incentives and innovation have been bound together to the point of conflation.

B. Decoupling Innovation from Incentives and the Theory of Alienation

Decoupling the concepts of financial incentives and productive innovation allows several questions that were previously suppressed to be asked. What motivates human beings to be productive? To what extent do non-monetary considerations influence the productivity of an individual, of a group, or of a society? The argument is often made that in order to survive; an author or inventor needs intellectual property protection. Is the need for financial remuneration necessarily the driving motivation for productive activity, or is it particular to a specific historical condition?

While traditional intellectual property theory takes the need for economic incentives as a given, the critical theory of intellectual property sees economic incentives as particular to a certain social structure. While traditional intellectual property theory elevates the notion of economic incentive to a universal status, the critical theory of intellectual property sees the need as a particular condition that can possibly be transcended. Traditional intellectual property theory, rooted in the *information society*

model, reifies the concept of economic incentives as a requisite for productive activity. As Hurt and Schuchman (1966, p. 432) conclude, “the traditional assumption that copyrights enhance the general welfare is at least subject to attack on theoretical grounds; the subject certainly deserves more investigation and less self-righteous moral defense.”

The remainder of this section argues that in order to avoid the conflation of incentives with innovation, the nature of financial incentives needs to be placed in historical context. This is not to deny any causal link between economic incentives and innovation in the current environment whatsoever. But it is to say that direct pecuniary incentives are not the only spur to productivity. Given the social costs of limitations on access, a coherent policy framework should at least consider the possibility that innovation would not collapse but for strong intellectual property laws. While proponents of additional proprietary restrictions on information tend to universalize the centrality of a particular species of incentives, Marx's theory of alienation provides the conceptual tools needed to show that the incentive theory of innovation is contingent on certain historical conditions.

Marx's theory of alienation is set forth in a passage entitled *Estranged Labor* in the *Economic and Philosophical Manuscripts* written in Paris in 1844. He begins the fragment with a general critique of the analysis of the classical political economists:

“Political economy begins from the fact of private property; it does not explain it. It conceives the material process of private property, as this occurs in reality, in general and abstract formulas which then serve as its laws. It does not comprehend these laws; that is, it does not show how they arise out of the nature of private property. Political economy provides no explanation of the basis for the distinction of labour from capital, or capital from land” (1844/1964, p. 120).

While Marx borrowed many concepts from classical political economy, his main criticism was that the political economists failed to grasp the historical specificity of capitalist social relations. While the political economists tended to universalize the particular social relations they studied, Marx tried to place them in a historical context, as contingent circumstances that were socially constructed. If particular social relations are socially constructed, then alternative arrangements could be constructed as well. So instead of simply assuming private property as a natural and necessary condition of social life, Marx tried to “comprehend” this condition by asking how it arose.

“[W]e now have to grasp the real connexion between the whole system of alienation –private property, acquisitiveness, the separation of labour, capital and land, exchange and competition, value and the devaluation of man, monopoly and competition – and the system of money”

Let us not begin our explanation, as does the economist, from a legendary primordial condition. Such a primordial condition does not explain anything; it merely removes the question into a grey and nebulous distance. It asserts as a fact or event what it should deduce, namely, the necessary relation between two things; for example, between the division of labor and exchange. In the same way theology explains the origin of evil by the fall of man; that is, it asserts as a historical fact what it should explain” (*id.*, p. 121).

Marx then set out four different senses of alienation: (1) alienation from the products of labor; (2) alienation from the productive process; (3) alienation from species being; and (4) alienation from others.

In the first sense of alienation, the object that labor produces, its product, stands opposed to it as something alien, as a power independent of the producer:

“ . . . the object produced by labor, its product, now stands opposed to it as an alien being, as a power independent of the producer. The product of labour is labour which has been embodied in an object and turned into a physical thing; this product is an objectification of labour. The

performance of work is at the same time its objectification. The performance of work appears in the sphere of political economy as a vitiation of the worker, objectification as a loss and as servitude to the object and appropriation as alienation” (*id.*, p. 122).

The externalization of the worker in the product or their labor becomes an independent object and confronts the worker as an autonomous power. While Marx was speaking about tangible commodities (e.g., one may think of any widget rolling down an assembly line) as the objectification of the worker’s labor, the concept also applies to the products of intellectual labor. In the realm of copyright law, the “work-for-hire” doctrine provides that the product of the author’s work belongs to the employer, not the author.

Section 201(b) of the Copyright Act provides:

“In the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author for purposes of this title, and, unless the parties have expressly agreed otherwise in a written instrument signed by them, owns all of the rights comprised in the copyright.”¹⁹¹

The second aspect of alienation is estrangement from the productive process itself:

“...alienation appears not merely in the result, but also in the process of production, within productive activity itself. How could the worker stand in an alien relationship to the product of his activity if he did not alienate himself in the act of production itself? The product is indeed only the resume of activity, of production. Consequently, if the product of labor is alienation, production itself must be active alienation - the alienation of activity and the activity of alienation. The alienation of the object of labor merely summarizes the alienation in the work activity itself” (1844/1964, p. 124).

By connecting the act of production with the result of production Marx implicates the development of the forces of production with the concept of alienation. Marx asks how the product of the production process could confront the worker as something alien

if it were not for the fact that in the act of production he was estranging himself from himself.

The third aspect of alienation is man's estrangement from his species being:

“It is just in his work on the objective world that man really proves himself as a species-being. This production is his active species-life. By means of it nature appears as his work and his reality. The object of labor is, therefore, the objectification of man's species-life; for he no longer reproduces himself merely intellectually, as in consciousness, but actively and in a real sense, and he sees his own reflection in a world in which he has constructed. While, therefore, alienated labour takes away the object of production from man, it also takes away his species-life, his real objectivity as a species being, and changes his advantage over animals into a disadvantage in so far as his inorganic body, nature, is taken from him. Just as alienated labour transforms free and self-directed activity into a means, so it transforms the species-life of man into a means of physical existence” (*id*, p. 128).

Marx extends the workers' estrangement from the product of labor and the labor process to an estrangement with one's spiritual essence. This estrangement also affects one's relationships with others, as the fourth aspect of alienation:

“A direct consequence of the alienation of man from the product of his labour, from his life activity and from his species-life, is that man is alienated from other man. When man confronts himself, he also confronts other men. What is true of man's relationship to his work, to the product of his work and to himself, and to himself, is also true of his relationship to other men, and to the labor and the objects of their labour” (*id*, p. 129). labor of other men.”

Through this analysis, Marx is able to relate two seemingly unrelated concepts, private property and alienation:

“We have... derived the concept of alienated labour (alienated life) from political economy, from an analysis of the movement of private property. But the analysis of this concept shows that although private property appears to be the basis and cause of alienated labor, it is rather a consequence of the latter, just as the gods are fundamentally not the cause but the product of confusions of human reason. At a later stage, however,

there is a reciprocal influence. Only in the final stage of development of private property is its secret revealed, namely, that it is on one hand the product of alienated labour, and on the other hand the means by which labour is alienated, the realization of this alienation” (*id.*, p. 131).

Using this reasoning, it appears that the incentive theory of intellectual property is based on circular logic. Creating property rights is said to be necessary to motivate purposeful productive activity. The circularity of the logic was most recently expressed in the debate over copyright term extension where the proponents actually argued that the retroactive twenty-year addition to the term was justified on incentives grounds. It is hard to imagine how such additional incentives motivate dead authors, but the argument carried the day, at least with the US Congress.¹⁹² The copyright term extension debate illustrates how incentives are freely used as a legitimation for extending the proprietary value of existing intellectual property rights. Yet it is the very social relations that give rise to these property rights that also create the conditions for alienated labor. By decoupling incentives from innovation, and applying the logic of Marx’s theory of alienation, a number of observations can be made.

Since most humans are inherently productive, any theory that requires extrinsic incentives as a prerequisite to productive activity needs to be questioned. It needs to be questioned on the basis of its logical inconsistency, and the additional question needs to be asked: what intervening factor accounts for the need for extrinsic incentives when humans are already intrinsically prone to productive activity?

The intervening factor is the state of alienated labor that arises from a particular form of social relations. While creating additional financial incentives seems to be the answer to the dilemma, in the long run, it only exacerbates the problem. But the reality in

capitalist society is that those engaged in creative intellectual labor often have no choice but to enter into exchange relationships. The answer to this dilemma poses a crucial challenge for those engaged in the intellectual property policy process and will be further addressed in the concluding chapter.

III. Situating the Critical Theory of Intellectual Property Policy within the Information-for Society Model

This section will situate the critical theory of intellectual property policy within the *information-for-society* model. The components of the theory are closely interrelated and must be considered as part of a totality. It is not possible to address the dereification of the information society without first considering the decommodification of information, the dereification of intellectual labor and information technology, and the deconstruction of an efficiency-based intellectual property regime.

A critical theory of intellectual property needs to address all of the above aspects of the reification problem. Boiled down to its essence, the theory contains the following elements:

1. There is an inherent tension between the use-value and exchange-value, the dual and contradictory aspects of the information commodity. Information intrinsically possesses use-value, but exchange value is only imposed extrinsically through the employment of artificial exclusion mechanisms. Information is, by its nature, a collective good.
2. The value in “intellectual property” is created by human labor. Labour power continues to be the only commodity that has the capacity to add value within

the production process. Information technology does not, in itself, create value. It only carries that value embedded within it through the labour process.

3. Contemporary informatization is historically situated within and is a continuation of the logic of the capitalist mode of production. Within this mode of production, expansionary intellectual property laws hamper the development of the productive forces. At the same time, these expansionary tendencies are driven by the logic of commodification, that is the enhancement of exchange-value *vis a vis* use-value.
4. Direct pecuniary incentives are not a universal requisite to innovation, but must be understood as appearing as such only in the particular historical context characterized by alienated labour. As human nature is inherently productive, the issue of economic incentives needs to be placed in that perspective and intellectual property policy needs to be more cognizant of the possibilities of de-alienated labor.
5. Any theory of law, including the critical theory of intellectual property policy, does not exist in a vacuum, as a self-contained autonomous phenomena. As such, the theory needs to be situated within a broader social, economic and political context. The *information-for-society* model provides such a framework.

Table 4.3 summarizes the relationship between the critical theory of intellectual property policy and the *information-for-society* model.

Table 4.3: Situating the Critical Theory of Intellectual Property Policy within

the Information-for-Society Model

	Information-for-Society Model	Critical Theory of Intellectual Property Policy
Metatheoretical Assumptions	Positivistic and scientific outlooks are rejected in favor of a critical epistemological and methodological framework that recognizes the value-laden nature of the production of knowledge Normative logic is based on social theorizing.	IPP is theorized as a historical phenomena and utilizes a dialectical analytical approach. Quantitative accounts that privilege information resources as discrete assets of private firms are rejected.
The Nature and Characteristics of Information	A broader definition of information emphasizes meaning, knowledge and other non-quantifiable factors. Information is a social construction.	Information is viewed first as a constitutive resource in society. The rules governing the creation, dissemination and use of information begin with the assumption the information is a social process, not a thing.
Philosophy of Technology	Substantive/normative theory sees technology as deeply imbedded in social, cultural economic and political relations. Technology is not an independent determinant of other social processes, but is part of a broader ensemble of social relations.	Following the normative theory of technology, information technology is viewed as a useful tool, but not as a determinant of other social variables. Technological resources are constituted as productive forces in a public domain where they may be utilized to satisfy human needs and facilitate the information transfer process.
Historical Viewpoint	The continuity thesis sees advances in information technology and related transformations as reflective of existing capitalist relations present under industrial society.	IPP is viewed in its historical context and recognizes that certain rules that were necessary in earlier modes of development may no longer be necessary due to technological advances. The expansion of IP rules corresponds to a definite stage of capitalist development and performs a function of enabling further accumulation.

Economic Aspects of Information	Reliance on the “free-market” allocation model is rejected in favor of an approach rooted in political economy. The public provision of information goods is a social goal that is consistent with the public goods nature of information. The trend towards expanding proprietary interests in information is viewed as problematic	Information is viewed as a public, or collective, good. The tension between the use-value and exchange-value is resolved in favor of use-value in that attempts to enhance exclusion mechanisms are rejected. An approach rooted in political economy involves the dereification of information and information technology. The rights of authors are recognized in a copyright regime that is centered on protecting personal/moral rights and that de-emphasizes the role of transferable economic rights in works.
Stratification and Class and Information Work	A critique of the widening stratification in society accompanies a less optimistic viewpoint of the impact of technology on the labor process. The question of antagonistic class relations in society, and how they may be shifting, is explicitly recognized.	The conflict between authors/inventors and corporate owners is explicitly recognized, and the rules allocating IP rights are reformulated to avoid the disaggregation of rights from initial creators and subsequent users. Authors/inventors are viewed as users of information with an interest in open access within a vibrant public domain. Through a process of de-alienation of intellectual labor; incentives towards creativity are fostered outside of the market system.
Ideology	A dominant ideology of the information age is recognized as a form of hegemony.	An open information transfer process is viewed as a counter-hegemonic force. Existing intellectual property rules are critiqued as forms of a dominant ideology of accumulation that needs to be deconstructed

The narrow construction of information that is inherent in the *information society* model is broadened to understand information as having the potential to be something other than a commodity. Information is understood as a social phenomenon that is not intrinsically suited to being captured in the price system central to positive economic analysis. While information technology is viewed as a useful tool, capable of enabling increased productivity, it is not raised to the level of a determinant of other social variables. Technological resources are constituted as productive forces in a public domain where they may be utilized to satisfy human needs and facilitate the information transfer process. Following the normative philosophy, such a utilization of information technology is not inherent in the technology itself; it is an explicit policy choice made by society.

The drive towards *sui generis* database legislation, as well as other moves towards an expansionary intellectual property rights, are components of a broader strategy to develop an information policy regime that constructs information and information technology in a manner compatible with the logic of commodification. Such a process is firmly rooted in this logic; it is not a new aspect of the information age. Proponents of the “new economy,” or the “information economy” often gloss over the fact that the commodification of information is a deep reflection of, and arises out of, the economic logic of the industrial age. Furthermore, the expansion of intellectual property rights serves the function of promoting accumulation at a time when the rising organic composition of capital threatens to dampen the rate of profits.

It is evident that a growing percentage of the population is engaged in what is variously characterized as knowledge work, intellectual work, information work, symbolic processing, or knowledge engineering. The dominant ideology of the information age is grounded in the assumption that knowledge work is becoming the predominant form of labor, superseding the relations of the industrial age. But it does not account for the possibility that as intellectuals, or knowledge workers, become larger in number, and account for more of a nation's wealth, they will increasingly find their interests in conflict with the status quo and adopt an oppositional stand.

The conflict between authors and inventors, on the one hand, and corporate owners on the other, is explicitly recognized in the critical theory of intellectual property. The existing rules that allocate intellectual property rights between capital and labor need to be reformulated in order to avoid the disaggregation of rights from initial creators and subsequent users. The conflict between informational labor and capital is clearly reflected in intellectual property law through the rules allocating ownership of rights in the case of an employment relationship. Existing rules allocating these rights to the owner are ingrained in modern statutes and are hardly considered controversial provisions. Yet these rules are constitutive of a range of social relations within the *information-society* model. Through a process of de-alienation of intellectual labor, incentives towards creativity may be fostered outside of the market system.

Finally, the critical theory of intellectual property policy is part of a counter-hegemonic project to deconstruct the dominant ideology of the information age. In chapter 2, Duncan Kennedy's (1997) criteria for whether a conflict over the definition of

a rule of law should be considered ideological was applied to the issue of *sui generis* database legislation. Based primarily on the tendency of the proponents to couch the need for new legislation in universal terms, the struggle was viewed as ideological. It was also considered a long-run conflict in contrast to a “dialogue.” Using these criteria, the conflict over database legislation should be viewed as a long-term ideological conflict that is situated within a broader ideological struggle over the manner in which information and knowledge is constructed, created and disseminated.

Addressing the process of dereification, Duncan Kennedy (1985, p. 994) observes that, “[a]s is always the case with the dereifying enterprise, the goal was to show that we can do things in a number of different ways, and ought consciously to choose among them, rather than merely submitting to the status quo.” The final chapter will consider strategies for implementing the critical theory of intellectual property policy as an instance of such a dereifying enterprise.

Endnotes to Chapter 4

- ¹³⁵ Kellner does not rely solely on Marxian theory for the development of such a radical discourse. He points to the need for a "theoretical and political synthesis, drawing on the best of classical Enlightenment theory, Marxian theory, feminism, and other progressive theoretical and political currents of the present " (p. 25-26). These other theoretical currents inform the various strands of the *information -for-society* model as well as critical Marxism.
- ¹³⁶ In addition to the first chapter of *Capital*, Marx discussed the commodity form in his earlier works such as the *Grundrisse* and *A Contribution to a Critique of Political Economy*.
- ¹³⁷ Marx quotes Aristotle in footnote 1 to chapter 1 in *Contribution to a Critique of Political Economy* (1970, p. 27): "Of everthing which we possess there are two uses:... one is the proper, and the other the improper or secondary use of it. For example, a shoe is used for wear, and is used for exchange; both are uses of the shoe. He who gives a shoe in exchange for money or food to him who wants one, does indeed use the shoe as a shoe, but this is not its proper or primary purpose, for a shoe is not made to be an object of barter. The same may be said of all possessions.... " (Aristotle, *De Republica*, L.I, C.)
- ¹³⁸ Marx quotes Locke (in footnote 3 to chapter 1 of the first volume of *Capital*): "The natural worth of anything consists in its fitness to supply the necessities, or serve the conveniences of human life." (John Locke, "Some Considerations on the Consequences of the Lowering of Interest, 1691L," in *Works* Edit. Lond., 1777, Vol. II., p. 28.)
- ¹³⁹ In an 1867 letter to Engels, Marx emphasizes the importance of the distinction between concrete and abstract labor: "The best points in [*Capital*] are: the two-fold character of labor, depending on whether it is expressed in use-value or exchange-value (all understanding of the facts depends upon this). It is emphasized immediately, in the first chapter." Marx to Engels, August 24, 1867. Marx-Engels (1975, p. 180).
- ¹⁴⁰ *Value, Price and Profit* is an English translation of an 1865 address by Marx in which he provides a condensed explanation of his theory of value and other concepts from *Capital*, his work then in progress.
- ¹⁴¹ The concepts of "rivalry in consumption" and "exclusion mechanisms," and their indispensability for the operation of the market's pricing mechanisms will be treated in detail in the following section.
- ¹⁴² In the following discussion, the concepts of "public goods" and "private goods" are used as broad organizing concepts and are presented in their ideal typical formulations. But all goods cannot be classified in one or the other pure form and often display mixed characteristics.
- ¹⁴³ Failure of competition may be remedied through Antitrust or other Unfair Competition Laws. The common example given for externalities is pollution, which can also be controlled through regulation. Imperfect information may be mitigated through disclosure, fair reporting requirements as well as through the common law of fraud.
- ¹⁴⁴ From *Wealth of Nations*, IV, ix, p. 51.
- ¹⁴⁵ Other durable consumer products are also private goods even though their depletion by an owner may occur over a longer period of time. If a consumer purchases an automobile, hammer, or washing

machine, that item is no longer available to satisfy the needs of other consumers.

