

## *About Scarcities and Intermediaries: the Regulatory Paradigm Shift of Digital Content Reviewed*

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Much discussion about the digitalization of content and the consequent convergence of broadcasting, telecommunications and IT suggests that digitalization challenges existing communications regulation (Gillett and Vogelsang, 1999; Verhulst and Marsden, 1999; Verhulst et al., 1999). Familiar and traditional regulatory models are suddenly questioned and brought into conflict (Hitchens, 1997). This chapter starts from the assumption that the search for appropriate regulatory and policy responses necessary as a result of the policy vacuum created by new technologies is leading to a 'paradigm shift', in Thomas Kuhn's traditional sense of the word.<sup>1</sup> Kuhn describes the uncertainty and chaotic process of changing from one world view to another that occurs during a paradigm shift. In his definition, as the new paradigm emerges, it subsumes the previous paradigm and replaces it with one that answers more questions and encompasses more of the consensus of the community.<sup>2</sup> This chapter demonstrates the paradigm shift in content regulation and observes that the existing laws that serve as the regulatory framework to control content are coming under increasing scrutiny.

In response to this scrutiny, scholars, governments and industry worldwide have been searching for a new regulatory paradigm (Longstaff, 2000). The European Commission released its Green Paper on the regulatory implications of convergence as early as December 1997, consultations were finalized late 1999 and consequent Directives were drafted in 2000. In March 1998, the Organization for Economic Cooperation and

Development (OECD) hosted a Roundtable on Communications Convergence. The United Kingdom Green Paper on convergence followed in July 1998 and a White Paper was released at the end of 2000. During the same period a number of other European countries, the USA, Canada and Australia conducted reviews and consultations on the most appropriate regulatory regime for the introduction of digital television. Japan announced a review of the impact of convergence on communication regulations and the Productivity Commission in Australia published the results of its review of broadcasting regulation in early 2000.

All these efforts indicate first that, despite the ongoing debate about the diminishing role of regulation in a converged world, the proposed new paradigm is more one of reregulation and self-regulation than deregulation (Prosser, 1997: Chapter 10). Second, the paradigm shift is expected to be evolutionary. Television services will merge further with online services when telecommunication networks are sufficiently advanced.<sup>3</sup> Uncertainty over the speed of change makes it difficult for governments and policy-makers to determine the priority that should be given to reform. Doing nothing may retard market developments. Moving too soon may mean that decisions are made with too little information.

Third, there remain strong geographical differences in thinking about regulation. Commercial television regulation in Europe and the US is historically divergent and as a result the debate about a possible paradigm shift is different. In Europe, the

overriding political importance ascribed to the medium resulted in strict prior regulation of both content and structure. In the US, First Amendment protection of free speech has led to an artificial obsession with exclusively structural controls, though government has contrived to ensure similar outcomes to those in Europe.

Finally, as a result of the evolutionary character, there are two distinct service categories and regulatory responses within the new communications platforms. The first are TV-type services that require live full motion video (high bandwidth) delivered to the home. The second are online Internet-type services that require interactivity and medium bandwidth delivered to the home. Differences between the TV-type approach and the online interactive Internet-type approach can be noticed in the functions of the applications such as entertainment and shopping versus communication and information, the target users such as consumers at home and interest groups, and data types such as audio/video versus text/programmes. Differences can also be noticed in the terminal devices, such as the differences between low-resolution TV sets and PC/NC, in the geographic scope such as between national, regional and global, and between distribution that is terrestrial, over cable or over the telephone.

Access ethics that determine whether the system will be closed, open or universal, economic orientation that governs whether information is shared or sold, and the rollout schedule that shows the maturity level of the situation, also illustrate differences between the TV-type approaches and the online Internet-type approaches (Press, 1994). The differences are slowly disappearing as convergence is becoming more and more real. However, they remain important for policy-makers – not least because the divergent policy and regulatory perspectives (not to mention rivalry) which the broadcasting and telecommunications regulatory bodies bring to the task make choosing or designing regulatory tools suitable for convergence extremely difficult.

