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Understanding Information Laws: A Sociological Approach

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Abstract

The popular view that information is of great importance in modern societies is in large part due to the development of distinctive conceptual frameworks for analysing information in a wide range of academic disciplines. Surprisingly there have been few attempts in legal scholarship to either map the laws that impact on information or to analyse them from any particular standpoint. This article argues that information is essentially a social phenomenon and that law, as a regulator of social relations, directly affects the production, content and communication of information. A holistic understanding of 'information laws' is therefore a useful aid for considering the composition of so-called information societies. Drawing from communication studies the article presents a broad conception of the meaning of information and provides a cross-section of 'information laws'. It argues that a scientific approach to the meaning of information is helpful for both identifying legal measures that effect information and for revealing how they impact on the communication of information. Finally the article argues that a sociological analysis of information laws is desirable and proposes a framework for carrying out such an analysis under the headings -polity, economy and culture.

Keywords: Legal Theory, Information Laws, Communications Theory, Sociological Analysis of Information Laws.

1. Introduction

Information has been the subject of rigorous and sustained analysis for over fifty years in disciplines as diverse as economics, communications theory, psychology and genetics. The ascendancy of the information concept in a wide range of academic disciplines is mirrored in common parlance by such neologisms as 'information society', 'information technology' and 'information superhighway'. It seems that we live in a world of information and that the study of information is one of the foremost of modern academic pursuits.

The movement to systematically conceptualise information has had a limited impact on legal analysis. A few writers have attempted to articulate a unitary 'information law' approach, however there is no evidence of a concerted effort amongst legal scholars or practitioners to treat information as a matter deserving of homologous legal analysis (indeed few have considered the issue). The invention of new information technologies and the consequent development of novel ways for processing, transmitting and storing information has generally been analysed from a legal perspective under the headings, 'information technology law' or 'computer law'. These approaches to legal analysis focus on the technology in question and how it affects existing legal precepts, without addressing the nature of information itself or the legal consequences of its peculiar characteristics.

Clearly information has assumed a very important role in advanced economies, yet scant attention has been given to the issue of whether in fact information deserves *sui generis*

legal analysis and what form that analysis should take. This article will adopt the position that information is a distinct social phenomenon and that the law, as regulator of social relations, directly affects the creation, content and communication of information in society. On this basis there is an overwhelming case in favour of constructing a conceptual framework for analysing the legal treatment of information. In this article an attempt will therefore be made to direct legal analysis towards considering the information phenomenon itself and to formulate 'an information law approach' for analysing how laws impact on information.

This approach requires an in depth understanding of the meaning of information within and outside of the legal context. Building on this broad conception of information, the next stage in the information law approach is to identify the instances where information is the subject of legal rules and to classify those rules by reference to common factors that they share. From this a framework can be constructed from which to view the different ways that laws affect the flow of information. For instance one can observe that the law demands that some information be disclosed and that other information be kept secret and that some information is the subject of legal ownership and some is not. Once the effect of laws on the flow of information is established, the law's differential treatment of information will be placed within a sociological framework. Methodologically the information law approach outlined in this article combines both positivist and normative approaches to legal analysis. The positivist, or formalistic, element of the analysis is the mapping and classification of laws that regulate information. The normative element involves considering the sociological impact of these laws.

The structure of this article will be as follows: Section 2 - to provide an overview of existing approaches to information laws; Section 3 - drawing from the communications studies field, to provide an understanding of the information concept; Section 4 - to identify examples and classify laws that impact on information; Section 5 - to view information as a constitutive element in society and to examine the sociological impact of laws that attempt to regulate it and; Section 6 - to provide a summary of the overall information law framework.

2. Overview of the Information Law Approach

Legal subject categorisations are generally concerned with identifying the common features of rules as they apply to particular activities in society. Some categorisations group sets of rules by reference to a particular type of socio-economic activity (e.g. entertainment law, medical law); others do so by reference to a particular functional aspect of the market economy (e.g. labour law, contract law, competition law); and others do so by reference to the relationship between the state and the individual (e.g. administrative law). The information law approach, by way of contrast, classifies the various legal rules that affect the way in which people deal with a known phenomenon that exists in the world by reference to that phenomenon. The common feature of matters considered under the heading 'information law' is therefore, to put it simply, information. The value of the information law approach is not simply the classificatory scheme that it adopts but the fact that it attempts to view in a holistic fashion a phenomenon of great

significance in society.

The first attempt in the legal literature at articulating an information law approach was by Professor Cohen-Jehoram. He put forward a model of three concentric circles to describe the manner in which information is regulated by the law. At the centre is copyright law, which creates property rights in information; it is encircled by media law, which regulates the public dissemination of information; and finally there is the outer circle of information law, which deals with the production, processing and distribution of information as a whole, not just publicly disseminated information. This model was largely overlooked in the literature that followed, despite having formed the genesis for an information law approach. In this writer's view, it failed to present a logical framework for mapping the legal treatment of information. It presented no clear basis for positioning copyright law (ownership) at the centre of an information law approach, nor did it explain the 'encircling' relationship of media and information law. Instead of taking information as the starting point of its analysis it borrowed existing legal concepts (such as property and freedom of expression) and tried to work information around them.

In the subsequent legal literature the principal exponent of an information law approach has been Professor Dommering. He defines the scope of information law as the study of 'the communication process in society as a whole' (Dommering, 1992 p3) and the subject matter as the study and the formulation of rules in respect of (a) the production and processing of information, (b) the storage of information (c) the conversion, transfer and reproduction of information, and (d) the use, consultation and storage of information (Dommering, 1991, p20). Dommering makes it clear that the distinctive feature of information law is that it takes information, in a broad non-legal sense, as the starting point of its analysis. His analysis splits the legal treatment of information in the communication process, i.e. the traffic patterns of information, and the rights and obligations pertaining to information. The former is concerned with such matters as postal and telecommunications regulation, the latter with freedom of expression, rights of privacy and so forth. Copyright law, under this framework does not occupy centre stage, instead it emerges at different stages in the analysis (Schmijt, 1998).