- ¹⁴⁶ This is not to say that profit-seeking firms will not contract with the government to produce elements of public goods. Public provision does not necessarily imply public production, the private, for-profit, defense industry being a prime example.
- ¹⁴⁷ Government may directly provide the good or service, they may impose regulations that require private producers to provide the good or service, usually in return for some other privilege, or they may subsidize provision through private philanthropy in the form of tax deductions for their donors.
- ¹⁴⁸ Olson uses the term “groups” broadly and points out that the collective nature of a good may only go to a particular group. He uses the example of a parade that is a collective good for those with windows looking onto the route, but a private good for those who must purchase a ticket for a seat in the stands.
- ¹⁴⁹ As technology improves, the transaction costs associated with imposing an exclusion mechanism may drop enough to warrant the imposition of the mechanism where it was previously not feasible. Thus fine-grain metering of individual transactions is enabled through advances in information technology.
- ¹⁵⁰ An exception to this generalization would be informational resources that have a limited time value and loses value as it is disseminated (i.e., hot news, sensitive market information).
- ¹⁵¹ An analogy may be drawn here to Marx's distinction between constant and variable capital. Surplus value may only be generated from the latter.
- ¹⁵² This conflict about the nature of information is the essence of the second strand of the competing models discussed in chapter 1, section II, *supra*.
- ¹⁵³ Presumably, the answer would center on the need for market incentives to spur creativity in the first instance. This issue is addressed in section II, *infra*.
- ¹⁵⁴ To support this contention, Poster argues, “When Denis Diderot, the eighteenth century liberal, included in his *Encyclopedia* detailed information about the production processes in the major crafts, he hoped to destroy the principle of secret knowledge that was a mainstay of the old guild system. The wealth of a democratic nation, he thought, depended upon the unimpeded circulation of scientific and technical information” (*id*). In 1948, the United Nations Universal Declaration of Human Rights included the right to seek and receive information in Article 19: “Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.” In today’s intellectual property environment, Diderot’s desire to disseminate secret information about production processes would probably place him on the receiving end of a trade secrets lawsuit.
- ¹⁵⁵ While this visualization is useful in that it helps to illustrate the partial nature of rivalry and exclusion in many instances, attempts to quantify these relationships and analyze them in mathematical terms should be avoided as this quantification is an oversimplification of the relationships between rivalry and exclusion.
- ¹⁵⁶ The matter of non-rivalry is complicated by the problem of congestion. As congestion increases, a

degree of rivalry is introduced.

- ¹⁵⁷ To suggest that technological feasibility is itself a sufficient condition would be a form of technological determinism. The issue of enforceability of effective exclusion mechanisms is also a highly contested political issue. See chapter 2, section I B, *supra*.
- ¹⁵⁸ This statement is not to suggest that advanced information technology is therefore neutral. It is to say that particular technological systems are configured with economic, political and social values in mind by those who design and control them. See the discussion in Chapter 1, section III, *supra*.
- ¹⁵⁹ The example of fees for services in public libraries is an example of this dilemma.
- ¹⁶⁰ In contrast to merit goods that create positive externalities, “demerit goods” create negative externalities. An example is the negative effects of tobacco consumption on third parties, both in terms of second hand smoke and increased health care costs. Demerit goods are generally produced as private goods in the market, but their consumption can be discouraged through taxation or further regulated through the government’s health and safety powers.
- ¹⁶¹ This generalization is not to suggest that all information goods are meritorious. Pornography and hate-propaganda are two examples.
- ¹⁶² Henry Richardson (2001, p. 136) argues that cost-benefit analysis underlying standard of choice “makes no room for intelligent deliberation about how to best use our resources,” and that it ‘defeats its own aims.’”
- ¹⁶³ In an essay defending cost-benefit analysis from its critics, Robert Frank (2001, p. 78) argues, “Scarcity is a simple fact of the human condition. To have more of one good thing, we must settle for less of another. Claiming that different values are incommensurable simply hinders clear thinking about difficult trade-offs.”
- ¹⁶⁴ Public libraries provide an excellent example of the merit good problem. In figure 3.3, public libraries would be in the lower portion of the diagram to the left of center. There is low rivalry in consumption (but there is some as a particular book may be off the shelf). There is also low exclusion, but there can be some depending on how the library administers various levels of privileges. For example, borrowing privileges may be reserved to local residents while the library remains open to the general public. In public academic, private academic and special libraries, the level of exclusion increases respectively.
- ¹⁶⁵ The current controversy over non-copyable CD’s, some of which have been found to cause damage to particular computers presents another example. But with the passage of the DMCA (see Chapter 2, section IB, *supra*) anti-circumvention measures have the additional backing of the force of law and cannot be avoided without incurring civil and criminal liability.
- ¹⁶⁶ This intermediate approach is the theory behind HR 1858, the alternative database bill discussed in chapter 2, section III D, *supra*.
- ¹⁶⁷ For a discussion of the attribution of this quote in various different versions and its use by different authors, see Clarke (2001). Clarke reports that Stuart Brand confirmed first making the statement in 1984: “In fall 1984, at the first Hackers’ Conference, I said in one discussion session: ‘On the one hand information wants to be expensive, because it’s so valuable. The right information in the

right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other.' That was printed in a report/transcript from the conference in the May 1985 *Whole Earth Review*, p. 49. Clarke also cites Brand (1987, p. 202) for the passage: "Information Wants To Be Free. Information also wants to be expensive. Information wants to be free because it has become so cheap to distribute, copy, and recombine---too cheap to meter. It wants to be expensive because it can be immeasurably valuable to the recipient. That tension will not go away. It leads to endless wrenching debate about price, copyright, 'intellectual property', the moral rightness of casual distribution, because each round of new devices makes the tension worse, not better." Brand's observation that each new device accelerates the tension was indeed prescient.

- ¹⁶⁸ In the *Wealth of Nations*, Adam Smith argued that the value of commodities depends on the quantity of labour required to produce it, but only in the limited situation where the entire produce of labour belongs to the labourer. (Smith, 1776, vol 1, p. 54). In the later stage of development, the price of the commodity is obtained by adding its component parts: wage, rent, and profit (id: 59).
- ¹⁶⁹ Ricardo differed from Smith by recognizing that even when the value of the product goes partly to the laborer and partly to the capitalist, the value is still determined by the labor. Marx's break with Ricardo is based on his development of the dual nature of labor as concrete and abstract and his recognition that the use-value of labor power creates a surplus of its exchange value expressed as wages.
- ¹⁷⁰ See chapter 1, section IV, A, *supra*, for a discussion of the problems associated with the supersessionist historical viewpoint.
- ¹⁷¹ Another important difference between a work for hire and an assignment is that in the case of an assignment, the original author retains certain reversionary rights that may take effect 35 years from the grant (17 USC section 203). To appreciate the significance of this provision, one need only consider popular music from the 1960's and 70's as examples of older works that retain significant commercial value. Currently, recording stars led by the Eagles' Don Henley are taking legal action to challenge the classification of their works by big recording labels as "works for hire."
- ¹⁷² In the case of intellectual property policy, while these relations may have been static in 1967, that is no longer the case. But rather than move in the same direction as the dynamic forces of production, it appears that the relations of production are better characterized as regressive rather than static.
- ¹⁷³ These historical justifications that are being rendered moot are based on the former need for information to be embodied in a container that was itself rivalrous in consumption and subject to an exclusion mechanism (see text accompanying note 131, *supra*.)
- ¹⁷⁴ Castells' point here may be differentiated from Bell and Drucker's claim that the knowledge theory of value has superseded the labor theory of value. Castells' argument goes to the level of the surplus, not its distribution. Castells does not claim that the underlying relationship between labor and capital has been transformed in any qualitative manner or that exploitation is absent in the information intensive workplace.
- ¹⁷⁵ See the discussion on the special nature of labour power as a commodity, pages 247-49, *supra*.
- ¹⁷⁶ The emphasized portion of the passage bears similarity to Castells' (1989, pp. 15-16) notion of

“society’s symbolic capacity.” (note 1, *supra*)

¹⁷⁷ The passage from the Preface preceding this one is quoted on page 254-55 *supra*.

¹⁷⁸ In chapter 2 section IIA, the distinction was made between databases containing works, or portions of works, in which copyright already subsists; and databases containing non copyrightable elements. Databases utilized in the production process can be of either type. As copyright law already protects the elements within the first variety, the current controversy is over databases of the second type.

¹⁷⁹ The firm holding a trade secret may disclose the secret to persons outside the firm if the external party is somehow connected to the production or distribution process, as in the case of a joint venture or partnership. However, such a sharing of information would be wrapped tightly in a non-disclosure agreement. In order for the information itself to become fully marketable, the trade secret status would be materially compromised. The firm may still take the value of the trade secret into account for purposes of stating its assets and the existing rights may be transferred to another firm. In addition, if the trade secret is properly protected, it could form the basis for a subsequent patent application, assuming all of the other requirements of patentability are present. One such limitation on patentability would be the subsequent disclosure (either through published research or within the specifications of a patent) by an unrelated party of the same information independently derived.

¹⁸⁰ Other areas of intellectual property are implicated here as well. Stronger enforcement of industrial trade secrets and an expanded scope of patent protection for processes containing elements of computer programs are two examples. But as the previous discussion illustrates, these other intellectual property devices will either not reach the data elements themselves, or do so in a way that hampers exchange. Also, this analysis, which centers on the production process, should not detract from the fact that database producers also need to extract as much value in the process of circulation, that is, payments from consumers, as they possibly can. Extending the statutory copyright monopoly to databases performs this function as well.

¹⁸¹ Inter-sector rivalries are also present in other intellectual property policy issues as well. For example, the banking, insurance, farm machinery and oil industries have been among the leading opponents of UCITA (see chapter 2, section I, D, *supra*) as these firms are major consumers of commercial software. And many electronic manufacturers have opposed extensions of anti-circumvention measures, quite correctly understanding that they are geared towards making their products less useful in the hands of their potential customers. This divergence goes beyond the position of particular firms on legislation; it is spilling over into product design itself. Most recently large computer manufacturers such as Apple and Gateway have run advertising campaigns geared toward creating a demand for systems capable of downloading electronic music, much to the displeasure of the entertainment industry. The major record labels have retaliated by issuing releases that will disable, if not damage, certain systems. Hence the recent cry, “Celine Dion ate my iMac!”

¹⁸² The practice of deep-linking has become pervasive on the world wide web as designers have utilized power of hypertext to direct users to particular pages within remote sites. Deep-linking has been identified as an important aid to usability, making it easier for users to find materials on remote sites. According to Jakob Nielson (2002), a leading web-design expert, “links that go directly to a site’s interior pages enhance usability because, unlike generic links, they specifically relate to users’ goals.” For a compilation of materials on deep-linking controversies, see the Link

Controversy Page, maintained by Stefan Bechtold at <<http://www.jura.uni-tuebingen.de/~s-bes1/lcp.html>> (visited August 21, 2002).

- ¹⁸³ *Danish Newspaper Publishers' Association v. Newsbooster.com ApS* (reported in *BNA Electronic Commerce & Law Report* 7(28), July 17, 2002.)
- ¹⁸⁴ *Deep Linking Takes Another Blow*, by Michelle Delio in *WIRED News* (July 25, 2002). Available online at <<http://www.wired.com/news/politics/0,1283,54083,00.html>> (visited August 21, 2002).
- ¹⁸⁵ *Ticketmaster Corp., et al. v. Tickets.Com, Inc.* 2000 WL 525390, 54 U.S.P.Q.2d 1344 (D.C. Cal., March 27, 2000).
- ¹⁸⁶ In addition to Stefan Bechtold website (note, 183, *supra*), the American Library Association now maintains a web page on the subject at <<http://www.ala.org/alaorg/oif/deeplinking.html>> (visited August 21, 2002). See also <<http://www.dontlink.com/>>, containing listings of “stupid linking policies” complete with links to the subject terms and conditions pages (visited August 21, 2002). Some of the entities that have objected to deep-linking to their sites include the Dallas Morning News, National Public Radio, Runners’ World Magazine, KPMG International, the American Cancer Society, Shell Oil, Verizon Wireless, Motorola, Martindale-Hubbell, Harcourt School Publishers, and the City of Colorado Springs.
- ¹⁸⁷ According to its website, “PubSCIENCE provides users the capability to search across a large compendium of citations including abstracts of peer reviewed journal literature with a focus on the physical sciences and other disciplines of concern to the Department of Energy (DOE). PubSCIENCE is another tool developed by DOE’s Office of Scientific and Technical Information and made available to the American public in partnership with the U.S. Government Printing Office (GPO).” <<http://pubsci.osti.gov/>> (visited August 20, 2002).
- ¹⁸⁸ <<http://pubsci.osti.gov/notice.html>> (visited August 20, 2002). It is worth noting that Scirus is owned by Reed-Elsevier.
- ¹⁸⁹ *ALAWON: American Library Association Washington Office Newslines* Volume 10, Number 53, July 5, 2001. Available online at <<http://www.lib.msu.edu/dickso15/ALAWON.htm>> (visited August 20, 2002).
- ¹⁹⁰ In an article tracing the history of the open-source software movement, David Bretthauer (2002) argues that while Stallman does not identify himself as part of the open source software (OSS) movement, he is nonetheless responsible for laying much of the groundwork for the movement.” Bretthauer also points to Berkeley Software Distribution (BSD), and Linux as operating systems that have contributed to the present state of the OSS movement. For an explanation of the differences between the open-source and free software movements, see <<http://www.gnu.org/philosophy/free-software-for-freedom.html>>. According to the GNU website, “[I]n 1998, some of the people in the free software community began using the term “open source software” instead of “free software” to describe what they do. While free software by any other name would give you the same freedom, it makes a big difference which name we use: different words convey different ideas. The term “open source” quickly became associated with a different approach, a different philosophy, different values, and even a different criterion for which licenses are acceptable. The Free Software movement and the Open Source movement are today effectively separate movements, although we can and do work together on practical projects.” See also <<http://opensource.org/docs/history.html>> for the viewpoint of the open-

source software movement: "We realized it was time to dump the confrontational attitude that has been associated with "free software" in the past and sell the idea strictly on the same pragmatic, business-case grounds that motivated Netscape." For purposes of the present discussion about non-pecuniary incentives and alternative institutional arrangements, both strands of the movement are taken as relevant notwithstanding their differences.

¹⁹¹ See text accompanying note 171, *supra*.

¹⁹² The constitutionality of the term extension is currently being reviewed by the United States Supreme Court. See Chapter 2, section I, A, *supra*.

Chapter 5: The Question of Implementation: Policy Implications of the Critical Theory of Intellectual Property Policy

The purpose of this concluding chapter is to consider the policy implications of the critical theory of intellectual property policy as it is situated within the *information-for-society* model and to consider how the theory may be implemented. While the process of dereification, which involves the introduction of concepts from the critical theory into the policy-making process, can take a variety of forms, the problem of implementing the critical theory of intellectual property policy is beset with an initial dilemma. On the one hand, and in the short-run, counter-arguments to expansionary proposals must be framed in terms of what is feasible insofar as how the contemporary policymaking process is constituted. The result is at the same time both defensive and reformist. When faced with the immediate task of trying to convince a member of Congress (or a court) to oppose *sui generis* database legislation, resort to theoretical arguments based on Marx's analysis of the commodity form, the labor theory of value, or the contradiction between the productive forces and the relations of production would no doubt be counter-productive. On the other hand, and in the long run, it is necessary to look beyond what is feasible in today's constrained policy environment and develop a program that breaks with the assumptions of the *information society* model.

The critical theory of intellectual property policy is not proffered in terms of a specific legislative program with any immediate prospect of adoption in advanced capitalist countries such as the United States. Rather the theory is an attempt to project what the elements of a democratic intellectual property policy *could* be. Given the

contemporary policy environment, the most immediate task seems to be the slowing down of proposals that *do* stand a chance of adoption, such as the *sui generis* database legislation, the extension of the anti-circumvention rules, the institutionalization of regressive licensing rules through measures such as UCITA, and the globalization of these rules through a series of trade related treaty obligations. But beyond these defensive moves, the policy process may be consciously steered towards the direction of the values of the *information-for-society* model in subtle, yet meaningful ways. The value of the critical theory as presented in chapter 4 lies in this long-range frame of reference. Rather than engage in an endless debate over which approach to adopt, this chapter will present the problem of the implementation of the critical theory as an inter-related project consisting of three levels of action. Instead of producing a menu of specific legislative proposals in the form of what would be a rather obvious wish-list, this discussion will focus on particular issues that may arise at each level of analysis. Briefly, the three levels of analysis are as follows:

- Level 1: Continue to oppose proprietary extensions to intellectual property laws in the legislatures and the courts. Specific attention should be paid to expanding coalition efforts surrounding opposition to particular measures and to developing critical tools of policy evaluation.
- Level 2: Construct alternative institutional arrangements that foster a non-proprietary approach to the promotion of innovation and the diffusion of the arts, technology, science and general knowledge.

- Level 3: Consider how an intellectual property regime would be constructed in a democratic socialist society.

By viewing these three levels as inter-related parts of an ongoing process, the seeming contradiction between adopting a reformist or reactive approach, on the one hand, and a radical reconceptualization of the entire intellectual property regime, on the other, may be ameliorated. At levels 1 and 2, the short to medium range questions presented are how to protect the intellectual commons from an expansionary intellectual property regime through the tools available within the framework of modern capitalist society. Within level 1, legislative lobbying efforts, as well as intervention in the judicial system through impact litigation and the use of amicus briefs, will continue to rely on arguments associated with maintaining a reasonable balance between the rights of owners and users of information resources. Additional tools for policy-analysis that may be usefully employed within the first level of analysis are described below in section I. Within level 2, attention is directed to issues of funding for public provision and subsidies for individual artists, authors, and inventors, as well as the construction of non-governmental infrastructures that encourage the creation and dissemination of intellectual works outside of market mechanisms. Examples of alternative institutional arrangements were reviewed in chapter 4, using the examples of non-market based electronic scholarly publishing and the open-source movement. These notions are further considered in section II, which also considers the role of information technology in building an oppositional strategy.

The final level of analysis will be considered in Section III, where a more systematic dismantling of the current intellectual property framework is proposed. At this level of analysis, intellectual property laws may be carefully scrutinized and reformulated in order to target the benefits of laws, such as they continue to exist, to individual creators. At this stage of development, the concept of intellectual property would be displaced with the notion of author's rights, and laws would be reduced in scope and application. The copyright laws of the Socialist Republic of Vietnam provides an example of how a copyright regime might attempt to protect the interests of authors without encouraging the expansion of the commodity form of information. The role of law as a mediating institution is not immediately displaced in its entirety. Instead, the emphasis is placed on first devising a minimalist approach to legal regulation, and then on reducing the role of law as a mediating institution to be replaced by non-judicial norms as conditions permit. Generalizing the values of the open source software movement, as currently reflected in the General Public License, to other areas of production would be an ongoing process.

I. Alternative Tools for Policy Analysis

In the current information policy environment, there is little in the way of meaningful policy analysis in the area of intellectual property. To the extent there is any policy analysis, it is rooted in the concepts of cost-benefit analysis. It is useful to identify alternative methods of policy analysis that may be utilized to move towards a more democratic intellectual property policy regime. These alternative modes of analysis may

be “borrowed” from other areas of policymaking. Two useful examples are the notions of “zero based budgeting” and the “environmental impact statement.”

A. Zero Based Policy Analysis, Sunset Clauses and Periodic Review

David Vaver (2000, p. 291), writing about the Canadian copyright system, makes the argument that copyright law “seems ripe for wholesale reconsideration, both nationally and internationally.” He points to the policy tool of zero-based budgeting as an example of how policymakers might facilitate such reconsideration:

“Whenever governments want fundamentally to review what services they provide or ought to provide, they introduce a system of zero budgeting. Under it, every department of government is allocated a budget of \$0. To get more, the department has to show why it needs it and how much it really needs to achieve its goals. There is no presumption that a department has an entitlement simply because it has . . . had one . . . Each project and the level of support to be devoted to it have to be justified separately. The map created by the total number of successfully justified projects is then surveyed, checked off against policy criteria, and finally adjusted for anomalies. The product is not timeless: there are periodic short-term reviews, . . . there are periodic comprehensive audits . . . and there are periodic longer term reviews, where a return to zero budgeting and no presumptions are the order of the day” (*id.*, p. 299).

While Vaver probably overstates the current usage of zero-based budgeting, his suggestion that its various tools be employed in intellectual property policy analysis is well taken. Under current practice, there is an extreme disconnect between policy formulation, on the one hand; and policy implementation, review and reformulation, on the other. The notion of periodic checks to insure that a policy as implemented is consistent with its theoretical justification would add an additional element to the information policy process and help alleviate the potentially harmful effects resulting from the disconnect. In implementing zero-based review, Vaver suggests several broad

questions that need to be asked. They include asking what activities societies desire to encourage, what degrees of stimuli are needed for these activities to occur, and how the benefits from the stimuli should be allocated. Under current practice, these questions are rarely asked. Instead, it is presumed that the desired activity, innovation in the arts and sciences, can only be stimulated through the granting of monopoly rights in the nature of expansive property interests. It is also presumed that in order to stimulate investment, these rights need to be allocated to firms, not to individual creators. Vaver's questions are related to those asked Sandra Braman (1989) in reference to the importance of the definition of information for the policy process.¹⁹³ Vaver's questions are also related to the issue posed by Yale Braunstein (1977) in reference to the various types of responses available to policymakers beyond simply imposing monopoly rights in the nature of expansive property interests.¹⁹⁴

Short of employing a zero-based system in its entirety, certain of its elements can still be utilized. The process of periodic audit and review can only be meaningful if the requirement for such policy evaluation is written into legislation in the first instance. Here is an important difference between the competing database bills discussed in the second chapter. While the industry supported *sui generis* bills were devoid of a meaningful evaluative component, H.R.1858 (the alternative supported by library and educational associations) contained detailed reporting and evaluation requirements.¹⁹⁵ While a particular agency was given specific evaluation assignments, the bill did not contain an explicit sunset provision. But by requiring the sustained engagement of a federal regulatory body in an ongoing evaluation process, the review provision was still

inimical to the program of the information industry. It can be anticipated that any moves towards the meaningful policy evaluation will be met with strong opposition in the legislative process.