Within those parameters, this chapter aims to outline the so-called paradigm shift in traditional means of controlling content, often labelled ‘negative regulation’<sup>4</sup> (Waverman, 2000). Digitalization clearly affects all areas of communications policy, and all sectoral regulations involved, yet this chapter will mainly focus on audiovisual content as the area where content policies and regulations are most heavily concentrated (Jassem, 1999: 31–49). It considers the assumption of loss of scarcity and of intermediaries as convergence takes place. It reviews the role self-regulation can play as an alternative paradigm to government or command-and-control regulation within that context. And finally, the chapter concludes by evaluating the assumptions that are associated with the new paradigm.

One theoretical reflection should be made at the outset of this chapter. There is an assumption implicit in the notion of a paradigm shift called ‘technological determinism’ that concerns the causal relationship between technological developments and social impact or change. This technological determinism is of course not new.<sup>5</sup> Indeed, within several theories of social evolution, technological innovations are regarded as the most important determinants of societal change (Kahn and Wiener, 1967; Bell, 1973; Kerr, 1983). Yet, causal theories vary in the degree of determinism they reflect, although those expounding them seldom make this explicit. Critics have sometimes made a distinction between ‘hard’ and ‘soft’ technological determinism, the latter allowing somewhat more scope for human control and cultural variation (Chandler, 1995).

In their definitions, strong or hard technological determinism is the extreme stance that a particular communication technology is either a sufficient condition (sole cause) or at least a necessary condition (requiring additional preconditions) for determining social organization and development. Either way, certain consequences are seen as inevitable or at least highly probable.

Weak or soft technological determinism, more widely accepted by scholars, claims that the presence of a particular communication technology is an enabling or facilitating factor leading to potential opportunities which may or may not be taken up in particular societies or periods. Its absence may also be a constraint to development. Within that context, Ithiel de Sola Pool declared that ‘Technology shapes the structure of the battle but not every outcome’ (Finnegan et al., 1987: 32). Other ‘factors’ are also involved, and ‘technoeconomic determinism’ is sometimes associated with this stance. The ‘weak case’ is less tidy and less generic than the ‘strong case’ but it is more in accord with the available evidence. This chapter adopts an intermediate position in this debate of technological determinism versus social choice, acknowledging the importance of technological innovation but without ignoring the impact of other political, economic, legal and cultural variables.

## THE UNDERPINNINGS OF THE PARADIGM SHIFT

### Digitalization and Convergence

At the heart of the paradigm shift lies digitalization, whereby all forms of data such as alphanumeric text, graphics, still and moving pictures, and sounds are translated into 0s and 1s or digital bits.<sup>6</sup> This then enables controlled storage in large volume, easy manipulation and display of these data, and quick transmission without loss of quality in an

integrated bit stream on a common channel (Garnham, 1994: 10). This common digital environment is driving the convergence that is taking place at all levels of the value chain (Verhulst et al., 1996: 4–6).

Convergence of the content of media or of media forms allows for the integration of the different kinds of information. The strict demarcation between different media becomes blurred (Cable and Distler, 1995: 2). Negroponte describes this state as ‘mediumlessness’ (1995: 71). Different content that had previously been carried by different physical media might be carried by a single medium like a CD-ROM. On the other hand, content that had previously been carried by a single medium may be distributed through several different physical media such as electronic newspapers (Institute for Information Studies, 1995: xiii).

As a result of digitalization of content, almost every message can be transported from point A to any point B in any physical way. The movement from a single-purpose network or transmission mode towards multipurpose networks is the result (Ducey, 1995: 3). This is called convergence of delivery channels.