Professor Dommering's lead in this field has not been developed to any great extent. The information law approach that he advocates is therefore still in its infancy and as yet a comprehensive framework has not been expounded. In earlier law and economics literature attempts were made to understand the differential legal treatment of certain types of information. The law and economics approach has, however, its drawbacks - it is concerned principally with assessing laws by reference to a rather narrow efficiency standard and thus concentrates on information as a commodity. As will be illustrated below, information law covers a far greater expanse than simply the economic aspects of information. Professor Boyle has sketched a micro theory of law and information - his work asserts that the concept of the individual romantic author is the driving force behind the conferral of property rights in information (Boyle, 1996). While his theory is a useful aid to understanding the rationale of certain legal rules that pertain to information, it again is limited to a particular aspect of information law. I propose to take Dommering's starting point, i.e. information in the broad, non-legal sense, though will differ in that I propose to identify particular characteristics of information as the basis for understanding

the legal treatment of information, rather than focussing on whether information is produced, processed or stored.

There is no overarching definition of information in law, nor will this article attempt to provide one; instead the important features of the information concept will be identified and examined. The existence of these features determines what falls to be considered information in the information law approach. In the many fields in which information is studied attempts have been made to define the term. However, such attempts are usually challenged for either their lack of completeness or over-specificity. For instance, in economics information is often defined as a 'reduction in uncertainty' (Arrow, 1979, p306); this definition has been criticised for overemphasising information as price and for ignoring a great deal of economically significant information that has no effect on certainty or uncertainty. Attempts at precisely defining information seem to confuse matters without greatly advancing the field of study.

The foregoing analysis will therefore steer clear of providing either restrictive or over-reaching definitions of information. Instead, I propose a model that examines information and law from three perspectives. First, drawing from communications studies, two key features of information will be identified - information as *the transmission of signals* and information as *the production and exchange of meanings*. The former considers how information travels in a channel from a sender to receiver(s). The latter views information as a carrier of meaning. It is around this axis that all legal rules relating to information rotate. Information in the information law approach is that quantity which can be transmitted from a sender to a receiver and at the same time be a symbolic form capable of conveying meaning to human beings**.** Secondly, laws that affect information will be identified and classified by reference to the common factors that they share. Thirdly, information will be viewed as a constitutive element of society. From this higher perspective, one can assess the impact of information laws on the political, economic and cultural elements that constitute society itself. The analysis of information from these three perspectives will serve to show the basic structure of the information law framework.

3. The Information Concept

In this section the information concept is divided into (a) information as the transmission of signals and (b) information as the production and exchange of meaning.

3.1 Information as the Transmission of Signals

Communication studies are divided into two main branches - one that views communication as the transmission of signals and the other that views communication as the production and exchange of meaning (Fiske, 1990, p2). It requires no leap in doctrine to view information in a similar light, as information is a collection of symbols that may be communicated. The first field is commonly known as information theory, or 'signal transmission theory' or 'the mathematical theory of communication'. At the practical level, information theory is a branch of electrical engineering that is concerned with how messages are encoded, transported in a communications channel and decoded by the

receiver. Beyond the field of electrical engineering, information theory has had a profound effect; indeed some authors attribute the subsequent revolution in the study of information to the scientific measurement of information put forward by information theory pioneers in the 1940's (Campbell, 1982, p16). The discovery that information was in some way quantifiable gave rise to the idea of information as an active agent, something that permeates through the material world.

Claude Shannon's mathematical theory of communication, first published in 1948, is the *locus classicus* of information theory. His study was directed towards determining the maximum capacity of a channel (e.g. telephone circuit) for transmitting signals. His theory focussed on the relationship between three factors in the communication process - the way messages are encoded, the presence of 'noise' (anything that alters a signal) and the capacity of the channel itself. He put forward a formula - $\Sigma pi \log (1/pi)$ - to define the mean *statistical unexpectedness* of an item of information selected from a given ensemble. In addition to producing an equation for measuring information his theory put forward a model for viewing the communication process as a whole. The latter is of relevance to understanding the general nature of information transmission.

NOISE

Figure 1: Shannon's Model of Communication

Shannon's model describes the basic structure of all communication. Information originates from an information source (which may be a living or non-living object); it is encoded into a form (e.g. sound wave, light or electrical current) that can be passed along a channel (e.g. air or telegraph circuit); it passes along a channel, in which it may experience noise (interference); and finally it reaches its destination where it is decoded by the recipient. The model covers both human and machine-mediated communication. In straightforward human speech, A formulates a sentence in his mind, by uttering that sentence it becomes encoded in a sound wave, which travels through the air, reaching B whose auditory faculties decode the sound wave into the common language of the participants. The sentence can then be said to have been communicated from A to B. Similarly when a digital file is sent from one computer to another by email, the text document is converted into an electrical signal which travels through the telegraph network and is reconverted into a text document by the recipient computer (a further communicative layer occurs when the file is read by the recipient person - the text travels by way of light waves to the reader' eyes). Information always has a single source, but it may have multiple recipients, depending on the communication channel that is used. A radio signal or television broadcast emanates from a single transmitter, though it may be received by all persons who are within sufficient proximity and who possess a decoding device (i.e. radio transistor or television set).

When viewed in the communication process information is nothing more than an encoded signal - a sound wave, a light wave or a radio signal. At this most basic level information is an ephemeral, barely conceivable phenomenon. It is the movement of this phenomenon, the transmission from A to B, which the law regulates. Even though law is not generally concerned with the practicalities of signal transmission, it is nonetheless only by affecting the manner in which information is communicated that the objectives of a legal instrument can be achieved. The Shannon model therefore provides some useful insights for an information law approach. Legal instruments can potentially affect the communication of information in five ways, (a) they can empower government or individuals to prevent or restrict communication, (b) they can demand that communication occur (c) they can stipulate that particular individuals has control over whether communication takes place or not, (d) they can stipulate that government or individuals refrain from interfering with communications, or (e) they can grant control to a government or private actor over a channel of communication. So, when the law provides that certain information is not to be communicated (e.g. slanderous speech), it is effectively forbidding the encoding and transmission of that information along a channel. It is only through the manipulation of the communication process that the policies of information law can be given legal effect.