Nonetheless, seeking to include sunset clauses with an express requirement for evaluation into pending legislation may help ameliorate the otherwise harsh impacts from a bill. Such a strategy may also prove to be acceptable to many policy makers who feel uncomfortable with specific language but still feel compelled to move legislation.¹⁹⁶

Including periodic evaluation as an *a priori* component of the legislative drafting process should be distinguished from the practice of delegating rule making authority to an agency. Under current practice, it is often the case that legislation contains such a delegation clause. For example, the Digital Millennium Copyright Act of 1998 contained a provision that deferred the operation of the anti-circumvention rules for an initial two-year period followed by subsequent reviews on a three-year cycle.¹⁹⁷ During the initial period, an administrative rulemaking procedure was conducted by the Librarian of Congress that was to determine whether the "anti-circumvention" prohibition will adversely affect information users' ability to make non-infringing uses of a particular class of copyrighted works. The proponents and opponents of the measure actively participated in the rulemaking process, with each side submitting various comments and responses. In the final rule making, the concerns of the opponents were basically ignored and the net result was to implement the measure without any significant mitigation provision. As the experience of the DMCA rule-making procedure showed, delegating authority merely shifts the decision-making arena from the legislature to an agency, and

does not necessarily mandate any greater scrutiny of objectionable provisions at the agency level.

B. Protecting the Intellectual Commons: The User Impact Statement

While the previous section considered post-legislative review at the level of implementation and evaluation, the policy process is in need of further analysis at the initial level of formulation. In the current intellectual property policy environment, new provisions are often adopted without any serious consideration of their potential negative effects or unanticipated consequences. Most attention in the policy formulation stage is given to the effect of proposed changes on the owners of intellectual property assets. More attention needs to be given to the impact that legislative changes may have on ultimate users of information. Such an analysis may be provided by a procedure that is analogous to the requirement found in environmental law for an impact assessment prior to the approval of a project. In order to make the issue of the fragile relationship between the intellectual commons and the enclosure of informational resources in market relations more visible, it is useful to utilize the physical metaphor of the environment and the environmental impact assessment.

In an article calling for a new activism in the area of intellectual property policy, James Boyle (1997) looks at the history of the environmental movement and calls for an “environmentalism for the net.” Boyle begins with the prescient observation that despite its importance, intellectual property policy issues lack the visibility of issues such as tax reform or the environment:

“Like most property regimes, our intellectual property regime will be contentious, in distributional, ideological and efficiency terms. It will have

effects on market power, economic concentration and social structure. Yet, right now, we have no politics of intellectual property – in the way that we have a politics of the environment or of tax reform. We lack a conceptual map of issues, a rough working model of costs and benefits and a functioning coalition-politics of groups unified by common interest perceived in apparently diverse situations” (1997, pp. 88-89).

Boyle asks the important question of why such a politics is missing. He responds with the observation that most of the media attention on Internet policy issues has focused on questions of pornography and censorship, a relatively minor matter compared to the implications of intellectual property policy:

“...with a few exceptions, the mass media coverage of the information age has been focused firmly on "cyberporn" and its potential censorship. This is rather like thinking that the most important feature of the industrial revolution was that it allowed the mass-production -- and then the regulation -- of pornographic magazines. Given the magnitude of the changes occurring, and the relatively small differences between pornography on-line and pornography anywhere else, a more trivial emblematic concern would have been hard to find. It is intellectual property, not the regulation of cyber-smut, that provides the key to the distribution of wealth, power and access in the information society. The intellectual property regime could make -- or break -- the educational, political, scientific and cultural promise of the Net” (*id*, p. 89).

Boyle goes on to ask the question of what a politics of intellectual property, particularly the politics of protecting the public domain, might look like. He argues that such a movement is now at the same stage that the American environmental movement was at in the 1950's. Since then, the environmental movement was able to penetrate the public's consciousness:

“Environmentalists piggy-backed on existing sources of conservationist sentiment -- love of nature, the national parks movement, hikers, campers, birdwatchers. They built coalitions between those who might be affected by environmental changes. They even discovered, though very slowly, the reality of environmental racism” (*id*, p. 112).

Turning to intellectual property issues, Boyle argues that some of these experiences of the environmental movement could be replicated. He points to the coalitions built to oppose the White Paper as a beginning, but concludes that, “We need a politics -- a political economy -- of intellectual property and we need it now” (*id.*, p. 113).

Using Boyle’s analogy to the environmental movement as a starting point, it is useful to look at some of the changes in environmental policymaking that have taken place since the 1950’s to see if there are any strategies that might indeed be replicated. One of the major reforms in environmental law has been the National Environmental Policy Act of 1969 (NEPA). Congress’ stated purpose in enacting NEPA was:

“To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality” (42 USC section 4321).

The substantive requirement of NEPA is that federal agencies are mandated to prepare a detailed Environmental Impact Statement for any proposal for legislation or other major federal actions that may significantly affect the quality of the human environment. The statement must include the following elements:

- “(i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented” 42 USC section 4332 (2)(c).

Applying the analogy of environmental policy to intellectual property policy, this evaluative tool may be replicated in the case of proposed measures that might affect the fragile relationship between the rights of information owners and users. It might be appropriately termed the “User Impact Statement” and the frame of reference would be the effect of the proposed measure on the public domain, or informational commons. Prior to taking any action that would impact the public domain (which would include all of the measures discussed in chapter 2), a detailed report would have to be prepared that would include:

- ❑ an analysis of the impact that the proposal would have on users of information and on the public domain;
- ❑ an identification of any adverse effects on users of information and on the public domain which cannot be avoided should the proposal be implemented; and
- ❑ an identification and analysis of alternatives to the proposal.

The requirement of preparing a user-impact-statement can be further refined. At the outset, the proposed legislation would be broadly circulated to interested stakeholders and comments would be solicited. A comment period would enable interested stakeholders to identify potential impacts as well as to suggest alternatives. The final statement would respond to the comments as well as take the proposed alternatives into consideration. This proposed process is similar to the consultation process being utilized

in the Canadian system. At the present time, Industry Canada and the Department of Canadian Heritage are undertaking a consultation with the public to determine if the Canadian Copyright Act needs to be revised, and if so, to what extent. *A Framework for Copyright Reform* (2001) and two accompanying consultation papers were released in June of 2001. They were broadly circulated and the public was asked for comments on a series of issues. As to every issue addressed in the process, a range of alternatives were included in the initial set of documentation. The initial comment period ended in September 2001, and over 700 replies were received and posted on the agency website.¹⁹⁸ In addition, several responses to the initial comments were also received and posted. The agencies will next hold a series of consultation meetings and begin the process of drafting legislative proposals. While this system is not without its flaws, and while content industry interests may still ultimately capture the policy making process, at least the public is given the opportunity to make a record of its concerns. This transparency is in stark contrast to the experience in the United States, where the Commerce Department's White Paper (1995) announced the foregone conclusion that stronger copyright laws were needed in the digital environment, ultimately resulting in the Digital Millennium Copyright Act of 1998. The White Paper contained neither any analysis of alternatives nor any examination of the potential negative effects of its proposals. And no such consultation process has occurred in the United States with regard to either the database legislation or to copyright term extension.

While modern intellectual property law is premised on maintaining a balance between the rights of owners and users, the current policy process is devoid of any

requirement of meaningful analysis that would address the questions of impacts on end-users, much less on the public domain. The requirement for the identification and analysis of alternatives to the proposal is especially significant. In the case of *sui generis* database legislation, such an analysis would indeed reveal that reasonable alternatives exist in the form of an approach sounding in misappropriation. In the case of the anti-circumvention rules, such an analysis would have shown that the legislation, as adopted in the DMCA, was overbroad and went well beyond the purposes of prohibiting infringing activities. In the case of the No Electronic Theft Act, the potential chilling effect on legitimate uses resulting from a widening of the criminal sanction would have been considered. And in the case of copyright term extension, such an analysis would have shown that there was absolutely no justification for the extension.

The use of the environmental metaphor, with a focus on the preservation of the intellectual commons, has several advantages. It has already become popular to think of the public domain in terms of a public commons that is in danger of being destroyed by new enclosures (Benkler, 1999; Bettig, 1996, Boyle, 2001).

Yochai Benkler (1999, p. 362) defines the “enclosed domain” as “the range of uses of information as to which someone has an exclusive right, and that no other person may make absent individualized facts that indicate permission from the holder of the right, or otherwise privilege the specific use under the stated facts.”¹⁹⁹ Ronald Bettig argues that “intellectual property laws facilitated the private appropriation of intellectual creativity, which is always based upon socially constructed knowledge and culture, in the

same way that property laws in general served as the basis for the commodification of tangible property, the common land in particular” (1996, p. 17).

Thinking in terms of the enclosure of a commons also connects the analysis in a continuous manner with historical antecedents. The physical enclosure of communal space was an important factor during the transition from feudalism to capitalism, as pointed out by Marx in his discussion of primitive accumulation:

“Communal property . . . was an old Teutonic institution which lived on under the cover of feudalism. We have seen how its forcible usurpation, generally accompanied by the turning of arable into pasture land, begins at the end of the fifteenth century and extends into the sixteenth. But at that time the process was carried on by means of individual acts of violence against which legislation, for a hundred and fifty years, fought in vain. The advance made by the eighteenth century shows itself in this, that *the law itself now becomes the instrument by which the people’s land is stolen*. . . The Parliamentary form of the robbery is that of ‘Bills for Inclosure of Commons’, in other words decrees by which the landowners grant themselves the people’s land as private property. . . ” (1977, p. 885) (emphasis added).

Finally, using the environmental metaphor helps transform an intangible and highly technical area of law into concepts that are more visible and amenable to public scrutiny and debate. The importance of recasting the copyright debate in terms of encouraging broader public participation has been recently summarized by Silicon Valley columnist Dan Gillmor:

“If you can set the rules, you can win the contest. That’s the major reason the entertainment cartel is winning the debate over copyright in the Digital Age.

Average people are not part of the conversation, not in any way that matters. To the cartel and its chattel in the halls of political power, we are nothing but ‘consumers’ -- our sole function is to eat what the movie, music and publishing industries put in front of us, and then send money.

It's long past time for the rest of us to challenge the cartel's assumptions, actions and overall clout.”²⁰⁰

To conclude the discussion of the role of zero-based analysis, periodic review, and user impact statements in the policy-making cycle, Figure 5.1 shows the circular and continuous relationship between policy formulation, implementation, and evaluation in a properly designed system. The three stages of the cycle are roughly equal in size and the evaluation process feeds back into a continuous re-evaluation of policy. In contrast, Figure 5.2 represents the existing policymaking process and shows a linear relationship between stages of decreasing importance. In the realm of existing intellectual property policy, the line surrounding policy evaluation is dotted in order to signify its invisible nature.

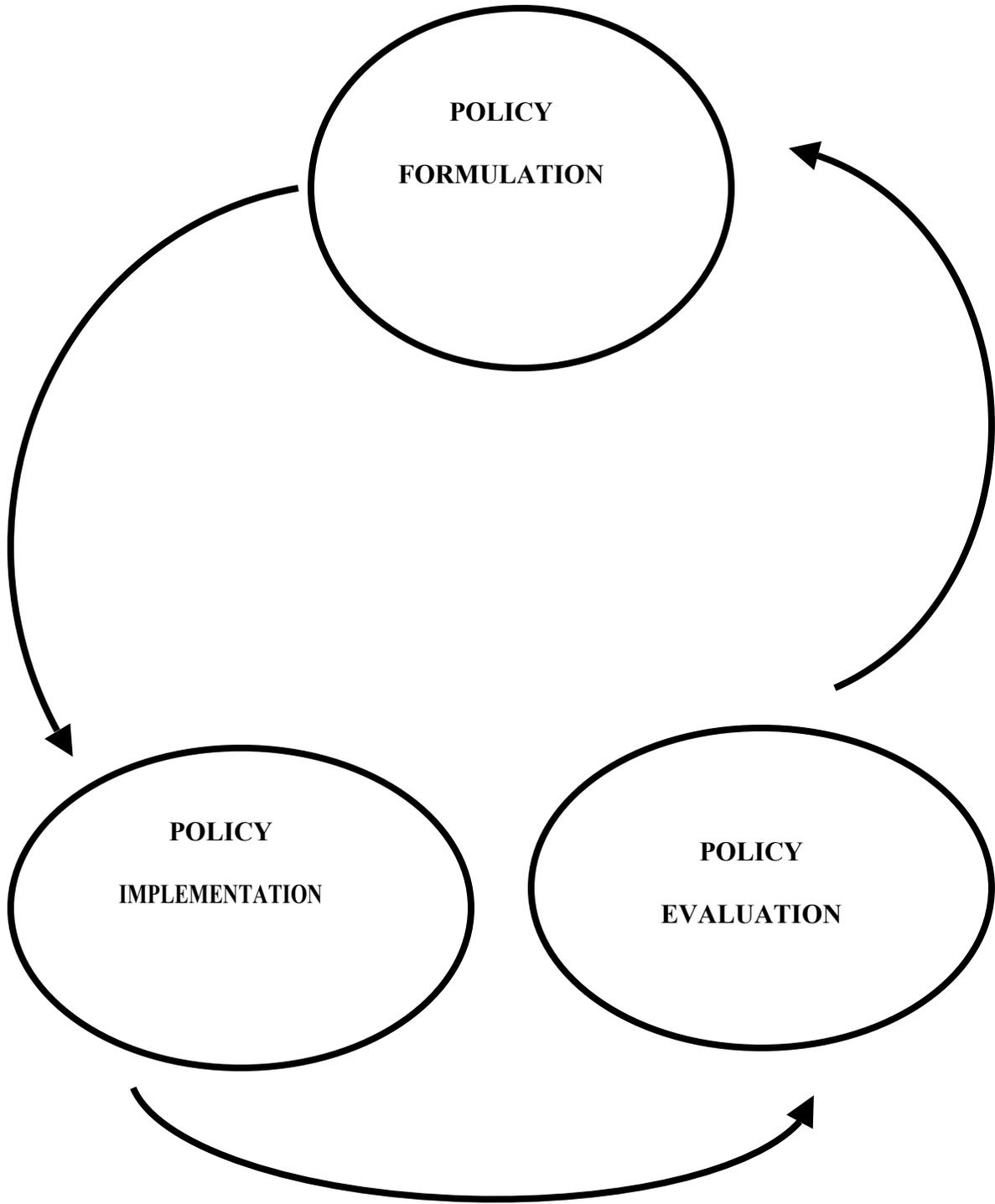


Figure 5.1: Continuous cycle between policy formulation, implementation, and evaluation

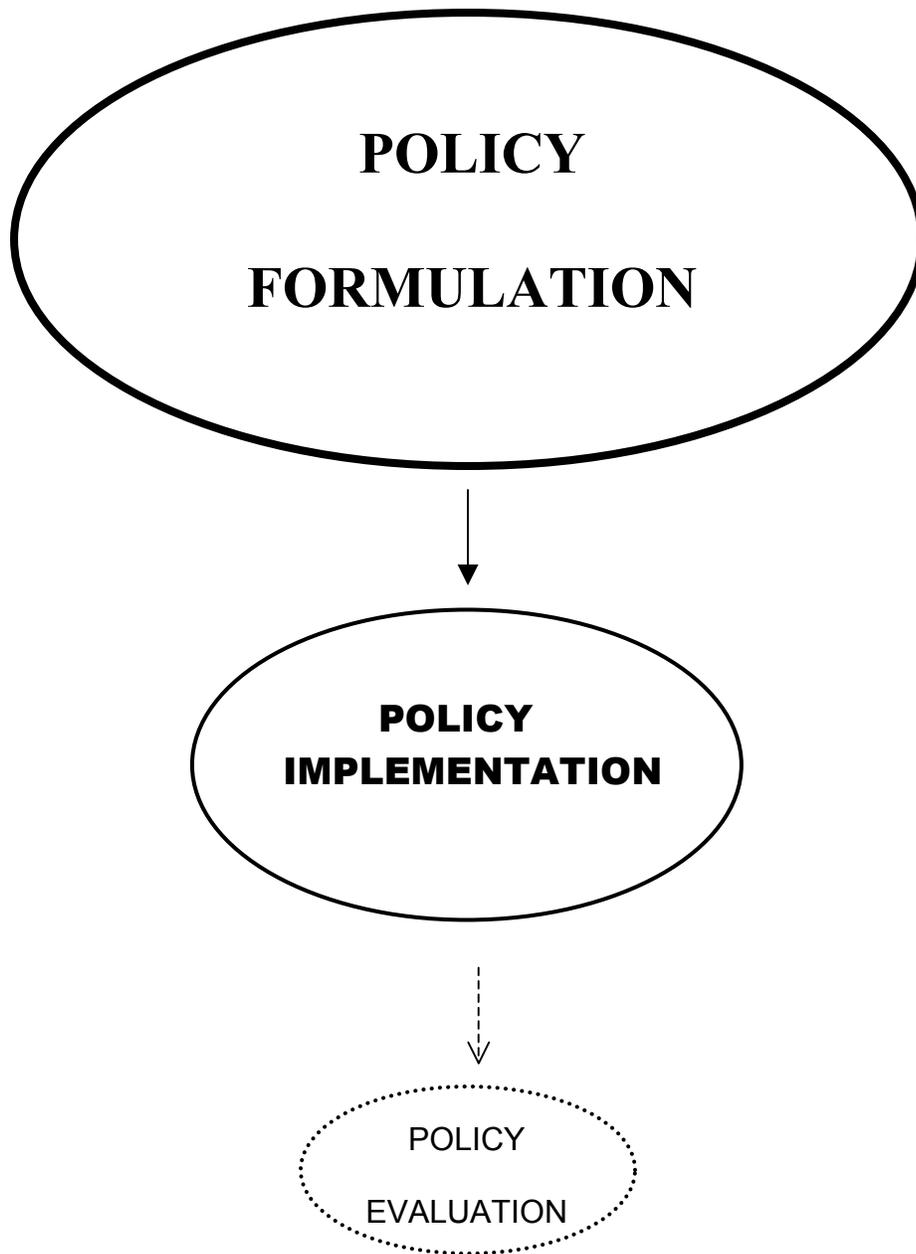


Figure 5.2: Linear relationship between policy formulation, implementation and evaluation

II. Alternative Institutional Arrangements and Oppositional Strategies

It is useful to think of alternative institutional arrangements that can be designed to help facilitate the move towards a more democratic intellectual property policy regime. These arrangements help support the work of those who would like to engage in creative activity outside of the limitations created by the imperatives of the market and exchange relations. At the same time, such arrangements help create a space in which oppositional activities may be fostered. Two examples of such institutional arrangements, non-market based electronic scholarly publishing and the open-source movement, were considered in the previous chapter. Additional venues for such arrangements include public colleges and universities, library systems, professional associations, and other non-profit organizations and foundations. Jeremy Frumkin (2002) argues that librarians should take a more active role in the development of open-source software:

“[I]t is up to libraries and librarians to ensure that they are equal partners on the software development playing field. We no longer can afford to let technology and technology companies dictate to us what we can do and how we can do it - instead libraries need to dictate the functions and features of the software they use, and take an active role in maintaining our technology ecology. . .