Digital content requires a display terminal (desktop) and a decoder (set-top) (Garnham, 1994: 10). As stated in the World Telecommunication Development Report in 1995, there are essentially three user devices for accessing new communications services: the mobile telephone, the personal computer and the television (International Telecommunication Union, 1995). The concept of either PCTV (a PC with the ability to receive television signals) or a television with microprocessor technology for receiving digitally encoded data via phone lines has prompted the idea of a combined interactive platform designed to suit all needs (Dataquest, 1995). This idea is called convergence of customer interfaces. Besides this battle for the desktop, there is also a much more significant battle for the so-called middleware such as the set-top box or conditional access decoder, application programme interface and electronic programme guides. Electronic programme guides are a key issue in the regulatory questions discussed below.

Digitalization has led to the convergence of industries and markets, the creation of a new media consumption environment and hence a fundamentally different regulatory context.

## Regulatory Context

### *Shift in Scarcities and Intermediaries*

Digitalization and convergence drastically change the foundation upon which the traditional regulatory broadcasting regime is based. The analogue model was characterized by scarcity of frequencies and few intermediaries, a one-to-many flow of

information, distinctive industry sectors, linear programming, a mediated consumption environment and national boundaries. All this created the shared perception that broadcasting was pervasive and invasive in society and that television content needed to be controlled in a structural and restrictive or negative manner to ensure that public policy goals such as quality, diversity, impartiality and fairness were met.<sup>7</sup> The rise of digital television and the Internet has confounded these traditional understandings of ‘television’ and broadcasting regulation (Owen, 1999). Table 25.1 outlines the foundation behind regulation for the analogue and digital models.

As shown in Table 25.1 the debate about digital content is based on the assumption that there is abundance, as opposed to scarcity in the analogue model, and that there are new and different mediation processes in the digital environment that are not present in the analogue environment. As part of the latter assumption, disintermediation and individual involvement cause traditional mediators to become obsolete.

Information flow and the number of channels available have steadily grown as digitalization and cheaper content production have made more data publicly available. Three related technological/commercial ‘laws’ have heavily influenced these and other assumptions about content and network abundance: Moore’s law, Metcalfe’s law and the more recent Gilder’s law.

Moore’s law is based on the observation that the maximum processing power of a microchip, at a given price, doubles roughly every 18 months.<sup>8</sup> That means computer power increases at an explosive rate, and conversely the price of a given level of computing power decreases at the same dramatic rate.

Metcalfe’s law, on the other hand, describes a technological and economic force that pushes the growth of the Internet. As a network grows, the utility of being connected to that network grows even more. Thus Metcalfe’s law says that the value of a network is equivalent to the square of the number of nodes.<sup>9</sup>

Gilder’s law, finally, says that bandwidth will rise at a rate three times the rate at which processing power is increasing, or three times the rate of Moore’s law (Gilder, 2000). In other words, with processing power doubling every 18 months, bandwidth will double every six months.

These three ‘laws’ drive the ‘abundance’ determinism associated with digital technology; yet the question remains, which we will address further, whether these ‘laws’ can also be applied to content. In addition, so-called ‘disintermediation’ is the development of new content producers, the ability of users to link to information without any indirect barrier or mediation, and the ability to obtain non-linear access to programming that ranges from on demand

Table 25.1 *Regulatory context*

Analogue model	Digital model
<ul style="list-style-type: none"> <li>• Scarcity and few players (duopoly)</li> <li>• One-to-many</li> <li>• Distinctive sectors</li> <li>• Linear programming</li> <li>• Mediated consumption environment</li> </ul>	<ul style="list-style-type: none"> <li>• Abundant players (branding)</li> <li>• Many-to-many</li> <li>• Convergence of sectors</li> <li>• Non-linear programming (on demand)</li> <li>• Disintermediation and individual consumption environment</li> </ul>
<ul style="list-style-type: none"> <li>• National boundaries</li> </ul>	<ul style="list-style-type: none"> <li>• Transnational and global</li> </ul>

to interactivity.<sup>10</sup> It is assumed that within this new digital setting, the locus of power has shifted from the service or content provider to the user, creating a many-to-many communications environment (Berman and Weitzner, 1995). The significance of the 'old intermediaries', who mediated the flow of information from the top to the bottom, has decreased and the new digital services are global, recognizing no national boundaries.