The Shannon model does not, however provide any insight into two important matters that are of primary concern to information law, namely the creation of new information and the meaning that information possesses. Intellectual property laws are responsible for the former - they are a response to the perceived economic conditions that are necessary for humans to create new (and hopefully worthwhile) information. As will be discussed below, these laws are given *effect* by manipulating the communicative process, though this manipulation is deemed necessary in order to create information to be communicated in the first place. The latter factor - the meaning that information possesses - is of no concern to the Shannon model, which deals solely with the efficient transmission of signals. It is meaningful information that the law seeks to regulate, i.e. information that potentially affects human thoughts and actions. The Shannon model is silent as to the meaning or purpose of information, e.g. whether it is true or false, whether it is commercially sensitive or confidential. Nonetheless, when seeking to address such matters legal measures will manipulate the communicative process in one of the three ways described in the previous paragraph.

The mathematical theory of communication breaks down the communication process into its most basic parts. It explains the intrinsic structure of all forms of communication, and thus reveals the pattern flow of information. In order to halt or encourage the transmission of information, the law must make a positive choice on whether to interfere in the communication process or not. Viewing information in its rawest form - as the transmission of a signal in a channel - exposes the precise manner in which legal measures give effect to these choices.

3.2 Information as the Production and Exchange of Meaning

Analysing information solely as a signal in motion strips it of the qualities that are supposed to make it such a significant feature of modern life. To end one’s analysis at this

point would be to treat information as a quantity akin to electricity. Unlike the engineering field, information as studied in the social sciences (be that economics, linguistics, psychology or law) is primarily concerned with semantic information, i.e. information that is comprehensible by human beings. The meaningful qualities of information are not susceptible to measurement nor do they impact on such engineering concerns as channel capacity. They relate to the effects of information on human thoughts and actions - matters, which are of obvious concern to the law.

When we speak or communicate information through some other medium we do not transmit our thoughts; what we transmit are symbols such as sounds and written texts. These signs when arranged together *represent* our thoughts (or a close proximity to them). The process of receiving a communication involves the receiver interpreting these signs and deriving a meaning from them that closely resembles the meaning as embodied in the signs themselves. Semiotics is the branch of communication studies that deals with the 'meaning of meaning', i.e. the meaning that is conveyed in signs. Information is a collection of signs - words, sounds and other symbols and is therefore one of the principle subject matters of semiotics (Cherry, 1978, p226). Cherry (1978) breaks down semiotics into three components - syntactics, semantics and pragmatics. Syntactics studies the ordering of signs and is concerned primarily with the formal and logical aspects of language. Semantics is at a higher level of abstraction and deals with a narrow understanding of how signs relate to the extra-linguistic world e.g. the word 'pig' refers to a four-legged animal with a snout. Pragmatics is the most general of the three and it is concerned with all personal and psychological factors, which distinguish one communicative event from another. For instance a pragmatic analysis of the phrase 'Red Rum won the race at 7/1' would take into account such factors as whether the recipient of the information had placed a bet on the winner in determining its meaning.

There are a number of different schools within semiotics. However, the models used by each recognise a basic trichotomous relationship between the interpreter, the sign and the object. Ogden & Richards (1949) put forward the following model in their seminal work:

Figure 2: Ogden and Richards' Model

In this model the 'reference' is the thought that is to be communicated; the 'symbol' is the sign in which the reference is embodied; and the 'referent' is the external object to

which the reference relates. There is a direct connection between reference and referent, and between reference and symbol, however there is only an imputed connection between referent and symbol. If one takes 'pig' again - as conceived in the mind of a person it is a reference; as a written word consisting of three characters or as a monosyllabic spoken sound it is a symbol; and as a living object in the outside world it is a referent.

The relevance of semiotics to an information law approach is that it illustrates the essential nature of information as a conveyor of meaning. Semiotics teaches us that information is a symbol, and that in order for it to have meaning a human being must comprehend it. It also reveals the inherent subjectivity of meaning and how there is an active agency between the sender and recipient of information - in deconstructing the meaning of a symbol the recipient's personal circumstances, intelligence and psychology play a role. When the law seeks to prevent the transmission of certain types of information, it is preventing the spread of symbols that it predicts will have a particular meaning for human beings. For instance, data protection laws restrict the transfer of personal information from a person that lawfully obtains such information to other parties- they are in effect a prohibition on the diffusion of symbols that reveal meaning about individuals (e.g. age, consumer preferences). As between different recipients of this information, the meaning will differ greatly; it will have little impact on an uninterested stranger, though may be of economic value to a direct marketing firm.

In sum, information law is concerned with regulating meaningful information. More precisely, it is the meaningful attributes of information that dictate whether the law intervenes or not. However, the law does not prevent the creation of meaningful information *per se* - an individual is free to create any information that he or she desires - it would be very difficult to prohibit a person so doing. Rather when the law seeks to regulate information, it is the transmission of information from an information source to recipients that it manipulates. This has the effect of preventing or causing the dissemination of meaning that is embodied in signs. Therefore the basic axis around which information law rotates is *the regulation of meaning through the control of transmission.*

4. Classifying Information Laws

The axis of meaning and transmission explains the operational structure of information law, in other words, how it works. It does not explain why laws are made in respect of certain types and uses of information. The next stage in the information law approach is to identify where the law affects information and to group these instances by reference to a set of common factors. The law affects information in countless ways. The task of listing all instances is a body of work in itself; this section will refrain from undertaking such a Herculean task, and instead will endeavour to achieve the more modest goal of categorising the types of situation in which information is affected by the law by the application of standard legal typologies.

The legal rules that pertain to information can be broken into two broad categories - (a) the regulation of information in the private sphere, i.e. the transmission of information between private individuals and organisations and (b) the regulation of information in the public sphere, i.e. the transmission of information between the state and private actors.

The first category is concerned primarily with economic relations between private individuals, though it also embraces such matters as censorship and defamation - normative rules that place limits on the transmission of denotative information. The second category deals with the flow of information between state and private actors and covers such matters as freedom of expression, freedom of information and official secrets. It also covers the regulation of public information services such as the postal and telecommunication systems. One could add to this category the disclosure and reporting rules that apply to the administration of justice in public courts. In both the private and public sphere it is the meaning of information that is the concern of legal intervention. Even where information flows are contrived for apparently economic motives (*viz* intellectual property rights) the overriding motive is to promote the production of certain types of meaningful information.