OSS allows the user to customize, augment, change, and enhance the software so that it better meets their needs. It accomplishes this by providing the source code of the software in addition to the executable program. By doing so, anyone who owns a copy of the software can become a developer as well. It does not mean that every user must become a developer; in fact, in most cases, this won't happen. What is important is the opportunity given - the opportunity to examine and contribute to the source code, which, at a minimum, allows libraries to better understand their tools and systems. OSS, in essence, empowers libraries through knowledge and understanding - it brings library values to software.”²⁰¹

In addition, the market system itself contains examples of organizations that are attempting to utilize new business models that encourage the active sharing and dissemination of information products. Innovative start-up companies that exploit the potentialities of new technologies often find themselves at odds with multinational entertainment and software giants and their various trade associations. The well-publicized Napster case called public attention to the issue, and the controversy over peer to peer (P2P) computing shows no signs of subsiding.²⁰² The Recording Industry Association of America (RIAA) has continued to target other firms that offer users peer-to-peer (P2P) capabilities,²⁰³ and the response from the smaller companies is taking on a tone of oppositional resistance.²⁰⁴

While much of the preceding discussion, particularly in chapter 2, seems to convey a pessimistic tone about the direction of intellectual property policy, it is important to also recognize the positive aspects of advanced information technology, and its possibilities for enhancing the free flow of information. Ronald Bettig (1996) ends his critique of the copyright system with a chapter entitled, "Intellectual Property and the Politics of Resistance" in which he presents an optimistic account of the emerging ways in which people are resisting the encroachment of expansive copyright laws. He points to the work of various creative artists who assist activist groups as well as to the growth of the "hacker-ethic."²⁰⁵ He also points to the emerging opposition to international free trade agreements that threaten both cultural autonomy and national sovereignty, especially in developing countries. Looking at the broader issue of information technology, Douglas Kellner (1999, p. 101) describes an emerging "technopolitics," the utilization of

information technology in order to “advance the interests of oppositional and social groups and movements that have been excluded from mainstream media and political debate. Kellner points to a twofold strategy of first attempting to “democratise existing media institutions and to expand its domain of messages and ideas,” and second to develop “oppositional media, alternatives to the mainstream, developed outside of the established media system” (1999, p. 103). Like Bettig, Kellner also points to a number of instances from information technology has been used by oppositional political movements to advance their causes.²⁰⁶

Dyer-Witheford makes the argument that while the dominant ideology claims “the potential of new communication technologies can only be realized by market forces” (1999, p. 201) electronic-media displays “contrary tendencies that radically subvert the logic of the market” (1999, p. 202). This contrary tendency is rooted in the speed in which electronic commodities can circulate:

“[Marx] argued that a crucial motive behind the capitalist development of communications was its drive to shorten the circulation time of commodities – to speed the passage from commodity-form to money-form and back again. But Marx also observed that there was a limit to this acceleration. If a product passes instantly, without barrier or impediment, from producer to consumer, it destroys the moment of exchange . . . Disseminated at virtually “the speed of thought” through electronic and digital channels [digital goods] take on an aerial and evanescent forms difficult to contain within the commodity form” (*id.*).

This difficulty accounts for the increased development effort being put into technological barriers to the free flow of information such as technological protection measures designed to inhibit the unobstructed use and transfer of information resources.²⁰⁷ But despite all of the efforts of the information industries to impose

technological restrictions on users of information, and to have these measures backed by additional laws designed to thwart the circumvention of these measures, advances in information technology continue to magnify the possibilities for resistance to these forms. The development of these productive forces can, in Dyer-Witheford's view, result in two possibilities:

“ . . . electronic communication, by reducing the necessary circulation time for information goods, opens onto two diametrically opposed options. It makes possible either a radical intensification of commodification – through pay-per services and consumer surveillance – or a fundamental attenuation of the commodity form, through the generalized transgression of electronic property rights” (id, p. 203).

The open source software movement, and in particular, the Open Source Definition and the General Public License (GPL) through which it operates, can be taken as a current example of an effort to attenuate the commodity form. Before turning to a discussion of the specific direction that copyright law might follow, it would be useful to examine the provisions of the GPL, as it may be generalized to other areas of production.²⁰⁸ The GPL is administered through a non-profit corporation, The Open-Source Initiative (OSI). OSI has obtained a certification mark for software that complies with the Open Source Definition and such software is distributed through a series of licenses, the most important of which is the GPL.²⁰⁹

The Open Source Definition requires compliance with the nine criteria:²¹⁰

1. Free Redistribution; The license cannot restrict a party from selling or giving away the software as a component of an aggregation of programs from several different sources. The license cannot require a royalty or other fee for such a sale.

2. Source Code: The program must include unobfuscated source code, and distribution in source code as well as compiled form must be permitted under the license..
3. Derived Works: The license must allow for modifications to be made to the software, and they may be further distributed under the same terms as the original license.
4. Integrity of The Author's Source Code: The license may only restrict the distribution of a modified form of the code if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program. The license must permit the distribution of software built from modified source code. However, the license may require that such derived works carry a different name or version number from the original software.
5. No Discrimination Against Persons or Groups: The license cannot discriminate against any person or group of persons.
6. No Discrimination Against Fields of Endeavor: The license cannot restrict anyone from making use of the program in a specific field of endeavor.
7. Distribution of License; The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.
8. License Must Not Be Specific to a Product: The rights attached to the program cannot depend on the program's being part of a particular software distribution.
9. The License Must Not Restrict Other Software: The license cannot put restrictions on other software that is distributed along with the licensed software.

What is most interesting about the license is that it adopts the formal terminology of the legal contract in order to prevent downstream contractual restrictions. In this sense, it defeats subsequent proprietization of a product derived from the software, thereby ensuring a measure of open access to a common pool of knowledge. The integrity clause introduces an element of authors' moral rights, quite apart from the transferable exclusive

economic rights that are effectively curtailed by the clauses on free distribution and derived works. In this way, authors retain the right to be recognized for their contributions without attaching exclusive economic rights that can be used to block others from utilizing the work in their own creations. In order to avoid an “end-run” around the limitations through the use of a non-disclosure agreement, the distribution of license provision forbids the execution of additional contractual provisions.

The utilization of legal forms, such as contract and trademark, in order to protect the underlying values of open source may seem contradictory. However, given the reality of intellectual property laws as they are now constituted, these juridical restrictions are necessary in a defensive sense. Without them, the benefits of the pooled resource could be enclosed and exclusive economic rights could be attached to derivative products. But the same time, the ninth provision allows for independently developed proprietary products to be distributed along with the open source software. While this project does not, in itself, threaten to constrain the development of market-based products, it does provide two very important functions that are wholly consistent with the implementation of the critical theory of intellectual property policy in the long run. First, by employing the established legal devices of the certified mark and the contractual license, it does provide developers with a legally binding infrastructure in which to carry out cooperative projects. Second, the open source framework recognizes the distinction between moral rights²¹¹ and economic rights in the sphere of copyright law. By separating the two, albeit it through a contractual provision, the license foreshadows the possibility of a legal regime that provides incentives for creativity that are not directly

pecuniary in nature. In a recent analysis of the historical role of the free software movement, Johan Söderberg (2002, p. 17) states that:

“the distinguishing and most promising feature of free software is that it has mushroomed spontaneously and entirely outside of previous capital structures of production. It has built a parallel economy that outperforms the market economy. This can be taken as an indication of how the productive forces are undermining established relations of production.”

Another example of a recent organizational effort to attenuate the commodity form is the Creative Commons. The purpose of the group is to “provide a free set of tools to enable creators to share aspects of their copyrighted works with the public.”²¹² The group also plans to create an intellectual property conservancy that will protect works of special public value from exclusionary private ownership and from obsolescence due to neglect or technological change. The conservancy plans to build a repository of works in a variety of media, in an effort to foster an ethos of sharing, public education, and creative interactivity. According to its May 16, 2002 press release:

“Creative Commons was founded upon the idea that creativity and innovation rely on a rich heritage of prior intellectual endeavor. We stand on the shoulders of giants by revisiting, reusing, and transforming the ideas and works of our peers and predecessors. Digital communications and personal computing promise a new explosion of this kind of collaborative creative activity. At the same time, expanding intellectual property protection leaves fewer and fewer creative works in the ‘public domain’ - the body of creative material unfettered by law and, to quote Justice Brandeis, ‘free as the air to common use’ - while the growing complexity of copyright makes it more and more difficult to know when it is legal to copy or alter a work. Creative Commons will work within the copyright system to help reduce these barriers to creativity.”²¹³

Another project, The Public Library of Science (PLoS), is a non-profit organization of scientists, “committed to making the world's scientific and medical literature freely accessible to scientists and to the public around the world, for the benefit of scientific

progress, education and the public good.²¹⁴ The group is working to establish online public libraries of scientific literature that will “archive and distribute the complete contents of published scientific articles, and foster the development of new ways to search, interlink and integrate the information that is currently partitioned into millions of separate reports and segregated into thousands of different journals, each with its own restrictions on access” (*id*).

PLoS will utilize the principles contained in the General Public License in order to build its collections:

“We have had extensive discussions with scientists, publishers and copyright experts about how authors who want to make their work freely accessible and useable can accomplish this while ensuring that they receive proper credit for their work. We have concluded that the best way to do this is for the authors and/or publishers to retain copyright on the work, but to irrevocably license the work to the public domain subject to the condition that proper attribution be given whenever the work is reproduced or redistributed. *This practice is analogous to the way in which open source software is produced.* By retaining copyright, authors and/or their representatives retain the right to enforce the terms of the license, but not the right to dictate how or by whom the work is used.”²¹⁵ (emphasis added).

In addition to compiling a list of journals that will accept the terms of the license,²¹⁶ authors are encouraged to replace or amend the copyright agreements they sign when publishing in journals with restrictive copyright policies. PLoS has also circulated an open letter,²¹⁷ signed by over 30,000 scientists that includes a pledge not to publish in journals that do not participate in the PubMed Central archive.²¹⁸

PubMed Central is a PLoS related archive that is managed by the National Center for Biotechnology Information at the U.S. National Library of Medicine. Richard Roberts

(2001) describes the scope of the PubMed Central archive, its relationship to publishers, and its value for the research community:

“PMC will contain only articles from the peer-reviewed literature and is not intended to be the sole repository or distributor of the publications that it hosts. In fact, journals are encouraged to distribute their material as widely as possible, through their own web sites or online distributors. Furthermore, publishers do not need to relinquish their normal copyright provisions for the further commercial use of the material. The great value that PMC brings to the scientific community is the opportunity to search not just titles and abstracts but entire papers for interesting content. Just as GenBank has proved invaluable to molecular biologists, PMC could serve an equally important role within the broader biological community. Once a central repository and archive for the world's biological literature becomes populated it will have a far-reaching impact on the conduct of scientific research. It will improve productivity and will allow new approaches to searching the literature. No longer will we need to spend hours searching among the stacks of the local, or not so local, library to find articles essential for our research. Scientists, physicians, teachers, and lay people who are currently disenfranchised from the world's literature because of minimal research budgets will have access, perhaps not to the very latest research, but at least to reasonably current research. Our colleagues in the developing world and many of the smaller research institutions will have unprecedented access to the scientific literature.”²¹⁹

Efforts such as the Open-Source Initiative's general public license, the Creative Commons' intellectual property conservancy, and the Public Library of Science's PubMed Central foreshadow the development of an infrastructure of cooperative non-profit groups that will act as a counterweight to the expansionary intellectual property regime. As Johan Söderberg (2002) points out:

“The success of free software in outperforming commercial software is a showcase of the productive force of the general intellect, foreseen by Marx 150 years ago. It underpins the claim by Autonomist Marxists that production is becoming intensively social, and supports their case of a rising mismatch between collective labour power and an economy based on private property.”

As more authors avail themselves of the opportunities provided by these various institutions, the need for reliance on market-oriented mechanisms for the dissemination of information products will decrease. At the same time, the public's consciousness of the need to radically restructure the legal rules governing the information transfer process will accelerate. All the while, the seemingly endless efforts of the entertainment industry to contain the open distribution of the artifacts of cultural production will help foster the spread of oppositional consciousness.

III. The Withering Away of Intellectual Property

How would an intellectual property regime be constructed in a democratic socialist society? At this stage of development, the role of law as a mediating institution would not be displaced in its entirety. However, the concept of intellectual property law would be reconceptualized both in a quantitative and qualitative sense. In a quantitative sense, what are now characterized as "intellectual property rights" would be substantially diminished in terms of their scope and effect. In a qualitative sense, the notion of intellectual property rights would be replaced with the idea of protecting the interests of creators (i.e., individual authors, inventors and artists) through a set of norms that de-emphasize economic exchange. The result would be related to the continental concept of author's rights, as represented in modern copyright statutes through the concept of moral rights. What remains in the law would be limited to what is necessary to protect the creator from having their works misappropriated by others seeking economic advantage as well as the protection of the author's integrity and reputation. In a qualitative sense,

the scope of rights reserved to the author would be diminished both in terms of intensity and in terms of duration. In order to make this discussion more concrete, a brief review of the copyright laws recently enacted in the Socialist Republic of Vietnam would be instructive.²²⁰

A. The Copyright Law of Vietnam

The copyright provisions of Vietnam's Civil Code took effect on July 1, 1996 and superseded a 1994 Ordinance on Copyrights. Article 751 of the Civil Code grants authors both economic and personal rights in their works. Economic rights, which are transferable, include the right to receive remuneration for the publication, republication, performance, modification, translation, broadcasting, or filming of the work. Article 746 of the Civil Code states the general rule that copyright interests initially vest in the author of the work, the coauthors of a work, or the heirs or devisees of a deceased author. An exception is made where an authority or organization delegates a duty or contracts with an author to create a work. In this case, the authority or organization shall be the owner of the economic rights, although the author retains the personal rights. Than Nguyen Luu (1996, p. 847) is critical of the wording of this provision because it is not as explicit as the American work for hire doctrine:

“Article 746 states that ‘an authority or organization which delegates a duty to an author shall be the owner of the entirety or part of the work created by the author under a duty delegated by the authority or organization.’ Article 746 also provides that an individual or organization which enters into a contract with an author to create a work shall be deemed the owner of that work. Although Article 746 seems to indicate that the works made for hire doctrine applies to Vietnamese copyright law, it does not refer to them by the terms ‘works made for hire’ or any similar terminology. Article 746 also does not make clear whether an authority ‘delegating’ a duty to an author is equivalent to

an employee creating a work within the scope of his or her employment under section 101 of the United States Act. In addition, neither Article 746 nor the Civil Code mention any of the nine categories of works made for hire for works specially ordered or commissioned.”

Luu argues that the law "should contain clear language indicating the applicability of the works for hire doctrine with examples of categories of works specially commissioned, if applicable. “Because Vietnam desires increased trade and exportation of foreign goods, clarifying the text of Article 746 will assure investors, authors, and owners of the protection of works made for hire under Vietnamese copyright law” (*id*, p. 837).

The Vietnamese fair-use defense is very broad. In Article 760, the right to use works that have been published or disseminated without permission or remuneration is stated in general terms, but with three limitations. First, the use cannot be for business purposes. Second the use cannot affect the normal exploitation of the work and cannot detrimental to other interests of the author or owner. Third, the person or persons using the work must provide the name of the original author and the source of the work. However, Article 761 provides a non-exclusive list of types of uses that are permitted under 760 including duplicating the work for personal use, copying the work for archives and use in libraries, broad rights to quote, and conversion of works into Braille. There are also broad exclusions for “performing theatrical works and other types of artistic performance in cultural and propoganda activities at public places,” (761(1)(g)) and for translating and disseminating Vietnamese works into the language of ethnic minorities in Vietnam (and visa versa). Luu complains that the exceptions are too broad, noting especially that Article 761 grants the Government and the public tremendous power and discretion to

freely exploit copyrighted works under the guise of "cultural entertainment events" and 'political campaign' activities:

“. . . a Vietnamese radio station could publicly broadcast songs from the Billboard Top Ten during the Vietnamese new year without remuneration or payment and defend that the broadcast was a fair use because it was done during a 'cultural entertainment event.' The same defense could be proffered by the owner of a Vietnamese movie theater to screen pirated copies of the latest Hollywood films. Similarly, Vietnamese officials or politicians could hire actors to perform excerpts from the script of a celebrated Broadway play to lure voters during their 'political campaigns.' The possibilities for a 'fair use' under Article 761(f) of the Civil Code seem to be unlimited" (*id*, p. 845).²²¹

Luu's critique of the fair-use provision, as shown by the examples he uses, is from the standpoint of the United States entertainment industry. He seems more concerned with the effect of the provision on the industry's royalty stream than in arriving at a copyright policy particularly attuned to the needs of Vietnamese society. Luu is also critical of the lack of adequate enforcement mechanisms:

"Despite the fact that Vietnam has become a haven for copyright pirates, the Civil Code and the Ordinance on Copyrights contain very few provisions dealing with the enforcement of copyrights in Vietnam. The only provision of the Civil Code which a copyright owner or author could possibly use to enforce his or her rights can be found in Article 759. Under Article 759, authors and owners of a copyrighted work have the right to 'request' that their infringers terminate the infringement, apologize, issue a public retraction, or compensate for damages incurred. No other provision of the Civil Code explains what legal rights or remedies are associated with a 'request' to stop infringement" (*id*, p. 869).

Luu argues that, "if Article 759 does not provide injunctions, liability for infringement, or other equitable rights and remedies, but merely expresses the notion that copyright owners and authors can communicate with infringers, it is a powerless and illusory provision. Realistically, if authors or owners of copyrighted works request that

copyright pirates in Vietnam stop infringing, pay damages, and apologize under Article 759, their efforts will surely prove to be futile” (*id*). However, Article 759 also says that the aggrieved author or owner may request “the competent state agency to force such person to stop,” so the enforcement mechanism may be quite stronger than as Luu argues.

In conclusion, Luu warns that the weakness of the copyright law actually threatens Vietnam’s prospect for building a prosperous society because it “will deter many Western corporations, individuals, and investors from trading with Vietnam” (*id*). The gist of Luu’s argument is not that Vietnam needs stronger copyright laws for any reason related to the internal needs of Vietnamese society. Rather, compliance with international economic based norms is needed in order to make Vietnam a viable trading partner with the west.²²²

There is no doubt that the Vietnamese version of copyright law is at odds with the emerging orthodoxy that treats intellectual property as an aspect of international trade. Yet the laws’ provisions demonstrate an attempt to reconcile the protection of authors’ rights with a containment of transferable economic rights. Margaret Ann Wilkinson (2002) also raises criticisms of the Vietnamese copyright regime. But she writes from a standpoint that is more reflective of the country’s need for internal technological development. She raises the problem of the rampant piracy of Microsoft Windows not from the point of view of bemoaning Microsoft’s lost revenues, but from the opportunity costs it imposes on the development of indigenous Vietnamese technology:

“While enforcing the price of Windows would indeed almost certainly reduce its availability, it would not necessarily cut Vietnam off from technological progress and global information exchange. In Vietnam, the negative consequences of the current situation are not well recognized . . .

[B]ecause the Microsoft product is being treated in Vietnam now as, to all intents and purposes, a free product, no domestic product can compete and access a viable Vietnamese market. Since Microsoft products, in particular, appear to have come to dominate Vietnam's software environment to a remarkable level, virtually to the exclusion of all other software platforms, Vietnam suffers from a monopoly environment to an extent not known even in [the United States]. While censoring access to the Microsoft product might cause temporary shortages in Vietnam, forcing this American technology into higher priced distribution channels would leave room for the development and effective marketing of medium to low price alternative domestic software packages" (p. 11-12).

Wilkinson makes the point that while LINUX software should be very competitive in Vietnam, "the complete piracy of the Microsoft product means that it has occupied the market as an essentially 'free' product and therefore the open, innovative community of LINUX users has not expanded into Vietnam to any perceptible degree" (*id.*, p. 12).²²³ Her conclusion, that lack of copyright compliance in Vietnam is "undermining the economic initiatives being taken within the country to a very considerable extent," provides a stronger justification for the further consideration of an appropriate copyright regime for the country than Luu's Hollywood-centric arguments. Wilkinson's analysis also demonstrates the need to avoid the over-simplistic tendency to simply presume that the need for some type of copyright law in an emerging socialist society is irrelevant. The incentives for developing the productive forces in this non-market oriented economy may be artificially hampered by the ability to expropriate goods that are otherwise available in capitalist markets. The productive forces in Vietnam would be better promoted through the establishment of an indigenous community of developers who cooperate by sharing code in the manner of the open source movement than by free-riding on proprietary software. Even if Microsoft products can be acquired at no direct cost, the control over

the development of the computer technology remains in the hands of Microsoft, not the Vietnamese people.

Despite its weaknesses, the Vietnamese copyright regime contains useful innovations and represents a reasonable attempt to create a transitional set of legal rules that seek to weaken the dominance of exchange relations while still providing protections and incentives to authors. These goals are accomplished both through strong fair-use provisions and the centrality of personal (or moral) rights of authors.