In addressing the new regulatory paradigm, governments do not have the comfort of being able to consider the issues simply within the confines of their territorial four walls. Not only do those concerned have to contend with the impact of these technological developments, but they also have to recognize that these technological advances will not respect traditional jurisdictional boundaries. As a result of these features, it is claimed that scarcity, and hence the pervasiveness of content, disappear as the basis for regulation.<sup>11</sup>

### *Shift in Information Flows*

Another way of representing the paradigm shift of content structures has been suggested by Bordewijk and van Kaam (1982), who developed a framework to identify the main forms of 'information traffic'. According to them, the two main features of communication flows are: (1) storage and access to information and (2) use of information in the context of control of time and choice. Cross-tabulating both according to whether they are central or individual depicts a set of four categories of content flow. Table 25.2 demonstrates this cross-tabulation. The four categories in the table can be explained as follows:

- *Allocation* is the simultaneous transmission of a centrally constituted 'offer' of information intended for immediate attention, according to a centrally determined time scheme such as in traditional broadcasting.
- *Conversation* is an exchange between individuals of content already available to them, according to a mutually convenient time scheme such as over the telephone.
- *Consultation* is the selective consultation by individual participants of a central store of

information at times determined by each individual such as when individuals use the library or newspapers.

- *Registration* is the collection of information available to, or about, individual participants, according to a centrally determined choice of subject and time in a central storage area or 'store'. This is a long-established element in many organizations for record-keeping, control, and surveillance.

The difference between a central and an individual information store is also analogous to that between a mass media organization and a single audience member. It can correspond to the difference between information-rich individuals and those who are information poor. The difference between central and individual control of access also relates to that between constraint and freedom and between low and high communication potential. One other use of the scheme, according to van Dijk (1994: 119), is to note that the top row entries, allocation and registration, are associated with a need for government regulation, and the bottom row, conversation and consultation, with absence of interference.

In brief, the earlier paradigm governing content regulation was based upon an allocation model. In contrast, digital content allows for an increase in the possibilities for consultation such as in interactive TV, for conversation such as over e-mail, and for registration such as through subscription-based content. This suggests a shift from allocation to the other cells of the model. It also indicates a general empowerment of the individual to gain information and a reduction in the dominance of centralized public sources or intermediaries, as indicated above.<sup>12</sup> It is possible for individual information stores to develop so that much more extensive 'conversation' patterns could reduce dependence on and hence influence central information stores (McQuail, 1986).

Andrew Shapiro makes a similar observation with regard to the Internet in his book *The Control Revolution* (1999). He convincingly shows how the Internet purports to radically expand control over personal connections with the world. According to Shapiro, the Internet drastically increases our individual ability to make and affect choices about how

Table 25.2 *Information flows*

	Central information store	Individual information store
Central control of time and subject	Allocation	Registration
Individual control of time and subject	Consultation	Conversation

we take in news and other information, how we engage each other in social interactions, education, work and political life, and how we make decisions about allocating collective resources.<sup>13</sup> As such, the shift challenges the invasiveness, publicness and influence that have been attributed to traditional broadcasting and which will be discussed at length below.

### THE REGULATORY PARADIGM SHIFT

#### Rationales Behind Content Regulation

The starting point for every regulatory intervention and reform must be the policy objective, not the means of achievement. In other words, the need and rationale for the changes in rules and techniques must be identified before all other considerations. Justifications for intervention often arise from an alleged inability of the marketplace to deal with particular structural problems. Among the concerns listed by Hoffman-Riem (1996) are 'pluralism, diversity, fairness, and impartiality; social responsibility; maintenance of high quality programming and of cultural and linguistic identity; coverage of important events; protection against abuse of market power; strengthening national and regional industries; protection of consumers; and maintenance of standards in matters of violence, sex, taste and decency'. Other rationales are often brought up in political debate over media and content regulation and the details of a programme frequently only reflect political force.<sup>14</sup>

In the prior paradigm, where there was a scarcity of channels that were viewed mainly by families or in semi-public settings, it was justified for democratically accountable public institutions to intervene and regulate what was seen. The rationale for intervention hinged on liberal democratic notions of the particular importance of media and notions of market failure and harm to individuals, particularly children. Former European Commissioner for Audiovisual Policy, Marcelino Oreja (1999), summarized these notions and rationales from a European perspective.