The following tables lists *some* of the legal measures that can be categorised by reference to these factors:

Economic Regulation	Intellectual Property, Trade Secrets, Confidentiality, Advertising Regulation, Company Disclosure, Product Disclosure, Blackmail, Insider Dealing, Negligent Misstatements.
Denotative	Defamation, Obscenity, Blasphemy, Data Protection, Race Hatred, Media Censorship.

Table 1: Information Law in the Private Sphere

Freedom	Freedom of Expression, Freedom of Information, Freedom of the Press, Right to Privacy, Natural Justice, Official Secrets.
Communication Services	Telecommunication, Broadcast, Satellite and Radio Transmission, Postal and Cable Services, ISP Regulation.
Administration of Justice	Discovery, Reporting of Proceedings.

Table 2: Information Law in the Public Sphere

The economic factors that give rise to the laws listed in *Figure 3* take a number of different forms. Intellectual property rights, trade secrets and, to a lesser extent, confidentiality laws all grant the holder of such rights a proprietary interest in information. Under conventional economic theory these rights are granted in order that individuals and organisations may have an incentive to create new and worthwhile information They principally affect the flow of information between private individuals by granting the exclusive rights to one party to control the dissemination of information to others. This grant of an exclusive right enables the holder of such right to obtain financial benefits by charging others for the permission to receive the information.

Laws that oblige companies and individuals to disclose information about their products, or companies about their financial position to the stock exchange, also have an economic rationale. First, the production of such information also involves an incentive problem

(Beales, Craswell and Salop,1981) - manufacturers of products are unlikely to reveal information that may be damaging to their sales performance or profit opportunities. Alternatively, such mandatory rules can be viewed as an attempt to overcome the asymmetry of information that often exists in commercial relationships. Asymmetry of information refers to the common condition where one party to a transaction has more information than the other, e.g. the borrower knows more than the creditor about his creditworthiness or the seller of the second-hand car knows more about its mechanics than the buyer. In economic theory perfect competition requires perfect information, therefore one can view laws that oblige the disclosure of market information as furthering the goal of achieving the perfectly competitive market. The 'non-economic' factors that give rise to laws that affect the flow of information between private individuals are concerned primarily with the subjective content of information. They are based on normative propositions, such as - false information is undesirable, information that carries racist connotations is objectionable and information that depicts certain sexual acts is unacceptable. They operate by prohibiting the *transmission* of information that carries a particular *meaning*.

Information law in the public sphere can be categorised by reference to three factors. First there are the 'freedoms' to which citizens are entitled and the correlative restraints that government may put on the flow of information. Secondly, there is the state regulation of certain information services, such as the postal and telecommunication services that indirectly affect the flow of information in society as a whole. Thirdly there are the rules that govern the administration of the 'third estate', i.e. the judicial branch of government.

In the first category laws may prevent government from restraining the flow of information, cause the government to transmit information, or entitle the government to keep certain information secret. The principle freedom concerned is the freedom of expression, which is guaranteed under article 10 of the European Convention on Human Rights and thus incorporated into UK law by the Human Rights Act, 1998. It acts as a *negative* restraint on government, i.e. it prevents the government from restricting the flow of information. In contrast freedom of information legislation places a *positive* obligation on government to disclose information. For instance section 1 of the Freedom of Information Act, 2000 grants a general right of access to the public to information held by a public authority, though it is considerably qualified by exemptions. At the opposite side of the equation the Official Secrets Act, 1989 prevents the disclosure by government servants and other persons of secret government information. These rules are again concerned with the flow of meaningful information. Their significance derives not from the fact that they set rules regarding the free or encumbered flow of information, but rather because they lay the conditions for private or government control over meaningful information.

The second category is somewhat anomalous in the information law scheme in that it deals primarily with the regulation of information carrying channels, i.e. telecommunication networks, radio, broadcast and satellite transmissions, ISP's, cable and postal services. Thus it governs the rationing of entitlement to control the channels of communication rather than the meaning of information itself. It is in the 'public sphere' because in most states communications networks are either under public ownership or a

public licensing/regulatory regime. To bring it into the information law framework, this category may be termed an *indirect* regulation of meaningful information. An aspect of communications regulation concerns technical issues that pertain to channel capacity and traffic, however the greater part is a set of rules that create particular market conditions (which give significant power to its participants over information flows) and link channel carrying entitlement with information content requirements.

The third category of public sphere information regulation is the law relating to the conduct of criminal and civil trials. They derive from the principles that justice should be administered in a fair and open fashion. A full disclosure of relevant information is essential to the proper conduct of a trial. The rules of discovery require parties to a trial to reveal to the court (and the opposite party) information that is material to that trial, though they may also entitle a party to an action to keep certain information secret, e.g. privileged communications. The broad freedom to report trials (and hence communicate information regarding trials) is again not absolute; limitations on reporting sensitive matters, such as cases involving juveniles, are permitted.

The above review of information laws illustrates how wide the area concerned is; nonetheless, the laws identified possess a common feature which justifies them being analysed under an information law approach. By separating the public and private rules that pertain to information, one can analyse the factors in a more systematic fashion. Information rules in the private sphere generally give effect to economic and normative content policies. Information rules in the public sphere, on the other hand, give effect to policies regarding the desired flow of information between the state and private actors, the ownership of the channels of communication and the conduct of fair and open trials. Common to all laws is the regulation of meaning embodied in information. When the law intervenes in the communications process it aims to impact on the production or transmission of meaningful information. It can do so by prohibiting the transmission of certain information; causing the transmission of certain information; granting power to a private actor to decide whether and how information is transmitted; granting the power to a private actor to control a channel of transmission; or preventing the government or individuals from interfering with the transmission by others of information.

The map of information law issues as sketched so far has separated two important features of information - signal transmission and meaning - and has further bifurcated information regulation into public and private spheres. The fact that transmission of information is altered in a particular way does not necessarily reveal an underlying policy agenda. A ‘liberal’ policy may be given effect as often by restricting the flow of information as by permitting it. The proclamation ‘information wants to be free’ is therefore meaningless from a political perspective, as it evinces no distinctive ideological outlook. In order to complete the information law framework the instances where the law regulates information must be extracted and examined in light of the socio-economic structure of society itself.