B. The Elements of a Reconstituted Copyright Regime

Returning to the question of how a copyright regime might be reconstituted based on the critical theory of intellectual property; a careful distinction needs to be made between transferable economic rights and moral, or personal, rights of the author. The United State Copyright Act does not generally distinguish between moral and economic rights.²²⁴ In other countries, economic and moral rights are separately delineated and the author retains moral rights even where the economic rights have been transferred or originally vested in an employer.

For example, in Canada, as in most European countries, authors have “moral rights” in respect of their works, separate and apart from the transferable economic copyright interest. The term “moral” is somewhat misleading because the rights are legally enforceable. Moral rights are rooted in the idea that an author's work is an extension of the author’s persona and that parting with the economic copyright interests does not lessen the author's personal attachment to the work. Moral rights include the rights of attribution, association and integrity. The right of attribution allows an author to

remain anonymous or to be associated with the work by name or under a pseudonym where it is reasonable under the circumstances.²²⁵ The right of integrity may prevent works from being “distorted, mutilated or otherwise modified,” if the action prejudices the author's honour or reputation.²²⁶ The related right of association allows an author to control the use of the work in association with a product, service, cause or institution. The associational right is also subject to the requirement that the author show prejudice to his or her honour or reputation. Moral rights may not be transferred although they may be explicitly waived.

The importance of moral rights is best appreciated in cases where someone other than the author holds the transferable economic rights. Since broad rights to integrity and association are rightly viewed as a potential limitation on the exercise of economic rights, these rights have been historically disfavored in the United States. When the US eventually acceded to the Berne Convention in 1988, it did so with a reservation against the Convention’s moral rights provisions. At the same time, the US claimed that it nevertheless was in compliance with Berne’s moral rights requirement. Edward Saadi (1997, p. 352) notes that:

“Congress maintained that sufficient protection for moral rights was available under other laws, such as the Copyright Act, the Lanham Act,²²⁷ and the state law doctrines of rights of publicity and misappropriation. Therefore, the only new legislation Congress passed in response to Berne was the Visual Artists Rights Act (VARA), which was incorporated as section 106A of the Copyright Act. VARA grants moral rights to painters, sculptors, and still photographers, but not to filmmakers, musicians, or recording artists. Hence, adherence to Berne has not augmented moral rights for recording artists.”

Pointing to several examples of how owners the holders of economic rights have exploited their copyright in a manner inconsistent with artists' interest in maintaining the integrity of their works, Saadi argues that recording artists, in particular, need greater moral rights protections under United States law.²²⁸

While it is easy to overlook the importance of moral rights in the United States, the recognition and protection of these non-economic interests is a crucial component of any copyright regime that purports to protect the interests of authors. In rough outline, the major changes to copyright law²²⁹ would consist of the following elements:

- ❑ Copyright would only subsist in original works and would not be extendable to facts and data, or the databases and compilations in which they are contained.
- ❑ The current ownership rules that vest economic rights in the employer of an author would be replaced by vesting initial ownership of such rights in the individual creator(s). In the case of works made in the course of employment, instead of vesting full economic ownership rights in an employer,²³⁰ an assignment of specific non-exclusive usage rights could be made for the benefit of the employing organization or agency.²³¹ In any event, the full scope of personal/moral rights would remain with the author.
- ❑ Duration of any economic interest in copyright would be limited to twenty-eight years from first fixation (in contrast to the current rule general rule of 70 years after the death of the author). The personal/moral rights of authors

in terms of integrity, association, and attribution would be preserved (or established as the case may be) in perpetuity.

- While the need for safety valves such as the fair-use and first sale doctrine would be ameliorated by the de-emphasis on transferable economic rights, the notion of fair-use would be retained and expanded to include all personal, journalistic, educational, interoperability, research and parody oriented uses. Instead of characterizing fair-use as a limited defense to infringement, it is explicitly recognized as an independent substantive right on the part of users.²³² Any attempt to limit users rights as exist under the fair-use doctrine, the first sale doctrine, or the public domain through contract would be unenforceable, as would any attempt to limit such rights through the utilization of technological measures. Any such attempts at improper limitation would constitute a misuse of copyright and subject the remaining economic rights to forfeiture in favor of the public domain.
- Broad personal/moral rights of association, attribution and integrity would vest in the author of a work.²³³ These rights would be neither transferable nor subject to waiver,²³⁴ but would be subject to the limitations of the fair-use doctrine.²³⁵ Upon the death of the author they would devolve to the authors' estate, and they would exist in perpetuity.²³⁶
- Civil penalties would apply to acts of substantial and unjustified infringement. Parties would be required to engage in informal dispute

resolution prior to the initiation of any formal proceedings. There would be no criminal liability for copyright infringement.

- The owner of any economic copyright interest would be placed under an affirmative fiduciary obligation to preserve a published work on behalf of the interest of the public domain. This obligation would be separate and apart from the moral rights of the original author and would be enforceable by any interested party. Any material breach of this duty would constitute a misuse of copyright and subject the remaining economic rights to forfeiture in favor of the public domain.
- This set of rules should be understood as transitional in nature, not as a permanent set of relations. As such, they would be subject to periodic review towards the ends of eliminating as many of the regulations as developing conditions justify.

The underlying principle of these provisions is to enlarge the informational commons by negating the processes that have encroached upon it. The provisions seek to negate the exchange-value of works while enhancing their use-value while, at the same time, preserving a set of enforceable rights on behalf of the author. The goal is to generalize the values of the General Public License (GPL) to areas of informational and cultural production beyond software. The tension between moral and economic rights is resolved in favor of moral rights, and rights to fair-use are explicitly inscribed as a independent right on the part of the public.

This copyright regime would govern the distribution of information in a society governed by the principle “from each according to their abilities, to each according to their work,” inasmuch as authors’ rights are preserved, indeed strengthened. But the discussion leaves open the question of exactly what form copyright “law” would take in a society governed by the principle “from each according to their abilities, to each according to their needs.” The debate between Pashukanis, (claiming that law is an explicitly bourgeois form and will wither away in Socialist society), and those calling for the development of a socialist form of law, has never been adequately resolved.²³⁷ One of the limitations of the critical theory of intellectual property is that it is unable to satisfactorily mediate this dispute, as it can only speak to existing concrete conditions governing the regulation of the information transfer process. Despite this reservation on the issue of the inevitable withering away of law, Pashukanis’ break with the orthodox instrumental view of law and the insights afforded through the commodity exchange theory remain important contributions to an understanding of the workings of intellectual property policy in modern capitalist society and how they may be reordered in socialist society.

In closing, it should be emphasized that the choice between “a radical intensification of commodification, through pay-per services and consumer surveillance, or a fundamental attenuation of the commodity form, through the generalized transgression of electronic property rights” (Dyer-Witheford, 1999, p. 203) is a very real and urgent decision. Yochai Benkler (2000a, p. 565) raises the similar question, put another way:

“Today, as the Internet and the digitally networked environment present us with a new set of regulatory choices, it is important to set our eyes on the right prize. That prize is not the Great Shopping Mall in Cyberspace. That prize is the Great Agora—the unmediated conversation of the many with the many.”

The first option is the direction of the current policy environment and is rooted in the assumptions of the *information-society* model. In Daniel Bell’s information society, information users are constructed as customers, passive consumers, and audiences. The second option is the direction of the critical theory of intellectual property policy and is rooted in the assumptions of the *information-for-society* model. Here, Alain Touraine’s reflexive social actor takes center-stage. The choices between these disparate futures need to be consciously made by purposeful human agents, the results are neither pre-ordained nor to be determined as a technological or legal imperative.

Endnotes to Chapter 5

- ¹⁹³ See Chapter 1, section IIB. Braman argues that, "the first decision that must be made is about the shape of the society that is desired. The next step is to determine what information policy principles are most likely to produce or support the desired society" (1989, p. 242). Only in later stages of analysis should other definitions of information (*i.e.*, as a commodity, as perception) be used.
- ¹⁹⁴ See Chapter 4, section IB4. In reference to the "public goods problem" posed by the non-excludability of information, Braunstein noted that statutory monopolies are not the only solution to the problem, and he pointed to investment by the public sector as an alternative.
- ¹⁹⁵ See chapter 2, section IIID. H.R. 1858, directed the Federal Trade Commission to report to Congress about the effects of the bill within 36 months of enactment. The report was to discuss the bill's effect on electronic commerce, on the database industry, and on related parties and was to include responses to a broad range of questions about the measure's impact
- ¹⁹⁶ For example, see text accompanying footnote 8 in chapter 2, section IB, *supra* (comments of Reps. Klug and Boucher in reference to the legislative logjam that was created by the Digital Millennium Copyright Act in 1998).
- ¹⁹⁷ See chapter 2, section IB, *supra*.
- ¹⁹⁸ See <<http://strategis.ic.gc.ca/SSG/rp00007e.html>>.
- ¹⁹⁹ In a subsequent article, Benkler (2001, p. 87) makes the connection between the commons and the value of personal autonomy: "private infrastructure and information resources subject users to the choices of owners in a way that commons in these resources do not. In a commons, where all users are privileged symmetrically to use the resource, users are subject to the choices of others only to the extent that being subject to those choices is required by respect for autonomy. Once infrastructure is private, users of communications are subjected to the choices of infrastructure owners. However, these choices are not themselves exercises of autonomy, but of control. The same is true for owned information when compared to the public domain."
- ²⁰⁰ Gillmore, Dan. "We must engage in copyright debate." *San Jose Mercury News* August 12, 2002. Available online at <http://www.siliconvalley.com/mld/siliconvalley/business/columnists/dan_gillmor/3847297.htm> (visited August 15, 2002).
- ²⁰¹ Frumkin is a member of the University of Arizona's Digital Library Initiative and wrote this editorial as part of a special issue of *Information Technology and Libraries* (Volume 21, Number 1, March 2002) on Open Source Software, which he edited.
- ²⁰² Electronic Frontier Foundation counsel Fred von Lohmann (2002) notes, "As the Napster saga illustrates, the future of peer-to-peer file-sharing is entwined, for better or worse, with copyright law. The legal fights have already broken out, with copyright owners targeting not only the makers of file-sharing clients like Napster and Scour, but also companies that provide products that rely on or add value to public P2P networks, such as MP3Board.com, which provides a web-based search interface for the Gnutella network. The fight has only just begun. If these early skirmishes yield any lesson for future P2P developers, it's that a legal strategy needs to be in place early, preferably at the beginning of development, rather than bolted on at the end."

²⁰³ In a recently leaked internal memorandum, Hilary Rosen (the CEO of the RIAA) sounded the alarm about continuing threat posed by P2P firms: "It is time to get coordinated and aggressive with the new round of peer to peer services. The amount of music being downloaded is, as you know, reaching unprecedented levels... With the imminent launch of legitimate subscription services we have to get our customers back. I know you want your new businesses to be successful. So do I. Given the overwhelming volume of these alternative services, RIAA can't handle all of the enforcement alone. If they are not controlled more effectively and consumers redirected to legitimate offerings, there won't be new businesses. That's obvious. You are all competitors, but you have common interests in enforcement." Letter from RIAA CEO Hilary Rosen to industry execs about P2P firms (9/25/01). Posted on December 25, 2001 at <<http://www.dotcomscoop.com/article.php?sid=40>> (visited January 20, 2002).

²⁰⁴ For example, KaZaA, a small company that distributes software-enabling users to share music files, was recently ordered by a Dutch court to suspend distribution of its software P2P. The company responded by posting a notice on their website asking users to join their "Defensive Line" by putting pressure on the RIAA: "... help us stop vested organisations around the world interfering with the way the software functions. Join our Defensive Line. We're under attack and we need your help. KaZaA isn't controlled by the big entertainment companies or their lobbyists. Don't let anyone tell you what you can and cannot download. KaZaA provides you with the software you can't get anywhere else; a way to get together and share files that you enjoy. KaZaA believes in your right to share files on the Internet with other users of KaZaA software. You decide what goes in your shared folder, you decide what you want to share with other users and you decide how you want to participate." <<http://www.kazaa.com/en/defend.htm>> (visited May 12, 2002). KaZaA framed their call to action as a form of resistance to censorship: "Some organisations would like KaZaA to limit what you can and cannot share using KaZaA software. This is a form of censorship. If KaZaA bows to the pressure that the major entertainment companies are putting us under, you will no longer have the freedom to transfer information that you currently enjoy as a user of KaZaA" (*id*).

Another recent example of the growing resistance to the practices of the RIAA is the announcement by Information Wave Technologies, a local internet service provider in the New York City area, that it will deny the RIAA access to the contents of its network: "Earlier this year, the RIAA announced its new plan to access computers without owner's consent for the sake of protecting its assets. Information Wave believes this policy puts its customers at risk of unintentional damage, corporate espionage, and invasion of privacy to say the least." Press Release of August 18, 2002: IWT Bans RIAA From Accessing Its Network, available online at <<http://www.informationwave.net/news/20020819riaa.php>> (visited August 20, 2002).

²⁰⁵ Bettig says that "hackers recognize the role of cumulative human labor in producing knowledge and information" and that this recognition "distinguishes them from others who make unauthorized uses of copyrighted works, such as home tapers who make personal copies audio- or videocassettes and videocassette pirates, who act on economic impulses" (1996, p. 238).

²⁰⁶ Examples include the peasants struggles in Chiapas, Mexico, the Tiananmen Square democracy movement in China, the role of radio in the Algerian Revolution, the Dutch Clean Clothes Campaign, and the growing use of websites by anti-free trade, feminist, labor and African-American activists.

²⁰⁷ See the discussion of the anti-circumvention rules in chapter 2, section IB, *supra*.

²⁰⁸ For a general survey of the application of open source licenses in works other than software, see Newmarch (2000).

²⁰⁹ The process of applying for open source designation is described at http://opensource.org/docs/certification_mark.html. Software developers complying with this process place the OSI mark on their product, which is in two forms: (1) This software is OSI Certified Open Source Software. OSI Certified is a certification mark of the Open Source Initiative, or the shorter (2) OSI Certified Open Source Software.

²¹⁰ For the full annotated text of the definition along with its history of amendments, see <http://opensource.org/docs/definition.html> (visited May 12, 2002).

²¹¹ For an explanation of the concept of moral rights, see text accompanying notes 224-228, *infra*.

²¹² The May 16, 2002 press release announcing the group is available at <http://creativecommons.org/news/may16.html>.

²¹³ The group plans to launch a database of metadata “for every work licensed or dedicated to the public domain with the Creative Commons Contributor Application. We will make that metadata available and searchable using a variety of human-and machine-readable interfaces. Our goal is to help potential users easily search for and identify public domain and custom-licensed works. From the Creative Commons database, we will be able to generate a variety of data and metadata formats including RDF metadata and application-specific XML vocabularies. This data and metadata will be made available for use by third-party software applications” <http://creativecommons.org/technology/metadata.html>.

²¹⁴ <http://www.publiclibraryofscience.org> (visited May 19, 2002).

²¹⁵ The text of the license is available at <http://www.publiclibraryofscience.org/ploslicense.htm> (visited May 19, 2002).

²¹⁶ The participating journals are listed at <http://www.pubmedcentral.nih.gov/> (visited May 19, 2002).

²¹⁷ The text of the letter reads:

“We support the establishment of an online public library that would provide the full contents of the published record of research and scholarly discourse in medicine and the life sciences in a freely accessible, fully searchable, interlinked form. Establishment of this public library would vastly increase the accessibility and utility of the scientific literature, enhance scientific productivity, and catalyze integration of the disparate communities of knowledge and ideas in biomedical sciences.

We recognize that the publishers of our scientific journals have a legitimate right to a fair financial return for their role in scientific communication. We believe, however, that the permanent, archival record of scientific research and ideas should neither be owned nor controlled by publishers, but should belong to the public, and should be freely available through an international online public library.

To encourage the publishers of our journals to support this endeavor, we pledge that, beginning in September, 2001, we will publish in, edit or review for, and personally subscribe to, only those scholarly and scientific journals that have agreed to grant unrestricted free distribution rights to

any and all original research reports that they have published, through PubMed Central and similar online public resources, within 6 months of their initial publication date.”

- ²¹⁸ The effectiveness of the last paragraph of the letter, which has raised considerable controversy, has been questioned. The Chronicle of Higher Education reports that few signers are actually living up to the pledge. See “Journal Boycott Over Online Access Is a Bust,” by Jeffrey R. Young, CHE, May 16, 2002. Available online at <<http://chronicle.com/free/2002/05/2002051601t.htm>> (visited May 19, 2002).
- ²¹⁹ Roberts, Richard J. (2001). “PubMed Central: The GenBank of the Published Literature,” *Proceedings of the National Academy of Sciences of the USA*. January 16; 98 (2): 381-382. Available online at <<http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pubmed&pubmedid=11209037>> (visited May 19, 2002).
- ²²⁰ Vietnam provides a useful example because it is a developing country that is attempting to modernize its technological infrastructure without becoming dependant on the norms of the free-market. Further, the copyright laws are available in English translation as part of the new Civil Code and two recent articles (Luu, 1996; Wilkinson, 2002) provide beneficial insights and critiques into the law.
- ²²¹ Luu continues, “[b]y permitting the use of popular songs, Hollywood films, Broadway plays, and other artistic works without compensation, Article 761(f) would clearly harm the interests of the rightful owners and authors of the copyrighted works. Not only do the fair use provisions of the Civil Code contradict themselves, but they are not in accord with the United States Copyright Act or the Berne Convention.” (*id*, p. 845). It is interesting to note how Luu conflates the need to conform to the provisions of the United States Copyright Act with obligations under international treaties.
- ²²² He says, “Undoubtedly, the economic future of Vietnam closely correlates with the future effectiveness of its copyright protection system. By putting teeth into its copyright laws, Vietnam could transform these current paper tigers into formidable laws that would significantly reduce copyright piracy and eventually stimulate trade in the Vietnamese economy. Only then would Vietnam’s future as a viable international trading country begin to solidify in the new millennium” (*id*, p. 870).
- ²²³ Wilkinson extends the point to other areas of information production, for example the book industry and the distribution of electronic content (*id*, p. 13).
- ²²⁴ A limited exception to this statement is section 106A of the Act, which provides what are analogous to a subset of moral rights to certain visual artists. These rights include the right of attribution and a limited right to integrity, but does not cover associational rights.
- ²²⁵ Canada Copyright Act, Section 14.1.
- ²²⁶ *Id*, Section 28.2. Proving such prejudice to honour or reputation has been difficult in Canada. Only one reported case upholds such a claim. In *Snow v. Eaton Centre Ltd.* (1982), 70 C.P.R. (2d) 105 (Ont. H.C.J.), a sculptor forced a shopping mall to remove Christmas decorations placed on his statue of Canada geese. The court found that the placement of ribbons around the necks of the geese constituted a modification or distortion to the prejudice of the artist’s honour or reputation. Since the *Snow* decision, the Act has been amended to provide that “in the case of a painting, sculpture or engraving, the prejudice . . . shall be deemed to have occurred as a result of any distortion, mutilation or other modification of the work” (Section 28.2(2)). The presumption of

“deemed prejudice” expands the scope of the integrity rights and would make it easier to assert such a claim.