5. Information as a Constitutive Element of Society

The idea that information is a constitutive element of society has its origins in the economics and sociology literature of the post-war era that recognised a structural shift in western capitalism from industrial production to service economies. This feature of economic development inspired the post-industrial theory of Daniel Bell (1976). Bell analysed economic data appertaining to American economic activity and occupational roles and concluded that there was a decisive shift from agriculture and manufacturing activities to service or white-collar activities. The driving force behind this change was the ascendancy of theoretical knowledge and the consequent replacement of human physical labour with machines (Bell, 1976, p20). The principal theoretical theme of his work was that the shift in occupational roles undermined the Marxist analysis of social development. Bell argued that class distinctions determined by ownership in the means of production were no longer relevant, and that one's possession and control of knowledge was a more important source of social differentiation. Post-industrial theory's claim to have reformulated the social structure of society has been severely criticised in subsequent literature; the principal charge being that Bell failed to notice the assimilation of 'knowledge' activities into the conventional wage labour/market paradigm (Schiller, 1997). Despite his failure to consign Marxist thinking to history, Bell's work can be regarded as the forerunner of the 'information society' concept, i.e. the idea that information (the equivalent to Bell's theoretical knowledge) is itself an independently important feature of modern society.

Information society theorists have extrapolated Bell's thesis by arguing that not only is the service sector assuming dominance in western economies, but more particularly, service sector activity is increasingly devoted to the production of information commodities. Castells (2000) has built on Bell's economic approach by sketching the outlines of an entire sociology based on the informationalisation of production; he argues that informational capitalism is in the process of giving rise to a new social structure and describes the turbulent consequences of this new era.

From the perspective of economic production one can identify two economically distinct types of information commodity that are produced for the marketplace - instrumental goods and consumption goods. The former are applied (and generally not consumed) in a production process in order to achieve some productive outcome, e.g. software applications. The latter are 'experience' goods and are generally consumed as an end in themselves, e.g. movies. The information society is therefore markedly different from the past; it is a society wherein the labour force concentrates on producing, processing and distributing information as opposed to material goods, and where consumption of information commodities replaces consumption of physical goods as the primary focus of consumer activity. The ramifications of this new phase in economic development are not yet clear, however there is little doubt that it has changed and will change further the economic and social relations that emerged in the industrial phase of economic development.

A contemporary work of Bell's that may also be regarded as an influence underpinning the conceptualisation of an information society is Jurgen Habermas' theory of communicative action (Habermas, 1984). The basic idea of his theory is that it is through the action of communicating (i.e. information exchange) that society evolves and

operates. For Habermas the development of complex social organisation (rationalisation in the sense meant by Max Weber) in modern states necessarily entails a repression of communication ('excommunication') by individuals, groups and more generally in public life. His emancipatory project is to develop a concept of 'ideal speech', i.e. communication that is open and free from domination, that can exist within rational organisational structures. In contrast to Bell's social theory, which is grounded in contemporary economic trends, Habermas' theory is of a general application to different stages of social development. They both, however, share a recognition of the importance of information and communication as factors that both influence and form social relations.

Law undoubtedly plays an important role in shaping the new relationships of the information society. The overriding aim of the information law approach is to assess how exactly laws can and do shape the emerging economic and social order of the information society. The following analysis will provide a brief overview of the ways in which information laws (i.e. the laws identified in Section 4) impact on the social and economic relations under the rubric of the standard sociological categorisation - polity, economy (social structure) and culture. It is accepted that this classification is an oversimplification and that in reality polity, economy and culture are inextricably intertwined, e.g. economic power often equates with political power and both polity and economy can play a significant role if the formation of culture. It is only for analytical purposes that an explicit conceptual divide is recognised. The observation that intellectual property laws impact on each category illustrates their interrelatedness.

5.1 Polity

Polity refers to the organisation and distribution of political power in society. One of the founding principles of liberal democracy is that all citizens should have an equal right to participate in the exercise of political power through the democratic process. Closely linked to the idea of democratic participation are the rights of expressive freedom and personal autonomy (Dworkin, 1988). Three categories of information law can be readily identified as impacting on polity - freedom of expression (free speech), intellectual property laws and the law relating to the privacy of personal information. Under the information law approach, one analyses these laws by reference to their effect on the organisation and distribution of political power in society.

Under free speech doctrine, the ability to initiate and partake in a political discourse is viewed as *the* animating feature of democracy; without it political change could never occur and democracy itself would be a chimera. A person's capacity and freedom to communicate (i.e. send and receive information) is therefore a crucial feature of participatory democracy. Laws that dictate what information may and may not be communicated play an important role in determining what individuals, groups and interests acquire political power. Assuming that non-discriminatory access to the political process is a desirable goal, the question to be addressed in the information law approach is the extent to which legal measures promote or hinder an individual or groups' freedom to communicate on the political level.

In the public law field (i.e. citizen/state relationship) the freedom of expression guarantee is the principal regulator of unencumbered information flows at the political level. American first amendment jurisprudence is possibly the best illustration of this principle in action. This powerful constitutional protection prevents government from silencing speech, even if what the person is saying is distasteful to the majority. Though the first amendment freedom is not absolute (state secrecy laws for instance may take precedence) it has a long and proven record of constraining overt government restrictions on information flows. One could describe the free speech principle as the information law of most direct relevance to the promotion of non-discriminatory access to the political process in democratic societies.

Under conventional democratic theory the freedom of speech guarantee, if fully implemented, in itself achieves the goal of a participatory polity. Restricting one's analysis of power distribution to the state/citizen relationship, however, ignores other information laws that may have an even greater effect on free speech and personal autonomy than straightforward government censorship. Recent American academic literature has sought to expand the free speech analysis to include copyright law and telecommunication regulations as other possible sources of disequilibria. The major shift in this analysis is to view private laws that affect information flows from a perspective that was traditionally in the domain of constitutional supervision. According to this line of scholarship, in a society where the private sector possesses the greatest *de facto* control over the channels of communication and information flows, the relationship between the free speech principle and democratic participation is redundant unless it looks beyond the strictures of the state/citizenship relationship.