- ²²⁷ In one reported case, The Lanham Act was invoked to prevent a distortion of an artists’ work. In 1976, ABC obtained the right to air several episodes of *Monty Python's Flying Circus*, on American television. After ABC substantially edited the episodes from their original state Monty Python members sued, alleging that the cuts constituted an actionable mutilation of their work. In *Gilliam v. American Broadcasting Co.*, 538 F.2d 14, 24 (2d Cir. 1976), the Second Circuit agreed, stating that “the economic incentive that serves as the foundation for American copyright law cannot be reconciled with the inability of artists to obtain relief for mutilation or misrepresentation of their work to the public on which the artists are financially dependent.” But this case stands as somewhat of an anomaly as other circuits have not followed this holding.
- ²²⁸ In 1969, an advertising agency obtained the economic rights to use the Doors’ *Light My Fire*, and planned to use it in a Buick commercial with the slogan, “Come on Buick, light my fire.” An enraged Jim Morrison was able to block the ad (Saadi, 1997, p. 349). More recently, a Chevrolet Camaro ad plays Jimi Hendrix’s *Fire* as a red Camaro blazes by, and the voice-over says, “The 1993 Chevy Camaro. What else would you expect from the country that invented rock & roll?” Saadi reports that the surviving band members were outraged but were unable to stop the ad since the person controlling the economic rights to the work authorized it (*id.*).
- ²²⁹ While this discussion focuses explicitly on copyright law, similar scenarios may be developed for other branches of “intellectual property” laws along the same lines. “Intellectual property” is placed in quotes since at the instant level of analysis, the term would be a misnomer as the notion of property itself would be transformed.
- ²³⁰ As in the case of the US Copyright Act, Section 201 (b) or of the Canada Copyright Act, Section 13(3).
- ²³¹ The distinction is in the nature of the difference between a “top-down” or “bottom-up” approach. While the current law’s top-down approach defaults in favor of the employer, subject to alteration by agreement, the bottom-up approach inverts the relationship.
- ²³² This explicit recognition of fair use as a substantive right resolves the tensions in current fair-use controversies where fair-use is increasingly viewed as appropriate only insofar as needed to prevent market failure.
- ²³³ In the case of the right of integrity, the requirement of showing prejudice to the honor or reputation of the author would be relaxed. This liberalization of the right to integrity would be accomplished by expanding the presumption of ‘deemed prejudice’ (see note 209, *supra*) to all classes of works for purposes of the associational right in the case of advertising or promotional campaigns. This change would limit the use of works for use in advertising without the express consent of the author, a problem demonstrated by the example of the Doors and Jimi Hendrix in note 194, *supra*.
- ²³⁴ The current practice in moral rights jurisdictions is increasingly for the assignee of the economic interests to require a waiver of moral rights as a condition of the transaction. So long as there is a disparity in bargaining strength between individual authors and entities that distribute works, the extraction of waivers vitiates the idea of moral rights. By excluding waivers as well as transfers, the interests in preserving moral rights *vis a vis* economic rights is strengthened.
- ²³⁵ The application of the fair-use doctrine to moral rights is necessary in order to protect the interest in

parody since parodic works are often deemed objectionable by the first author. In the case of research, reporting and educational uses, the requirement of attribution would still have to be satisfied, consistent with good proper citation practices and the avoidance of plagiarism.

²³⁶ The perpetual nature of these rights is not as extreme as may first appear. There is no need to limit the duration of right of attribution, as it is only consistent with good citation practices and norms against plagiarism. The right to integrity is dependant on making a showing of prejudice to the reputation of the author, and the ability to make this showing is likely to recede with the passage of time. In cases of “deemed prejudice” any use for promotional purposes would remain subject to the approval of the author or his/her estate. However, if the proposed use were parodic, it would come within the bounds of fair-use even without authorization.

²³⁷ See the discussion of Collins’ critique of Pashukanis in Chapter 3, Section IV.

References

- American Library Association, American Association of Law Libraries, Association of Research Libraries, *et. al.* (2000). *Comments of the Library Associations*. (In the Matter of Rulemaking Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, Before the Copyright Office, Library of Congress. Available online at <<http://www.loc.gov/copyright/1201/comments/162.pdf>> (visited August 21, 2002).
- Antonelli, Cristiano. (1999). *The Microdynamics of Technological Change*. London: Routledge.
- Aoki, Keith. (1998). The Stakes of Intellectual Property Law. In David Kairys [Ed.], *The Politics of Law: A Progressive Critique* (3rd ed., pp. 259-78) New York: Basic Books.
- Aronson, J. Richard. (1985). *Public Finance*. New York; McGraw Hill.
- Association of Research Libraries *et. al.* (1998). "To Publish and Perish," *Policy Perspectives* 7(4). Available online at <<http://www.arl.org/scomm/pew/pewrept.html>> (visited August 10, 2002).
- Balabanian, Norman. (1993). The Neutrality of Technology: A Critique of Assumptions. In John Buschman [Ed.], *Critical Approaches to Information Technology in Librarianship: Foundations and Applications* (pp. 15-40) Westport, CT: Greenwood Press.
- Balbus, Issac. (1977). "Commodity Form and Legal Form: An Essay on the 'Relative Autonomy' of the Law," *Law & Society Review* 11 (Winter): 571.
- Band, Jonathan. (1998). *A Preliminary Analysis of H.R. 2652*. Available online at <<http://www.arl.org/info/frn/copy/bandanalysis.html>> (visited August 14, 2002).
- Barlow, John Perry. (1994). "The Economy of Ideas: A Framework for Rethinking Patents and Copyrights in the Digital Age," *WIRED* 2.03. <Available online at <http://www.wired.com/wired/archive/2.03/economy.ideas.html>> (visited August 14, 2002).
- Baumol, William J. and Alan S. Blinder. (1985). *Economics: Principles and Policy*, 3rd ed., New York: Harcourt Brace Jovanovich.
- Bell, Daniel. (1959). "The 'Rediscovery' of Alienation: Some Notes Along the Quest for the Historical Marx," *Journal of Philosophy* 56 (24): 933-952.

- Bell, Daniel. (1973) *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. New York: Basic Books.
- Bell, Daniel. (1979). The New Class: A Muddled Concept. In *The Winding Passage: Essays and Sociological Journeys 1960-1980*. (pp. 144-164) Cambridge, MA: Abt Books.
- Bell, Daniel. (1980). The Social Framework of the Information Society. In T. Forester [Ed.], *The Microelectronics Revolution: The Complete Guide to the New Technology and its Impact on Society* (pp. 500-549) Cambridge, MA: MIT Press.
- Bell, Daniel. (1988). *The End of Ideology*. [1962] [Reprint with new Afterword by the Author] Cambridge, MA: Harvard University Press.
- Bell, Daniel. (1989). "The Third Technological Revolution, and its Possible Socioeconomic Consequences." *Dissent* 36 (Spring): 164-76.
- Beniger, James. (1986). *The Control Revolution: The Technological and Economic Origins of the Information Society*. Cambridge, MA: Harvard University Press.
- Benkler, Yochai. (1999). "Free as the Air to Common Use, First Amendment Constraints on Enclosure of the Public Domain," *New York University Law Review* 74 (May): 354-446.
- Benkler, Yochai. (2000). "Constitutional Bounds of Database Protection: The Role of Judicial Review in the Creation and Definition of Private Rights in Information." *Berkeley Law and Technology Journal* 15 (Spring): 535.
- Benkler, Yochai. (2000a). "From Consumers to Users: Shifting the Deeper Structures of Regulation Towards Sustainable Commons and User Access," *Federal Communications Law Journal* 52 (May): 561-79.
- Benkler, Yochai. (2001). "Siren Songs and Amish Children: Autonomy, Information, and Law." *New York University Law Review* 76 (April): 23-113.
- Besen, Stanley and Leo J. Raskind. (1991) "An Introduction to the Law and Economics of Intellectual Property," *Journal of Economic Perspectives* 5 (Winter): 3-27.
- Betting, Ronald V. (1996). *Copyrighting Culture: The Political Economy of Intellectual Property*. Boulder, CO: Westview Press.
- Bierne, Piers and Robert Sharlet. (1979). Editors' Introduction. In *Pashukanis: Selected Writings on Marxism and Law*. [Edited and with an introduction by Piers Bierne

- and Robert Sharlet, Trans. by Peter B. Maggs], (pp. 1-36) London: Academic Press.
- Blanke, Henry T. (1989). "Librarianship and Political Values: Neutrality or Commitment?" *Library Journal* 114 (July): 39-43.
- Bohme, Gerno and Nico Stehr, (Eds.). (1986). "*The Growing Impact of Scientific Knowledge on Social Relations.*" [Sociology of the Sciences Yearbook, X]. Boston, MA: D. Reidel.
- Bolt, Nate. (2000). "The Binary Proletariat," *First Monday* 5 (5), available online at <http://www.firstmonday.org/issues/issue5_5/bolt/> (visited May 16, 2002).
- Bono, Mary. (1998). Remarks of Rep. Mary Bono. *Congressional Record*, October 7, 1998 (daily edition, H 5591).
- Bottomore, Tom. (1988). Introduction. In Tom Bottomore [Ed.], *Interpretations of Marx*. (pp. 1-45) Oxford: Basil Blackwell.
- Bourdieu, Pierre. (1987). "The Force of Law: Toward a Sociology of the Juridical Field," *Hastings Law Review* 38(2): 805-853.
- Boyle, James. (1985). "The Politics of Reason: Critical Legal Theory and Local Social Thought," *University of Pennsylvania Law Review* 133 (April): 685-780.
- Boyle, James. (1992). "A Theory of Law and Information: Copyright, Spleens, Blackmail, and Insider Trading," *California Law Review* 80 (December): 1413-1540.
- Boyle, James. (1996). *Shamans, Software, And Spleens: Law and the Construction of the Information Society*. Cambridge, MA: Harvard University Press.
- Boyle, James. (1997). "A Politics of Intellectual Property: Environmentalism for the Net?" *Duke Law Journal* 47 (October): 87-116.
- Boyle, James. (2001). "The Second Enclosure Movement and the Construction of the Public Domain," Conference on the Public Domain at Duke Law School, Nov 9-11, 2001. Available online at <<http://www.law.duke.edu/pd/papers.html>> (visited August 14, 2002).
- Braman, Sandra. (1989). "Defining Information: An Approach for Policymakers," *Telecommunications Policy* 13 (September): 233-242.

- Braman, Sandra. (1990). The Unique Characteristics of Information Policy and their U.S. Consequences. In Virgil Blake and Renee Tjoumas [Eds.], *Information Literacies for the Twenty-First Century* (pp. 47-77) Boston: G.K. Hall.
- Brand, Stuart. (1987). *The Media Lab: Inventing the Future at MIT*. New York: Viking.
- Braunstein, Yale M. (1991). "Resolving Conflicts Between Information Ownership and Intellectual Freedom," *Library Trends* 39 (1 & 2): 126-31.
- Braunstein, Yale, D.M. Fischer, J.A. Ordover and W.J. Baumol. (1977). *Economics of Property Rights as Applied to Computer Software and Databases*. Washington D.C.: United States Department of Commerce. (reprinted in G.P. Bush and R.H. Dreyfuss, eds., *Technology and Copyright* (rev. ed.) (pp. 235-45) Mt. Airy, MD: Lomond Books.
- Braverman, Harry. (1974). *Labor And Monopoly Capital: The Degradation of Work in the Twentieth Century*. New York: Monthly Review Press.
- Brennan, Timothy J. (1992) "Integrating Communication Theory into Media Policy," *Telecommunications Policy* 16 (August): 460-74.
- Bretthauer, David. (2002). "Open Source Software: A History." *Information Technology and Libraries* 21 (March). Available online at <http://www.lita.org/ital/2101_bretthauer.html> (visited August 14, 2002).
- Breyer, Stephen (1970). "The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies and Computer Programs." *Harvard Law Review* 84 (December): 281-351.
- Brookes, Bertram C. (1980). "The Foundations of Information Science. Part I. Philosophical Aspects," *Journal of Information Science*, 2 (October): 125-33.
- Brzezinski, Zbigniew. (1970) *Between Two Ages: America's Role in the Technetronic Era*. New York: The Viking Press.
- Buchanan, Allen. (1982). *Marx and Justice: The Radical Critique of Liberalism*. Towata, N.J.: Rowman and Littlefield.
- Buckland, Michael K. (1991). "Information as Thing," *Journal of the American Society for Information Science* 42 (5): 351-60.
- Buckland, Michael K. (1991a). *Information and Information Systems*. New York: Praeger.

- Burger, R. H. (1993) *Information Policy: A Framework for Evaluation and Policy Research*. Norwood, N.J.: Ablex.
- Burrell, Gibson and Gareth Morgan. (1979). *Sociological Paradigms and Organisational Analysis: Elements of the Sociology of Corporate Life*. London: Heinemann.
- Caffentzis, C. George. (1997). Why Machines Cannot Create Value; or, Marx's Theory of Machines," In Jim Davis, *et. al.*, [Eds.], *Cutting Edge: Technology, Information Capitalism and Social Revolution* (pp. 29-56) London: Verso.
- Cardozo, Benjamin . (1921/1978). *The Nature of the Judicial Process*. New Haven, CT: Yale University Press.
- Castells, Manuel. (1989). *The Informational City: Information Technology, Economic Restructuring and the Urban-Regional Process*. Oxford: Blackwell Publishers.
- Castells, Manuel. (1996). *The Rise of the Network Society* (Volume I in the Information Age: Economy, Society and Culture). Malden, MA: Blackwell Publishers.
- Catephores, George. (1990). Alienation. In John Eatwell, Murray Milgate and Peter Newman, [Eds.], *The New Palgrave Marxian Economics*. New York: W.W. Norton & Co.
- Clarke, Roger. (2001) "Information Wants to be Free." Available online at <<http://www.anu.edu.au/people/Roger.Clarke/II/IWtbF.html>> (visited August 14, 2002).
- Cleaver, Harry. (2000). *Reading Capital Politically*. 2nd ed., Leeds, U.K.: Anti/Thesis. (1st ed. [1979] Austin: University of Texas Press.)
- Coalition Against Database Piracy. (2000). "The Facts Behind H.R. 354: The "Collections of Information Antipiracy Act. <<http://www.gooddata.org/HR354Facts.htm>>. (visited August 21, 2002).
- Coalition Against Database Piracy. (2000a). *Title I of H.R. 1858 does not Provide Protection for Database Producers*. [briefing paper] <http://www.gooddata.org/1858_Briefing.htm>. (visited August 14, 2002).
- Coble, Howard. (1997). Statement of Rep. Coble. *Congressional Record* E 2000, (daily ed., October 9, 1997, Extension of Remarks).
- Coble, Howard. (1999). Statement of Rep. Coble. *Congressional Record* E84, (daily ed., January 19, 1999, Extension of Remarks).

- Coble, Howard. (2000). Statement of Rep. Coble. *Congressional Record* H 9639-40, (daily ed., October 11, 2000, Extension of Remarks).
- Cohen, Julie E. (1996). "A Right to Read Anonymously: A Closer Look at 'Copyright Management' in Cyberspace," *Connecticut Law Review* 28 (Summer): 981-1039.
- Cohen, Julie E. (1997). "Some Reflections on Copyright Management Systems and Laws Designed to Protect Them," *Berkeley Technology Law Journal* 12 (Spring) 161-187.
- Cohen, Julie E. (1998). "Lochner in Cyberspace: The New Economic Orthodoxy of 'Rights Management,'" *Michigan Law Review* 97 (November): 462-563.
- Collins, Hugh. (1982). *Marxism and Law*. Oxford: Clarendon Press.
- Cornish, Graham P. (1996). "Electronic Copyright Management Systems: Dream, Nightmare or Reality?" (62nd IFLA General Conference Proceedings - August 25-31, 1996). Available online at <<http://www.ifla.org/IV/ifla62/62-corg.htm>> (visited August 14, 2002).
- Creative Commons. (2002). Press Release, May 16, 2002. Available online at <<http://creativecommons.org/news/may16.html>> (visited August 21, 2002).
- Cuticchia, A. Jamie. (2000) "Future Vision of the GDB Human Genome Database," *Human Mutation* 15 (1): 62-67.
- David, Paul A. (2000). "A Tragedy of the Public Knowledge 'Commons'?: Global Science, Intellectual Property and the Digital Technology Boomerang," [Working Paper 04/00 Oxford Intellectual Property Research Center]. *OIPRC Electronic Journal of Intellectual Property Rights*, Available online at <<http://www.oiprc.ox.ac.uk/EJWP0400.html>> (visited August 14, 2002).
- Davis, Jim, Thomas A. Hirschl and Michael Stack (Eds.). (1997). *Cutting Edge: Technology, Information Capitalism and Social Revolution*. London: Verso.
- DeLong, J. Bradford and A. Michael Froomkin. (1997). *The Next Economy*. (forthcoming in Deborah Hurley, Brian Kahin, and Hal Varian, eds., *Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property* (Cambridge: MIT Press). Available online at <<http://www.law.miami.edu/~froomkin/articles/newecon.htm>> (visited May 12, 2002).
- Digital Futures Coalition. (1997). *Before WIPO Treaties are Ratified, Congress Should Adopt Comprehensive and Balanced Implementing Legislation*. (DFC Statement,

August 1997). Available online at <<http://www.dfc.org/dfc1/Archives/wipo/stwip.html>> (visited August 21, 2002).

- Dordick, Herbert. (1987). The Emerging Information Societies. In Jorge Schement, & Leah A. Lievrouw [Eds.], In *Competing Visions, Complex Realities: Social Aspects of the Information Society* (pp. 13-22) Norwood, N.J.: Ablex.
- Drucker, Peter. (1969). *The Age of Discontinuity: Guidelines to Our Changing Society*. New York: Harper & Row.
- Drucker, Peter. (1993). *Post-Capitalist Society*. New York: Harper Business.
- Duncan, Daniel C. (1999). Testimony of Daniel C. Duncan, (Vice President for Government Affairs Software and Information Industry Association). Hearing On H.R. 354, The Collections of Information Antipiracy Act, House Committee on the Judiciary Subcommittee on Courts and Intellectual Property, (March 18, 1999).
- Dyer-Witheford, Nick. (1999). *Cyber-Marx: Cycles and Circuits of Struggle in High-Technology Capitalism*. Urbana, IL: University of Illinois Press.
- Eagleton, Terry. (1991). *Ideology: An Introduction*. London: Verso.
- Edwards, Richard. (1979). *Contested Terrain: The Transformation of the Workplace in the Twentieth Century*. London: Heinemann.
- Ellul, Jacques.(1964). *Technological Society* [trans. by John Wilkinson]. New York: Vintage Books.
- Entman, Robert M. and Steven S. Wildman (1992) "Reconciling Economic and Non-Economic Perspectives on Media Policy: Transcending the 'Marketplace of Ideas.'" *Journal of Communication* 42 (1): 5-19.
- Feenberg, Andrew. (1991). *Critical Theory of Technology*. New York: Oxford University Press.
- Ferguson, Niels. (2001). "Censorship in Action: Why I Don't Publish my HDCP Results." Available online at <<http://www.macfergus.com/niels/dmca/cia.html>> (visited August 14, 2002).
- First Monday. (1998). FM Interview with Linus Torvalds: What Motivates Free Software Developers? *First Monday* 3 (3). Available online at <http://www.firstmonday.dk/issues/issue3_3/torvalds/> (visited August 14, 2002).

- Frank, Jerome. (1949) *Courts on Trial: Myth and Reality in American Justice*. Princeton, N.J.: Princeton University Press.
- Frank, Robert H. (2001). Why is Cost Benefit Analysis so Controversial? In Matthew D. Adler and Eric A. Posner [Eds], *Cost Benefit Analysis: Legal, Economic, and Philosophical Perspectives* (pp. 77-94) Chicago: University of Chicago Press.
- Fromm, Erich. (1961). *Marx's Concept of Man*. New York: Frederick Ungar.
- Frumkin, Peter. (2002). Guest Editorial: "Balancing the Playing Field." *Information Technology and Libraries* 21(March). Available online at <http://www.lita.org/ital/2101_editorial.html> (visited May 12, 2002).
- Gabel, Peter. (1982). Reification in Legal Reasoning. In Piers Bierne and Richard Quinney [Eds], *Marxism and Law* (pp. 262-278) New York: John Wiley & Sons.
- Gardner, William and Joseph Rosenbaum. (1998). "Database Protection and Access to Information," *Science Magazine* 281 (Aug 7): 786-87. Available online at <<http://www.sciencemag.org/cgi/content/short/281/5378/786>> (visited August 14, 2002).
- Garnham, Nicholas. (1997). Political Economy and the Practice of Cultural Studies. In Marjorie Ferguson and Peter Golding [Eds.], *Cultural Studies in Question* (pp. 56-73) Thousand Oaks, CA: Sage.
- Gates, Bill. (1995). *The Road Ahead*. London: Viking.
- Giddens, Anthony and Jonathan H. Turner. (Eds.). (1987). *Social Theory Today*. Stanford, CA: Stanford University Press.
- Gillmore, Dan. (2002). "We must engage in copyright debate." *San Jose Mercury News* August 12, 2002. Available online at <http://www.siliconvalley.com/ml/siliconvalley/business/columnists/dan_gillmor/3847297.htm> (visited August 15, 2002).
- Ginsparg, Paul. (1994). "First Steps Towards Electronic Research Communications." *Computers in Physics* 8 (4): 390.
- Ginsparg, Paul. (1996). "Winners and Losers in the Global Research Village." (Conference presentation in session Scientist's View of Electronic Publishing and Issues Raised, February 21, 1996, UNESCO Headquarters, Paris, France). Available online <<http://xxx.lanl.gov/blurb/pg96unesco.html>> (visited August 14, 2002).

- Glazier, Mitch. (1999). "Legislation Under Consideration by the Congress of the United States of America Regarding the Protection of Databases," Presentation at Protection of Databases Workshop, International Conference on Electronic Commerce and Intellectual Property September 16, 1999. (WIPO/EC/CONF/99/SPK/22-B). Geneva: World Intellectual Property Organization. Available online at <<http://ecommerce.wipo.int/meetings/1999/papers/glazier.html>> (visited August 14, 2002).
- Goldstein, Paul. (1996). *Copyright*. 2nd ed., [4 vol]. Boston: Little Brown.
- Gordon, Wendy J. (1990). "Toward a Jurisprudence of Benefits: The Norms of Copyright and the Problem of Private Censorship," *University of Chicago Law Review* 57 (Summer): 1009-49.
- Gouldner, Alvin. (1979). *The Future of Intellectuals and the Rise of the New Class: A Frame of Reference, Theses, Conjectures, Arguments, and an Historical Perspective on the Role of Intellectuals and Intelligentsia in the International Class Contest of the Modern Era*. New York: Seabury Press.
- Gouldner, Alvin. (1980). *The Two Marxisms: Contradictions and Anomalies in the Development of Theory*. New York: Seabury Press.
- Gramsci, Antonio (1971). *Selections from the Prison Notebooks*. [Ed. and trans. by Quentin Hoare and Geoffrey Nowell Smith]. New York: International Publishers.
- Halbert, Debora J. (1999). *Intellectual Property in the Information Age: The Politics of Expanding Ownership Rights*. Westport, CT: Quorum Books.
- Halligan, R. Mark. (2001). *Trade Secrets and the Inevitable Disclosure Doctrine*. Washington D.C.: National Legal Center for Law and the Public Interest.
- Hamilton, Marci A. (1996). Copyright Duration Extension and the Dark Heart of Copyright." *Cardozo Arts and Entertainment Law Journal* 14 (3): 655-60.
- Harding, Sandra. (1998). *Is Science Multicultural?: Postcolonialisms, Feminisms and Epistemologies*. Bloomington, IA: Indiana University Press.
- Hardt, Michael and Antonio Negri. (2000). *Empire*. Cambridge, MA: Harvard University Press.
- Harris, Laurence. (1983). Forces and Relations of Production. In Tom Bottomore [Ed.], *A Dictionary of Marxist Thought* (pp. 178-80) Cambridge, MA: Harvard University Press.

- Harris, Laurence. (1983a). Periodization of Capitalism. In Tom Bottomore [Ed.], *A Dictionary of Marxist Thought* (pp. 365-68) Cambridge, MA: Harvard University Press.
- Harris, Michael H. and Stanley A. Hannah. (1993). *Into The Future: The Foundations of Library and Information Services in the Post-Industrial Era*. Norwood, N.J.: Ablex.
- Harvey, David. (1990) *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Oxford: Basil Blackwell.
- Harvey, David. (1999). *The Limits to Capital*. London: Verso.
- Hatch, Orrin. (1998). "Toward a Principled Approach to Copyright Legislation at the Turn of the Millennium," *University of Pittsburgh Law Review* 59 (Summer): 719-57.
- Heidegger, Martin. (1977). *The Question Concerning Technology and Other Essays* [trans. William Lovitt]. New York: Harper & Row.
- Hess, David J. (1997). *Science Studies: An Advanced Introduction*. New York: New York University Press.
- Holmes, O.W. Jr. (1881). *The Common Law*. Boston: Little Brown.
- Holub, Renate. (1992). *Gramsci: Beyond Marxism and Postmodernism*. London: Routledge.
- Horkheimer, Max. (1989). The State of Contemporary Social Philosophy and the Tasks of an Institute for Social Research. [1930] translated by Peter Wagner. In Stephen Eric Bronner and Douglas MacKay Kellner [Eds.], *Critical Theory and Society: A Reader* (pp. 25-36) New York: Routledge.
- Hugenholtz, P. Bernt. (2001). "The New Database Right: Early Case Law from Europe," [paper presented at Ninth Annual Conference on International IP Law & Policy, Fordham University School of Law, New York, 19-20 April 2001]. Available online at <<http://www.ivir.nl/publications/hugenholtz/fordham2001.pdf>> (visited August 21, 2002).
- Human Genome Program, United States Department of Energy. (1996). *To Know Ourselves: The U.S. Department of Energy and the Human Genome Project Human Genome Project*. Available online at <<http://www.ornl.gov/hgmis/publicat/tko/tko.pdf>> (visited August 19, 2002).

- Hunt, Allen. (1982). Dichotomy and Contradiction in the Sociology of Law. In Piers Birne and Richard Quinney [Eds.], *Marxism and Law* (pp. 74-97) New York: John Wiley & Sons.
- Hunt, Allen. (1993). *Explorations in Law and Society: Toward a Constitutive Theory of Law*. London: Routledge.
- Hurt, Robert M. and Robert M. Schuchman. (1966). "The Economic Rationale of Copyright (in The Economics of Publishing)." *American Economic Review* 56 (March): 421-432.
- Industry Canada and Canadian Heritage. (2001). *A Framework for Copyright Reform*. <<http://strategis.ic.gc.ca/SSG/rp01101e.html>> (visited August 14, 2002).
- Jaszi, Peter A. (1992). "The Author Effect: Contemporary Copyright and Collective Creativity," *Cardozo Arts & Entertainment Law Journal* 10 (2): 293-320.
- Jaszi, Peter A. (1996). "Goodbye to All That - A Reluctant (and Perhaps Premature) Adieu to a Constitutionally-Grounded Discourse of Public Interest in Copyright Law," *Vanderbilt Journal of Transnational Law* 29 (May): 595.
- Jaszi, Peter. (1996a). *Some Public Interest Considerations Relating to H.R. 3531*. Available online at <<http://www.arl.org/info/frn/copy/peter.html>> (visited August 14, 2002).
- Jay, Martin. (1984). *Marxism and Totality: The Adventures of a Concept from Lukacs to Habermas*. Berkeley: University of California Press.
- Kahin, Brian. (2001). "The Expansion of the Patent System: Politics and Political Economy," *First Monday* 6 (1), January 8, 2001. Available online at <http://www.firstmonday.dk/issues/issue6_1/kahin/index.html> (visited August 14, 2002).
- Kairys, David. (1998). *The Politics of Law: A Progressive Critique*. 3rd ed., David Kairys [Ed.], New York: Basic Books.
- Kastenmeier, Robert W. and Michael J. Remington. (1985). "The Semiconductor Chip Protection Act of 1984: A Swamp of Firm Ground?" *Minnesota Law Review* 70 (December): 417-70.
- Keck, Richard. (2001). "Senator Polak Introduces Database Protection Bill." [GECA Stories]. Available online at <<http://www.geca.org/new/ni20010346.html>> (visited August 14, 2002).

- Kellner, Douglas. (1984). *Herbert Marcuse and the Crisis of Marxism*. Berkeley: University of California Press.
- Kellner, Douglas. (1995). The Obsolescence of Marxism? In Bernd Magnus and Stephen Callenberg [Eds.], *Whither Marxism?: Global Crises in International Perspective*. New York and London: Routledge.
- Kellner, Douglas. (1997). Overcoming the Divide: Cultural Studies and Political Economy. In Marjorie Ferguson and Peter Golding [Eds.], *Cultural Studies in Question* (pp. 102-120) Thousand Oaks, CA: Sage.
- Kellner, Douglas. (1999). Globalization from Below? Toward a Radical Democratic Technopolitics,” *Angelaki: Journal of the Theoretical Humanities* 4 (2): 101-13.
- Kelsen, Hans. (1967). *Pure Theory of Law*. [trans Max Knight] Berkeley: University of California Press.
- Kennedy, Duncan. (1985). “The Role of Law in Economic Thought: Essays on the Fetishism of Commodities.” *American University Law Review* 34 (Summer): 939-1001.
- Kennedy, Duncan. (1997). *A Critique of Adjudication (fin de siecle)*. Cambridge, MA: Harvard University Press.
- Knopf, Howard P. (1999). “The Database Dilemma in Canada: Is ‘Ultra’ Copyright Required?” *University of New Brunswick Law Journal* 48 (1999): 163-85.
- Landes, William M. and Richard A. Posner. (1989) “An Economic Analysis of Copyright Law.” *Journal of Legal Studies* 18 (June): 325-363.
- Ledley, Robert. (1997). Statement of Dr. Robert Ledley, (Professor, Georgetown University). Hearing on H.R. 2652, the Collection of Information Antipiracy Act, House Committee on the Judiciary Subcommittee on Courts and Intellectual Property (October 23, 1997).
- Lederberg, Joshua. (1999). Statement of Joshua Lederberg on behalf of the National Academy of Sciences, National Academy of Engineering, Institute of Medicine and American Association for the Advancement of Science. Hearing on the “Collections of Information Antipiracy Act” before the Committee on the Judiciary, United States House of Representatives (March 18, 1999) Available online at <<http://www.house.gov/judiciary/106-lede.htm>> (visited August 21, 2002).

- Lehman, Bruce A. (1997). Statement of Bruce A. Lehman, Assistant Secretary of Commerce, and Commissioner of Patents and Trademarks on H.R. 2180 and H.R. 2281 before the Committee on the Judiciary Subcommittee on Courts and Intellectual Property, United States House of Representatives (September 16, 1997) Available online at <<http://www.house.gov/judiciary/40001.htm>> (visited August 14, 2002).
- Lehvaslaiho, Heikki, Elia Stupka, and Michael Ashburner. (2000). "Sequence Variation Database Project at the European Bioinformatics Institute," *Human Mutation* 15 (1): 52-56.
- Lenin, V.I. (1902/1969). *What is to be Done?: Burning Questions of Our Movement*. New York: International Publishers.
- Lessig, Lawrence. (1996). "Intellectual Property and Code," *St. John's Journal of Legal Commentary* 11 (Summer): 635-39.
- Lessig, Lawrence. (1997). "The Constitution of Code: Limitations on Choice-Based Critiques of Cyberspace Regulations," *COMMLAW Conspectus* (Journal of Communications Law and Policy) 5 (Summer): 181-91.
- Lessig, Lawrence. (1999). *Code and Other Laws of Cyberspace*. New York: Basic Books.
- Lessig, Lawrence. (2001). *The Future of Ideas: The Fate of the Commons in a Connected World*. New York: Random House.
- Lieberman, Joseph. (1998). Letter to Sen. Patrick Leahy (September 8, 1998). Available online at <<http://www.arl.org/info/letters/lieberman.html>>. (visited August 21, 2002).
- Lipset, Seymour. (1963). *Political Man*. London: Heinemann.
- Litman, Jessica. (1990). "The Public Domain," *Emory Law Journal* 39 (Fall): 965-1023.
- Litman, Jessica. (1994). "Mickey Mouse Emeritus: Character Protection and the Public Domain," *University of Miami Entertainment and Sports Law Review* 11 (Spring): 429-35.
- Litman, Jessica. (1994a). "The Exclusive Right to Read," *Cardozo Arts & Entertainment Law Journal* 13 (1): 29-54.
- Litman, Jessica. (1996). "Revising Copyright Law for the Information Age," *Oregon Law Review* 75 (Spring): 19-47.

- Litman, Jessica. (2001). *Digital Copyright*. Amherst, N.Y.: Prometheus Books.
- Locke, John. (1952). *Second Treatise of Government* [Ed, with an introduction., by Thomas P. Peardon] Indianapolis IA: Bobbs-Merrill.
- Lukacs, Georg. (1971). *History and Class Consciousness: Studies in Marxist Dialectics*. [translated by Rodney Livingstone] Cambridge, MA: MIT Press.
- Luu, Than Nguyen. (1996). "To Slay a Paper Tiger: Closing the Loopholes in Vietnam's New Copyright Laws," *Hastings Law Journal* 47 (March): 821-70.
- Lyon, David. (1988). *The Information Society: Issues and Illusions*. Oxford: Polity Press.
- Machlup, Fritz. (1962). *The Production and Distribution of Knowledge in the United States*. Princeton, N.J.: Princeton University Press.
- Machlup, Fritz. (1980). *Knowledge: Its Creation, Distribution, and Economic Significance*, (Volume 1: Knowledge and Knowledge Production), Princeton, N.J.: Princeton University Press.
- Mackaay, Ejan. (1996). The Economics of Emergent Property Rights on the Internet. In P. Brent Hugenholtz [Ed.], *The Future of Copyright in a Digital Environment*. The Hague: Kluwer Law International
- Mandel, Ernest. (1978). *Late Capitalism* [1972, trans. by Joris De Bres], London: Verso.
- Marcuse, Herbert. (1964). *One-Dimensional Man*. Boston: Beacon Press.
- Marvin, Carolyn. (1988). *When Old Technologies Were New: Thinking About Electric Communications in the Late 19th Century*. Oxford: Oxford University Press.
- Marx, Karl. (1844/1964). Economic and philosophical manuscripts. In T.B. Bottomore (trans. and ed.), *Karl Marx: Early Writings*. New York: McGraw Hill.
- Marx, Karl. (1857-1858/1973) *Grundrisse: Foundations of the Critique of Political Economy*. [Translated with a Foreword by Martin Nicolaus]. New York: Penguin Books.
- Marx, Karl. (1859/1970). *A Contribution to a Critique of Political Economy*. Edited with an Introduction by Maurice Dobb. New York: International Publishers.

- Marx, Karl. (1865/1974). *Value Price and Profit*. Eleanor Marx Aveling [Ed.], New York: International Publishers.
- Marx, Karl. (1867/1967). *Capital: A Critique of Political Economy*. (Volume 1: The Process of Capitalist Production). Translated by Samuel Moore and Edward Aveling, edited by Frederick Engels. New York: International Publishers.
- Marx, Karl. (1867/1977). *Capital: A Critique of Political Economy*. (Volume 1), [Translated by Ben Fowkes, introduced by Ernest Mandel] New York: Vintage Books.
- Marx, Karl and Frederich Engels. (1975). *Marx-Engels Selected Correspondence*. Moscow: Progress Publishers.
- Masuda, Yoneji. (1981). *The Information Society as Postindustrial Society*. Bethesda, MD: World Futures Society.
- Maurer, Stephen M. (1999) *Raw Knowledge: Protecting Technical Databases for Science and Industry*. (Proceedings of the Workshop on Promoting Access to Scientific and Technical Data for the Public Interest: An Assessment of Policy Options, January 14-15, 1999; Appendix C). Available online at <http://www.nap.edu/html/proceedings_sci_tech/appC.html> (visited August 14, 2002).
- Maurer, Stephen M. (2000). "Coping with Change: Intellectual Property Rights, New Legislation, and the Human Mutation Database Initiative," *Human Mutation* 15 (1): 22-29.
- Maurer, Stephen M. (2001). Across Two Worlds: Database Protection in the US and Europe [A Paper Prepared for Industry Canada's Conference on Intellectual Property and Innovation In the Knowledge-Based Economy, May 23-24, 2001] outline available online at <<http://strategis.ic.gc.ca/pics/ip/maurer.pdf>> (visited August 21, 2002).
- Maurer, Stephen M., Richard B. Firestone and Charles R. Scriver. (2000). "Science's Neglected Legacy," *Nature* 405 (May 11): 117-20
- Maurer, Stephen M. and Suzanne Scotchmer. (1999). "Database Protection: Is It Broken and Should We Fix It?" *Science Magazine* 284 (May 14): 1129-30. Available online at <<http://www.sciencemag.org/cgi/content/full/284/5417/1129>> (visited August 14, 2002).
- McLellan, David. (1986). *Ideology*. Minneapolis: University of Minnesota Press.

- McManis, Charles R. (1999). "The Privatization (or 'Shrink-Wrapping') of American Copyright Law," *California Law Review* 87 (January): 173-90.
- Menell, Peter S. (2000). Intellectual Property: General Theories. In Bouckaert, Boudewijn and De Geest, Gerrit [Eds.], *Encyclopedia of Law and Economics, Volume I. The History and Methodology of Law and Economics* (chapter 16, pp. 129-880) Cheltenham, UK: Edward Elgar Publishing.
- Mills, C. Wright. (1953). "Two Styles of Research in Current Social Studies," *Philosophy of Science* 20(4). Reprinted in *Power, Politics and People: The Collected Essays of C. Wright Mills*. (1963) Irving Louis Horowitz, [Ed], (pp. 553-67) New York: Ballentine Books.
- Mills, C. Wright. (1960). "The New Left," *New Left Review* (Sept/Oct). Reprinted in *Power, Politics and People: The Collected Essays of C. Wright Mills*. (1963) Irving Louis Horowitz, [Ed], pp. 247-59) New York: Ballentine Books.
- Milovanovic, Dragan. (1988). *A Primer on the Sociology of Law*. New York: Harrow and Heston.
- Moorehead, Carlos. (1996). Statement of Rep. Moorehead Congressional Record E 890-91, (daily ed., May 23, 1996, Extension of Remarks).
- Morris-Suzuki, Tessa (1997). "Robots and Capitalism." In Jim Davis *et. al.*, [Eds.], *Cutting Edge: Technology, Information Capitalism and Social Revolution* (pp. 13-27) London: Verso. Reprint from [1984] *New Left Review* 147 (Sept/Oct).
- Morris-Suzuki, Tessa (1997a). "Capitalism in the Computer Age." (with Afterword) In Jim Davis, *et. al.*, eds. *Cutting Edge: Technology, Information Capitalism and Social Revolution* (pp. 57-71) London: Verso. Reprint from [1986] *New Left Review* 160 (Nov/Dec).
- Morrow, Raymond A. and David D. Brown. (1994). *Critical Theory and Methodology*. Thousand Oaks, CA: Sage.
- Mumford, Lewis. (1964). *Technics and Civilization*. New York: Harcourt, Brace and World.
- Musgrave, Richard. (1959). *The Theory of Public Finance: A Study in Public Economy*. New York: McGraw-Hill.
- National Research Council. Committee for a Study on Promoting Access to Scientific and Technical Data for the Public Interest. (1999). Proceedings of the Workshop on Promoting Access to Scientific And Technical Data for the Public Interest:

- An Assessment of Policy Options. (January 14-15, 1999). Available online at <http://books.nap.edu/html/proceedings_sci_tech/> (visited August 17, 2002).
- National Research Council. Committee for a Study on Promoting Access to Scientific and Technical Data for the Public Interest. (1999a). *A Question of Balance: Private Rights and the Public Interest in Scientific and Technical Databases*. Washington D.C.: National Academy Press. Available online at <<http://www.nap.edu/books/0309068258/html/>> (visited August 17, 2002).
- Negri, Antonio. (1984). *Marx Beyond Marx*. (Harry Cleaver, Michael Ryan, and Maurizio Viano, trans.) South Hadley, MA: Bergin and Garvey.
- Newmarch, Jan. (2000). Open Content Licenses. Available online at <<http://jan.netcomp.monash.edu.au/opendoc/paper.html>> (visited August 14, 2002).
- Netanel, Neil Weinstock. (1996). "Copyright and a Democratic Civil Society," *Yale Law Journal* 106 (November): 283-387.
- Nicolaus, Martin. (1968). "The Unknown Marx," *New Left Review* 47 (March-April): 41-61.
- Nicolaus, Martin. (1973). Foreword, in *Grundrisse: Foundations of the Critique of Political Economy*. [1857-1858] translated with a Foreword by Martin Nicolaus. London: Pelican Books.
- Nielsen, Jakob. (2002). "Deep Linking is Good Linking," *Jakob Nielsen's Alertbox* March 3, 2002. Available online at <<http://www.useit.com/alertbox/20020303.html>> (visited August 20, 2002).
- Ollman, Bertell. (1976). *Alienation: Marx's Conception of Man in Capitalist Society*. Alienation, 2nd ed. Cambridge: Cambridge University Press.
- Ollman, Bertell. (1993). *Dialectical Investigations*. New York: Routledge.
- Olson, Mancur. (1971). *The Logic of Collective Action: Public Goods and the Theory of Groups*. (Harvard Economic Studies, Vol. CXXIV). Cambridge, MA: Harvard University Press.
- Pashukanis, Evgeny. (1924/1979). *Pashukanis: Selected Writings on Marxism and Law*. [Edited and with an introduction by Piers Beirne and Robert Sharlet, Trans. by Peter B. Maggs]. London: Academic Press.