Netanel (2000, p1900) states that 'copyright law accords providers of expressive content with ever expanding control over other's uses of that content, significantly increasing the cost of reformulating or even gaining access to existing expression'. Benkler (2001b, p51) extends the analysis by establishing a connection between the power concentrations that result from copyright law expansion and telecommunication deregulation and a reduction in personal autonomy. The approach of these authors highlights the inherent contradiction between the dual flanks of Enlightenment thought, namely the respect for private property on the one hand and expressive freedom on the other, in the context of information ownership. Property rights in information are granted to promote the production of information, however, at the same time they necessarily restrict the flow of information by granting exclusive dominion to owners over information flows. The dynamic and static effects on information production caused by copyright laws further compound the threat to free speech by fostering market hierarchies and thus establishing access barriers to information markets.

The problem with maintaining a link between robust private information protection and encumbered speech is that private property rights affect the flow of information by stealth rather than by prescription. Government censorship of speech is overt and can therefore be easily identified and challenged in the courts. Concentrating ownership of information content and communication channels in private hands in contrast is hegemonic rather than despotic in effect. Information laws in the private sphere may therefore have a detrimental impact on important principles of democratic participation but yet go unnoticed and

unchallenged in the courts. Indeed the juridical divide between the public and private sphere may mean that there is no effective legal redress for such imbalances. Despite this problem of perception the information law approach as articulated in this article includes all laws, irrespective of their juridical provenance, within its remit provided that they demonstrably affect the distribution of power in society.

Another important, but distinct information law that impacts on the distribution of power in society is the law relating to the privacy of personal information. In liberal theory and in the Kantian philosophical tradition the right of an individual to keep secret information that relates to his own persona is viewed as an important characteristic of freedom in liberal democracies. Westin (1967, p33) identifies four values that individual privacy promotes - it provides personal autonomy; it provides the opportunity for emotional release; it permits self-evaluation; and it creates opportunities for the sharing of confidences and intimacies. A host of laws assist in the protection of information privacy, including breach of confidence, data protection, copyright and certain postal and telecommunication regulations.

For many commentators the aspiration of maintaining privacy over one's personal information has already been lost (Gandy, 1993). The organisational complexity of modern society, the controlling elements within government and business and the intrusive potential of surveillance and information processing technologies have combined to produce what some critics see as an Orwellian version of modern life. The role of information laws in face of this onslaught is ambiguous. The forces (i.e. the government's desire to monitor citizen compliance with laws and the marketer's desire to accumulate information about consumer preferences) that have precipitated a loss in privacy are embedded in the very framework of the democratic market state. A single person's desire to keep private his personal information is at odds with the way in which modern society functions; to prevent a loss of privacy a person would have to opt out of modern life altogether. A legal measure that aimed at establishing an absolute and inalienable right to privacy would require a restructuring of society itself. Viewed from this perspective laws that seek to protect informational privacy can at best temper the encroachments into private life wrought by economic and technological change. Even if one concedes that the aspiration of protecting one's personal information from outsiders is incompatible with the nature of modern society, the information law approach nonetheless assesses the extent to which laws attempt to preserve a semblance of informational privacy in light of technological change.

5.2 Economy

In the broadest sense the economy is comprised of those institutions that provide for the production and distribution of goods and services in society. Laws that affect the production and distribution of information goods and services are therefore an important element of the information law framework.

In many respects the legal treatment of the information sector does not differ from other goods and services in a market economy - the ownership of outputs vests in the employer by virtue of the employment contract and worker's employment rights, which relate to

terms and conditions of employment rather than ownership in the productive output, are supplemented by statute law. Insofar as this is true of information production and distribution it does not warrant specialist analysis in an information law approach. Nonetheless, the peculiar economic nature of information and the laws that result therefrom do fall within the remit of an information law approach. Intellectual property rights add a distinct layer of economic regulation, over and above contract, employment and labour law, to information goods and services.

The peculiar economic characteristic of information is that it is a 'public good'. The two defining characteristics of public goods are that they are (a) non-rival and (b) non-excludable. A good is non-rival when one individual can consume a unit of the good without detracting, in the slightest, from the consumption opportunities available to others from that same unit (Cornes & Sandler, 2001, p8)). Benefits that are available to all once a good is provided are termed non-excludable (e.g. streetlights) (Cornes & Sandler, 2001, p8). Thus information differs from tangible goods such as food and clothing (known as private goods) because it can be enjoyed by an infinite number of people without ever being finally consumed. The non-rival nature of information inheres in the quantity itself - information has always been and always will be non-rival; non-excludability in contrast is an attribute that depends on both technology and social choice (Varian, 1998). The history of printed literature is a case in point; prior to the invention of the printing press, information that was embodied in a written text was in effect excludable due to the labour and skill required to reproduce it. The printing press was the first invention to dramatically liberate information and it led to a divide between the physical representation of information and the metaphysical concept of information as an intangible form. Technological advancement, in the form of telecommunications, computers, broadcast and satellite transmissions have further rendered information non-excludable. Modern communication technologies make reproduction and dissemination seamless and accordingly information is, theoretically at least, approaching the status of pure public good. However, inasmuch as technology gives rise to non-excludability so too does it take it away. Encryption technologies, which make access to information conditional on payment or some other external factor counteract the liberating effect of communication and reproduction technologies and thus revive excludability. Likewise, laws that grant exclusive rights to particular individuals over information or otherwise control its dissemination achieve, through the means of institutionalised protection of legal rights, a similar end. In sum, while the non-excludability attribute of information is in theory a reality, it is nonetheless susceptible to technological and legal excludability.

The public good nature of information leads to an 'appropriation' problem (Drahos, 1999). The economic implication of non-excludability is that the creator of information (be that author or inventor) cannot reliably achieve a return for his investment of effort and resources in the marketplace. The unit cost of reproducing information approaches zero and, under the model of perfect competition, the author or inventor will probably receive next to nothing for his work or invention. He therefore will have insufficient incentive to produce the information in the first place and so market failure ensues. For economists there are two ways of overcoming the appropriation problem - government financing or intellectual property rights (Arrow, 1962). Government financing of information production does not require that excludability be engineered, but instead

directs economic resources to information production. Intellectual property rights, in contrast, are a *market response* to *market failure* and do necessitate the revivification of excludability. The grant of monopoly rights over exploitation of information is the manufacture of excludability by means of legal device. Providing a threat of legal sanction against persons who refuse to respect the author or inventor's rights results in the formation of a market for information outputs. Once it is accepted as the favoured model for overcoming the appropriation problem the economic analysis shifts to the extent to which intellectual property rights should subsist in the interest of overall social welfare. It is precisely because information is potentially excludable that intellectual property rights present themselves as a viable option. If social behaviour and technological advancement were to seriously undermine the integrity of the intellectual property system, the public provision model would have to be resorted to as an alternative.

From the above analysis the non-excludability of information is best viewed as a consequence of the invention of communication and reproduction technologies; and this non-excludability is in turn the economic basis for intellectual property rights. They are of interest to an information law approach because they add a distinct layer of economic regulation to the production and distribution of information. If one accepts that information production in the commodity form is becoming an increasingly prominent feature of overall economic production, the significance of intellectual property rights cannot be understated. An economy that relies on intellectual property rights as the underlying imprimatur of economic entitlement will differ fundamentally from one that relies on property rights in tangible objects. Intellectual property rights operate as mini-monopolies at the distribution level and therefore, by their very nature distort trade. There is also evidence to suggest that they progressively lead to the emergence of monopolistic enterprises within the overall economy. Furthermore financial benefits that accrue from intellectual property rights bear no correlation to the work employed or the objective quality of the end product; instead benefits are solely determined by aggregating consumer preferences for the consumption of a single unit. Notions of labour value and use value therefore become irrelevant.

Market economies in the industrial phase of economic development were predicated on excludability and rivalry of goods. Adam Smith's invisible hand was supposed to act as a redistributing force - the common pursuit of self-interest through the mechanism of competitive markets in itself achieved a degree of equilibrium in the distribution of economic benefits. It is very difficult, if not impossible, to achieve the elements of a competitive market in information goods that are protected by intellectual property rights. The social structure to which it gives rise resembles more a feudal than a market society (royalties replacing rents) though in truth it probably represents a new form of social structure. If information goods continue to increase in relative importance to other sectors of the economy the prospect of the invisible hand magically levelling disparities in wealth distribution that arise in a capitalist system of production no longer presents itself. Furthermore, if it can be shown that intellectual property rights obstruct participation in the market by new actors, the original purpose of fostering independent production of innovation and cultural works will have been defeated.

The information law approach seeks to assess *how* laws that pertain to information affect

economic production and the resultant social structure. It takes intellectual property rights as the primary legal device for organising economic production and distribution of information goods and services. Intellectual property rights are so fundamentally different from conventional property rights that they are bound to (indeed already do) effect changes to the established social and economic structure.

5.3 Culture

The broad definition of culture - 'the values the members of a given group hold, the norms they follow, and the material goods they create' (Giddens, 1989, p31) - encompasses all signifiers of meaning that a society possesses. Thus conceived, it concerns the way of life of the members of a group and is distinguishable from *society*, which is concerned with the interrelationships that connect individuals within a group. At this rarefied perspective legal systems and laws are simply part of the cultural and societal form rather than determinative factors in themselves. Nonetheless from a more prosaic standpoint information laws can be seen to play an important role in the formation and content of cultural *artefacts*, such as literature, music and crafts. The two significant sets of legal rules in this regard are normative content laws (i.e. defamation, obscenity, blasphemy etc.) and intellectual property laws (particularly copyright and trademark laws). The information law approach enquires as to how laws affect both the content and the overall production of cultural artefacts.

Laws that regulate particular denotative qualities of information have a direct impact on the content, and to a lesser extent form, of cultural expression. In most cases such laws are public in nature, i.e. state proscription of meaning (though defamation is a significant form of private regulation of denotation). From the standpoint of the information law approach the relevant consideration in respect of this category of laws is the extent to which they affect the content of cultural expression and the consequent flow of information in society. Whether or not their effects are desirable is a different matter, though such a question can only be addressed after first identifying what they are.

In reality the first set of laws only impact on the fringes of cultural output in modern industrial societies. Liberalism has triumphed in the pubic sphere and government censorship of cultural expression that still exists effects but a small fraction of overall output. Of far greater significance are intellectual property laws, in particular copyright laws. As discussed in Section 5.2 the prospect of market failure provides an economic justification for copyright laws and under conventional economic theory their main consequence is simply to promote the production of cultural output. However for scholars of cultural studies the matter does not rest there. Coombe (1998) describes their effect as follows:

> Intellectual property laws, by prohibiting the reproduction of vital cultural texts, disenable us from subjecting those texts to critical scrutiny and transformative appropriation. Because these texts are constitutive of the cultural milieu in which we live, constructing many of the socially salient realities we recognise, their status as exclusive properties that cannot be reproduced without consent and compensation operates to constrain communication within, through, and about the

media that surround us.

A number of recent publications have critically assessed the impact of copyright laws on cultural production. In the main they highlight the ways in which copyright laws may be used to suppress innovative cultural forms that build on existing expression. This is particularly acute in the case of music, which more than any other art form challenges the formalism of legally drawn boundaries. Vaidhyanathan (2001, p141-144) recounts how a 1991 federal court ruling in the United States effectively changed the nature of rap music. Rap music as it developed in the 1970's and '80's used melody and harmony in a different way to other forms of music; rap artists 'sampled' other artists' melodies and harmonies and incorporated them as part of their own rhythm track. This was one of the defining qualities of rap music. Biz Markie, a relatively minor exponent of the art, borrowed for a composition of his own eight bars from Gilbert O'Sullivan's 1972 track 'Alone Again'. Gilbert O'Sullivan sued alleging unauthorised reproduction on the part of Biz Markie. Judge Duffy granted an injunction and in the process put an end to sampling in commercial rap music. The expense and impractically of obtaining sample licenses meant that rap artists from then on had to adapt their art form to comply with the ruling if they wanted to have a chance of winning a record contract. Thus copyright law transforms art.