- Peek, Robin. (2001). PubSCIENCE Under Threat. *Information Today* (July 9, 2001). Available online at <<http://www.infotoday.com/newsbreaks/nb010709-1.htm>> (visited August 20, 2002).
- Petrovic, Gajo. (1983). Reification. In Tom Bottomore [Ed.], *A Dictionary of Marxist Thought* (pp. 411-13) Cambridge, MA: Harvard University Press.
- Phelps, Edmund S. (1985). *Political Economy: An Introductory Text*. New York: W.W. Norton & Co.
- Pincus, Andrew J. (1998). Letter from Andrew J. Pincus, General Counsel, United States Department of Commerce (August 4, 1998). Available online at <<http://www.acm.org/usacm/copyright/doj-s2291.html>> (visited August 14, 2002).
- Plant, Arnold. (1934). "The Economic Aspect of Copyright in Books," *Economica* 1 (May): 167-195.
- Pogue, Thomas F. and L.G. Sgontz. (1978). *Government and Economic Choice: An Introduction to Public Finance*. Boston, MA: Houghton Mifflin Co.
- Pool, Robert and Joan Esnayra. (2000) *Bioinformatics: Converting Data to Knowledge: Workshop Summary*. Washington D.C.: National Academy Press. Available online at <<http://books.nap.edu/books/0309072565/html/>> (visited August 21, 2002).
- Poster, Mark. (1990). *The Mode of Information: Poststructuralism and Social Context*. Chicago: University of Chicago Press.
- Postman, Neil. (1993). *Technopoly: The Surrender of Culture to Technology*. New York: Knopf.
- Radin, Margaret. (1996). *Contested Commodities*. Cambridge, MA: Harvard University Press.
- Ragin, Charles C. (1992). Introduction: Cases of What is a Case? In Charles C. Ragin and Howard S. Becker [Eds.], *What is a Case?: Exploring the Foundations of Social Inquiry* (pp. 1-17) Cambridge: Cambridge University Press.
- Ragin, Charles C. (1992a). Casing and the Process of Social Inquiry. In Charles C. Ragin and Howard S. Becker [Eds.], *What is a Case?: Exploring the Foundations of Social Inquiry* (pp. 217-226) Cambridge: Cambridge University Press.

- Raymond, Eric S. (1998). "The Cathedral and the Bazaar," *FirstMonday* 3 (3, March 2, 1998). Available online at <[http://www.firstmonday.dk issues/issue3_3/raymond/](http://www.firstmonday.dk/issues/issue3_3/raymond/)> (visited May 12, 2002).
- Reichman, Jerome.H. (1996) "The Duration of Copyright and the Limits of Cultural Policy," *Cardozo Arts and Entertainment Law Journal* 14 (3): 625-54.
- Reichman, Jerome H. and Jonathan A. Franklin. (1999). "Privately Legislated intellectual Property Rights: Reconciling Freedom of Contract with Public Good Uses of Information," *University of Pennsylvania Law Review* 147 (April): 875-970.
- Reichman, Jerome H. and Pamela Samuelson. (1997) "Intellectual Property Rights in Data?" *Vanderbilt Law Review* 50 (January): 51-166.
- Reichman, Jerome H. and Paul F. Uhlir. (1999). "Database Protection at the Crossroads: Recent Developments and Their Impact on Science and Technology," *Berkeley Technology Law Journal* 14 (2): 793-821.
- Reinbothe, Jörg. (1999). "*The Legal Protection of Non-Creative Databases*," Presentation at Protection of Databases Workshop, International Conference on Electronic Commerce and Intellectual Property September 16, 1999. (WIPO/EC/CONF/99/SPK/22-A). Geneva: World Intellectual Property Organization. Available online at <<http://ecommerce.wipo.int/meetings/1999/papers/reinbothe.html>> (visited August 21, 2002).
- Richardson, Henry S. (2001) "The Stupidity of the Cost-Benefit Standard." In Matthew D. Adler and Eric A. Posner [Eds], *Cost Benefit Analysis: Legal, Economic, and Philosophical Perspectives* (pp. 135-67) Chicago: University of Chicago Press.
- Roberts, Richard J. (2001). "PubMed Central: The GenBank of the Published Literature," *Proceedings of the National Academy of Sciences of the USA*. January 16; 98 (2): 381-382. Available online at <<http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pubmed&pubmedid=11209037>> (visited August 21, 2002).
- Rose, Mark. (1993). *Authors and Owners: The Invention of Copyright*. Cambridge: Harvard University Press.
- Roszak, Theodore. (1994). *The Cult of Information: A Neo-Luddite Treatise on High-Tech, Artificial Intelligence and the True Art of Thinking*. 2nd ed. Berkeley, CA: University of California Press.
- Saadi, Edward T. (1997). "Sound Recordings Need Sound Protection," *Texas Intellectual Property Law Journal* 5 (Spring): 333-61.

- Salvaggio, Jerry. (1987). Projecting a Positive Image of the Information Society. In Jennifer Daryl Slack & Fred Fejes [Eds.], *The Ideology of the Information Age* (pp. 146-57) Norwood, N.J.: Ablex.
- Samuelson, Pamela. (1994). "The NII Intellectual Property Report: National Information Infrastructure." *Communications of the ACM* 37 (December): 21.
- Samuelson, Pamela. (1996). "The Copyright Grab," *WIRED* 4.1 (January) Available online at <http://www.wired.com/wired/archive/4.01/white.paper_pr.html>. (visited August 21, 2002).
- Samuelson, Pamela. (1996a). "Regulation of Technologies to Protect Copyrighted Works," *Communications of the ACM* 39 (July): 17.
- Samuelson, Pamela. (1996b). "Law and Computers: The Quest for Enabling Metaphors for Law and Lawyering in the Information Age," *Michigan Law Review* 94 (May): 2029-57.
- Samuelson, Pamela. (1997). *Response to Tyson-Sherry Paper*. [Letter to Howard Coble, October 23, 1997]. Available online at <<http://www.arl.org/info/frn/copy/psamlet.html>> (visited August 21, 2002).
- Samuelson, Pamela. (1997a). "The U.S. Digital Agenda at WIPO," *Virginia Journal of International Law* 37 (Winter): 369-439.
- Samuelson, Pamela. (1999). "Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Revised," *Berkeley Technology Law Journal* 14 (Spring): 519-66.
- Sassoon, Anne Showstack. (1987). *Gramsci's Politics*, 2d ed. London: Hutchinson.
- Schement, Jorge R. and Leah A. Lievrouw. (1987). The Fundamental Assumptions of Information Society Research. In Jorge R. Schement and Leah A. Lievrouw [Eds.], *Competing Visions, Complex Realities: Social Aspects of the Information Society* (pp. 33-45) Norwood, N.J.: Ablex.
- Schiller, Dan. (1997). The Information Commodity: A Preliminary View. In Davis, Jim, Thomas A. Hirschl and Michael Stack [Eds.]. *Cutting Edge: Technology, Information, Capitalism, and Social Revolution*, NY: Verso.
- Schiller, Dan. (1999). *Digital Capitalism: Networking the Global Market System*. Cambridge, MA: MIT Press.

- Schiller, Herbert. (1987). Old Foundations for a New (Information) Age. In Jorge R. Schement, and Leah A. Lievrouw, [Eds.] *Competing Visions, Complex Realities: Social Aspects of the Information Society* (pp. 23-31) Norwood, N.J.: Ablex.
- Segal, Adam P. (1997). "Zombie Copyrights: Copyright Restoration under the New § 104A of the Copyright Act," *Santa Clara Computer and High Technology Law Journal* 13 (February): 71-106.
- Shannon, Claude and Warren Weaver. (1949). *The Mathematical Theory of Communication*. Urbana: University of Illinois Press.
- Shapiro, Carl and Hal R. Varian. (1999). *Information Rules: A Strategic Guide to the Network Economy*. Boston, MA: Harvard Business School Press.
- Shaw, William H. (1983) Historical Materialism. In Tom Bottomore [Ed.], *A Dictionary of Marxist Thought* (pp. 206-210) Cambridge, MA: Harvard University Press.
- Slack, Jennifer Daryl. (1984). *Communication Technologies And Society: Conceptions of Causality and the Politics of Technological Intervention*. Norwood, N.J.: Ablex.
- Slack, Jennifer Daryl. (1987). The Information Age as Ideology: An Introduction. In Jennifer Daryl Slack & Fred Fejes [Eds.], *The Ideology of the Information Age* (pp. 1-11) Norwood, N.J.: Ablex.
- Smith, Adam. (1776/1961). *An Inquiry into the Nature And Causes of the Wealth of Nations*. 6th ed., [Ed. by Edwin Cannan] London: Methuen & Co.
- Söderberg, Johan. (2002). "Copyleft vs. Copyright: A Marxist Critique," *First Monday* 7 (3), March 4, 2002. Available online at <http://www.firstmonday.dk/issues/issue7_3/soderberg/> (visited August 14, 2002).
- Software and Information Industry Association. (1998). *Access to Public Information and its Dissemination: Perspectives for Policymakers and the Public in the Information Age*. Available online at <<http://www.siiia.net/sharedcontent/govt/issues/gip/gipperspectives.htm>> (visited May 12, 2002).
- Software and Information Industry Association. (1999). *Electronic Publishing, Databases and the Internet--A Strong Case For A New IP Right?* (Testimony presented at Regional Roundtable on the Protection of Rights of Broadcasting Organizations and on the Protection Of Databases; Vilnius, Lithuania, April 20, 1999). Available online at <<http://www.siiia.net/ga/ip/dbWIPO4-20.htm>>.

- Software and Information Industry Association. (2000). *Database Protection: Making the Case for a New Federal Database Protection Law*. Available online at <<http://www.siiia.net/sharedcontent/govt/issues/ip/dbbrief.html>> (visited April 3, 2001).
- Software and Information Industry Association. (2000a). *Uniform Computer Information Transactions Act: A Framework for Transactions in Software and Information*. Available online at <<http://siiia.net/sharedcontent/govt/issues/ucita/brief.html>> (visited May 12, 2002).
- Software and Information Industry Association. (2000b). "Software Industry Suffers From Cumulative Impact of Global Software Piracy; Publisher Losses Total \$12.2 Billion in 1999." (May 24, 2000). [press release]. Available online at <<http://www.siiia.net/sharedcontent/press/2000/5-24-00.html>> (visited May 12, 2002).
- Software and Information Industry Association. (2001). "Clearing Up the Myths About PubSCIENCE." Available online at <<http://www.siiia.net/sharedcontent/govt/issues/ip/07-01pubscience.html>> (visited August 20, 2002).
- Stefik, Mark (1996). Letting Loose the Light: Igniting Commerce in Electronic Publication. In Mark Stefik [Ed], *Internet Dreams: Archetypes, Myths, and Metaphors* (pp. 219-253) Cambridge, MA: MIT Press.
- Stefik, Mark. (1997). "Trusted Systems: Devices that Enforce Machine-Readable Rights to Use the Work of a Musician or Author May Create Secure Ways to Publish Over the Internet," *Scientific American*, 276(3). Available online at <<http://www.sciam.com/0397issue/0397stefik.html>> (visited May 12, 2002).
- Stiglitz, Joseph E. (1988). *Economics of the Public Sector*, (2nd ed). New York; W.W. Norton.
- Sumner, Colin. (1979). *Reading Ideologies: An Investigation into the Marxist Theory of Ideology and Law*. New York: Academic Press.
- Szelényi, Iván and Robert Martin. (1988). *Socialist Entrepreneurs: Embourgeoisement in Rural Hungary*. Madison, WI: University of Wisconsin Press.
- Tancredo, Thomas G. (2000). Remarks of Thomas G. Tancredo. Congressional Record, March 23, 2000 (daily edition, E 303-304).
- Teece, David J. (2000). *Managing Intellectual Capital: Organizational, Strategic and Policy Dimensions*. Oxford: Oxford University Press.

- Thompson, Paul. (1989). *The Nature of Work: An Introduction to Debates on the Labour Process*, 2nd ed., London: Macmillan.
- Toffler, Alvin. (1980). *The Third Wave*. New York: Bantam Books.
- Touraine, Alain. (1971). “*The Post-Industrial Society: Tomorrow’s Social history: Classes, Conflicts and Culture in the Programmed Society.*” Leonard F. X. Mayhew [trans]. New York: Random House.
- Touraine, Alain. (1977). Review Essay: “What is Daniel Bell Afraid Of?” *American Journal of Sociology* 83(2): 469-473.
- Touraine, Alain. (1988). *Return of the Actor: Social Theory in Postindustrial Society* [Myrna Godzich, trans.] Minneapolis: University of Minnesota Press.
- Trosow, Samuel E. (2000). Review [Daniel Bell, *The Coming of Post-Industrial Society: A Venture in Social Forecasting*, reissued ed] *Library Quarterly* 70(3): 397-400.
- Trosow, Samuel E. (2001). “Standpoint Epistemology as an Alternative Methodology for Library and Information Science.” *Library Quarterly* 71(3): 360-382.
- Trubek, David. (1984). “Where the Action Is: Critical Legal Studies and Empiricism,” *Stanford Law Review* 36 (January): 575-622.
- Tumanov, V.A. (1974). *Contemporary Bourgeois Legal Thought: A Marxist Evaluation of the Basic Concepts*. Moscow: Progress Publishers.
- Tyson, Laura D'Andrea and Edward F. Sherry. (1997). *Statutory Protection for Databases: Economic and Public Policy Issues*. Executive Summary Available online at <<http://www.house.gov/judiciary/41118.htm>> (visited August 21, 2002)
- Unger, Roberto M. (1983). “The Critical Legal Studies Movement,” *Harvard Law Review* 96 (January): 563-675.
- United States Congress. (1986). *OTA Report on Intellectual Property Rights in an Age of Electronics and Information*. Joint Hearing before the Subcommittee on Patents, Copyrights and Trademarks of the Senate Committee on the Judiciary; and the Subcommittee on Courts, Civil Liberties, and the Administration of Justice of the House Committee on the Judiciary on the Impact of Technological Change on the Legal System for the Protection of Intellectual Property. 99th Congress, 2nd Session (April 16, 1986). Senate Hearing 99-919. Washington D.C.: Government Printing Office. (*OTA Joint Hearing*)

- United States Congress. Office of Technology Assessment. (1986). *Intellectual Property Rights in an Age of Electronics and Information*. Washington, D.C.: Congress of the U.S., Office of Technology Assessment. (*OTA Report*)
- United States. Department of Commerce. (1998). Letter from Andrew J. Pincus, General Counsel, Department of Commerce (August 4, 1998). Available online at <<http://www.acm.org/usacm/copyright/doj-s2291.html>> (visited May 12, 2002).
- United States Department of Commerce. Information Infrastructure Task Force. (1995). *Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights*. (The "White Paper" is available online at <<http://www.uspto.gov/web/offices/com/doc/ipnii/>> (visited August 21, 2002).
- United States Department of Commerce. Information Infrastructure Task Force. Privacy Working Group of the Information Policy Committee. (June 6, 1995). *Privacy and the National Information Infrastructure: Principles for Providing and Using Personal Information*. Washington D.C.:U.S. Government Printing Office. Available online at <http://www.iitf.nist.gov/ipc/ipc/ipcpubs/niiprivprin_final.html> (visited April 5, 2001).
- United States. Copyright Office. (1997). *Report on Legal Protection for Databases*. Available online at <<http://lcweb.loc.gov/copyright/docs/db4.pdf>> (visited April 5, 2001).
- United States. Federal Trade Commission. (December 1996). *Staff Report: Public Workshop on Consumer Privacy on the Global Information Infrastructure* Available online at <<http://www.ftc.gov/reports/privacy/privacy1.htm>> (visited August 21, 2002).
- United States. The White House. (1996). A FRAMEWORK FOR GLOBAL ELECTRONIC COMMERCE. Available online at <<http://www.iitf.nist.gov/elecomm/ecommm.htm>> (visited April 5, 2001).
- Vaver, David. (2000). *Copyright Law*. [Essentials of Canadian Law] Toronto: Irwin Law.
- Veseth, Michael. (1984). *Public Finance*, Reston, Va.: Reston Publishing Co.
- Vaidhyathan, Siva (2002). The Contract of Copyright: Towards an Ethical Cynicism? [presentation to openDemocracy, June 6, 2002, London, UK]. Available online at <http://www.opendemocracy.net/forum/document_details.asp?CatID=125&DocID=1563&DebateID=233> (visited August 21, 2002).

- von Lohmann, Fred. (2002). "IAAL: Peer-to-Peer File Sharing and Copyright Law after Napster." Available online at <http://www.eff.org/IP/P2P/Napster/20010309_p2p_exec_sum.html> (visited August 21, 2002).
- Warnick, Walter. (2000). PubSCIENCE: A Cutting-Edge Component for a National Digital Library. [Presentation at National Federation of Abstracting & Information Services, Annual Conference, February 21, 2000, Philadelphia, PA] Available online at <<http://www.osti.gov/speeches/nfais.html>> (visited August 20, 2002).
- Warren, Paul. (1997). Statement of Paul Warren, (Executive Publisher, Warren Publishing). Hearing on H.R. 2652, the Collection of Information Antipiracy Act, House Committee on the Judiciary Subcommittee on Courts and Intellectual Property (October 23, 1997). Available online at <<http://www.house.gov/judiciary/41117.htm>> (visited August 21, 2002).
- Wasch, Kenneth. (2000). *Software & Information Industry Association Post-Hearing Comments Filed Pursuant to Copyright Office Notice of Inquiry Relating to Section 1201(a)(1)*. (June 23, 2000). Available online at <<http://www.siiia.net/sharedcontent/govt/issues/ip/6-23-00.html>> (visited August 21, 2002).
- Waters, Malcolm. (1996). *Daniel Bell*. [Key Sociologists Series] London: Verso.
- Webster, Frank. (1995). *Theories of the Information Society*. New York: Routledge.
- Webster, Frank and Kevin Robins. (1999). *Times of the Technoculture: From the Information Society to the Virtual Life*. New York: Routledge.
- Wieviorka, Michel. (1992). Case Studies: History or Sociology? In Charles C. Ragin and Howard S. Becker, [Eds.] *What is a Case?: Exploring the Foundations of Social Inquiry* (pp. 159-172) Cambridge: Cambridge University Press:.
- Wilson, Patrick. (1990). "Copyright, Derivative Rights and the First Amendment," *Library Trends* 39 (1&2): 92.
- Wilkinson, Margaret Ann. (2002). "The Challenges of Coping with Intellectual Property Regime Implementation: Observations on Canada and Vietnam." forthcoming in *Intellectual Property Journal*.
- Williams, Martha E. (2002). "The State of Databases Today: 2002." In Erin Nagel [Ed.], *Gale Directory of Databases* (pp. xvii-xxx) Detroit, MI: Gale Group.

- Williams, Raymond. (1977). *Marxism and Literature*. Oxford: Oxford University Press.
- Winner, Langdon. (1977). *Autonomous Technology: Technics-out-of-control as a Theme in Political Thought*. Cambridge, MA: MIT Press.
- Winner, Langdon. (1980). "Do Artifacts Have Politics?" *Daedalus* 109 (1):121.
- Winner, Langdon. (1986). *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. Chicago: University of Chicago Press
- Wong, Stanley. (1987). Positive Economics. In John Eatwell, Murray Milgate & Peter Newman [Eds.], *The New Palgrave: A Dictionary of Economics* (pp. 920-21) New York: Stockton Press.
- World Intellectual Property Association (1996). Basic Proposal for the Substantive Provisions of the Treaty on Intellectual Property in Respect of Databases, Memorandum Prepared by the Chairman of the Committee of Experts, August 30, 1996 to be considered by the Diplomatic Conference on Certain Copyright and Neighboring Rights Questions, Geneva, Switzerland, December 2-20, 1996. CRNR/DC/6. Available online at <http://www.wipo.org/eng/diplconf/6dc_sta.htm> (visited August 21, 2002).
- Young, T.R. (1987). Information, Ideology, and Political Reality: Against Toffler. In Jennifer Daryl Slack & Fred Fejes [Eds.], *The Ideology of the Information Age* (pp. 118-32) Norwood, N.J.: Ablex.
- Zeitlin, Irving (1967). *Marxism; a Re-examination*. Princeton, N.J.: Van Nostrand.