Vaidhyanathan's critique focuses on the ways in which copyright laws restrict transformative works and how the concept of the individual author, the flagstone of copyright law, is alien to non-Western cultural traditions. He advocates a looser, less acquisitive copyright system, but implicitly accepts the paradigm of market production that a copyright law system necessitates. Perelman (2002) and Bettig (1996), following the critical theory tradition, hold that the copyright regime is an aspect of a larger problem, namely an exploitative cultural industry that is concerned with profit rather than art. For them no tinkering to the fringes of the copyright regime will liberate creativity from the shackles of corporate control; copyright is to cultural capitalism, what the institution of private property was to industrial capitalism. The idea that the capitalist mode of production adulterates art can be traced to Adorno and Horkheimer's 1940's critique of the culture industry. Viewed from the critical tradition copyright law is a legal device for subsuming art into the capitalist mode of production. These authors argue that art produced under such conditions tends to be supportive of the status quo and appealing to the lowest common denominator of consumer preferences. Again, copyright law is said to transform art.

In sum, the information law approach questions how laws that pertain to information impact on the nature and production of cultural artefacts. Implicit to this approach is the assumption that cultural works are information. Such a reductionist depiction is not meant to underestimate the creative efforts of authors or artists, but rather recognises that the concept of originality under copyright law does not differentiate between information outputs on the basis of their cultural merit. The term 'information' is used in a broad, non-legal sense throughout this article. Furthermore the information law approach does not necessarily undermine institutions such as copyright law. Rather it calls for an honest assessment of how laws impact on the production, content and distribution of cultural artefacts.

6. The Information Law Framework

The information law approach has been developed at three levels - first, information has been examined outside of its legal context, secondly the instances where the law affects information have been identified and finally the way in which the legal control of information impacts on society as a whole has been described. This section will conclude by summarising the earlier sections and sketching an outline of the overall information law framework, i.e. a framework for analysing the legal treatment of information.

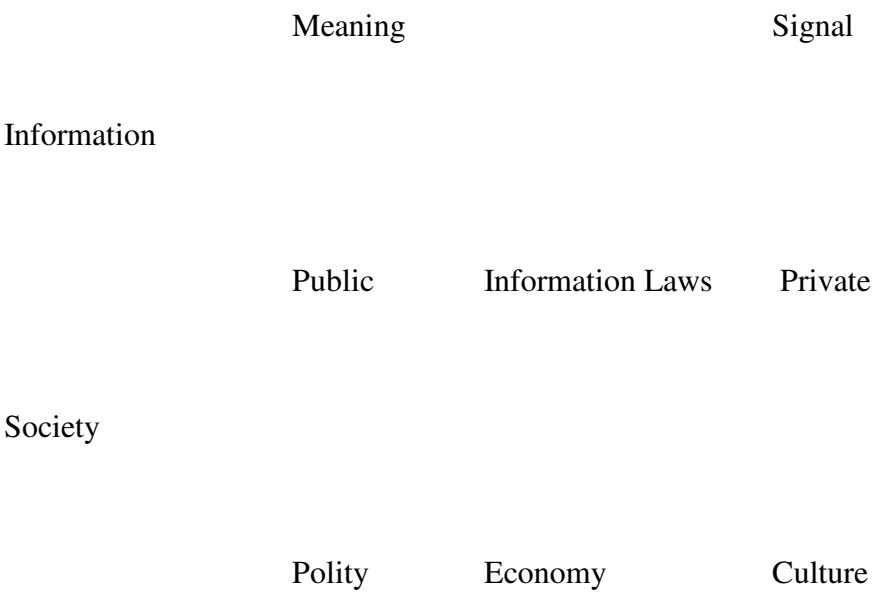

Figure 3: The Information Law Framework

The above diagram is a graphic representation of the information law approach developed

in the preceding sections. As this is a legal analysis, information laws take centre stage. The arrow that emanates northwards from 'information laws' makes the point that law affect information. The two arrows emanating from 'information' denote the two key features of information - as a signal and as a representation of meaning. The public and private sub-categories refer to the two juridical sources of information laws. The curving lines (without arrows) illustrate the manner in which laws affect information, i.e. the law's aims - controlling the nature and uses of *meaningful* information - are both achieved by controlling signal transmission. 'Information laws' are divided into public and private categories. The arrow that emanates southwards from 'information laws' shows that information laws impact on society, which for analytical purposes is taken to comprise of polity, economy and culture.

Because there are few precedents from which to develop a unitary legal analysis of information, it was felt necessary to begin with a very basic, non-legal dissection of what is meant by information. One may justifiably question what the relevance of such non-legal fields of study as communications theory is to legal theory. After all, if a legal analysis of energy regulation were being carried out, an understanding of the molecular structure of carbon-based fuels would be superfluous. Information is different; it is a social phenomenon, and not a natural physical quantity. It is a product of the interaction of man with his fellow man. Laws exist to regulate social phenomena, and in the case of information play a role in its creation. Thus conceived a holistic information law approach must begin by understanding the nature of information itself. Without a non-legal perspective on the meaning of information, the analysis would by hopelessly fragmented and one would have difficulty understanding the mechanistic way in which legal measures regulate information. Information was seen to comprise of two distinguishing characteristics - it is both a signal in transit and a symbolic representation of meaning. This broad conception of information is the subject matter of information law.

The task of identifying all instances where information is regulated by the law was beyond the scope and ambition of this article. A complete information law analysis would ultimately address all such laws and classify them by reference to the common factors that they share. For the purposes of this article, a general scheme for classifying information laws was instead adopted. The public/private distinction was the most obvious starting point, but within that basic juridical divide further sub-categories were made. The purpose of aggregating together all laws that pertain to information was to emphasise the diverse ways in which law affects the flow of information in society. When viewed in isolation these laws seem to bear no relation to each other, but when one recognises the significance of information outside of the legal context, a commonality between laws that regulate information begins to emerge.

The final level of the information law framework, namely the examination of the sociological impact of laws that regulate information, involved a shift from positivistic to normative analysis. The justification for this approach again rests on the social nature of information itself. Law both qualitatively and quantitatively affects the information that we send and receive in our daily lives; it determines who controls the flow of information and the type of information that is produced and communicated between persons. Law

helps construct the social phenomenon that is information. As information plays an increasingly significant role in advanced societies, so too will law's impact on society grow. To be made fit into the existing social structure information has to be subject to stringent legal controls; the extent of law's reach and impact on daily life therefore increases in tandem with society's dependence on information. The close interrelationship between law and information and the common trajectory of their impact on society provide the rationale for the final level of the information law approach.

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