The starting point is, of course, to recognize the crucial role that media play in our society. The role of the media goes much further than simply providing

information about events and issues; media also play a formative role in society. That is, they are largely responsible for forming the concepts, belief systems and even the languages – visual and symbolic as well as verbal – which citizens use to make sense of, and to interpret the world in which they live ... There are a certain number of public interest objectives which should be preserved in our societies, and which have a European dimension. In my opinion, these could be summarized as follows: ensuring plurality of ownership; ensuring fair and effective competition; ensuring diversity of content; protecting individual rights to privacy, free speech, etc.; protecting intellectual property rights; maximizing individual consumer choice and access to information; and, very importantly, ensuring a high level of protection of minors and human dignity.

In addition, content regulation of broadcasting was seen as justified because of the particular features of broadcast content, which distinguish it from other media such as telephones and the press. These include pervasiveness, invasiveness, publicness and influence (Tambini and Verhulst, 2000).

- *Pervasiveness* Because terrestrial transmitters can carry only a limited number of channels, and the broadcasting spectrum provides only a limited space for programming, each programme has been perceived as pervasive. It has therefore been imperative from the outset to ensure that terrestrial broadcasting channels reflect the opinions, taste and culture of as many different people as possible, often through a public broadcasting system or public service obligations.<sup>15</sup> In addition, in the 1980s, media policies were developed to ensure that political, ethnic and other minorities had more presence on television. These policies were justified because of the pervasiveness of the medium of TV, and of the scarce range of available channels.
- *Invasiveness* Content is more invasive if users do not know what content they are about to receive or do not actively choose it. As opposed to traditional broadcasting, content accessed in books and via the Internet is more likely to be deliberately chosen. The lack of control over the products offered by broadcast media has justified setting up a legal regime specific to them in order to protect the listener or viewer (Poulet and Lamouline, 1995: 36). When content is invasive, central negative content controls may apply. New forms of delivery, such as encrypted

narrowcasting, where adult users have a high degree of choice and control, are generally subject to less regulation than free-to-air television (Department of Culture, Media and Sport, 1999: 1.14).

- *Publicness* All societies have taboos that are crucial for monitoring social cohesion and individuals' sense of trust and community. Taboos exclude certain topics from 'public' communication and, conversely, public communication is reserved for topics and content that are considered part of the public domain and of a specific value. Broadcast media are considered one of the key places where societies think about and discuss crucial issues about survival and purpose. The contents they carry constitute a large part of what individuals have in common and provide key reference points in broader political and cultural debates.
- *Influence* Broadcasts have sometimes been accredited with the ability to directly influence revolutions and bring down governments but can also have a subtler agenda-setting influence as they determine the focus of public political debate each day. The high degree of influence of broadcast content warrants close public regulation of potential abuses and makes it imperative to develop the means to ensure that content is not used in a manipulative way. Where there are very few dominant sources of information, or just a handful of television channels, their influence can be of paramount importance in forming public opinion. It is justified to ensure that such content is neither harmful nor undemocratic, and that it promotes publicly shared values, rather than those of a powerful minority.

Digitalization challenges these justifications. As a result of convergence, it is claimed that the pervasiveness, invasiveness, publicness and influence of content decrease or even disappear. To a certain extent, the European Green Paper on Convergence demonstrated a different perspective on this issue:

The fundamental objectives underpinning regulation in the Member States are not undermined by convergence ... Nevertheless the nature and characteristics of convergence as well as the perceived need of industry actors for regulatory intervention to be limited and closely targeted, should lead public authorities at both a national and a European level to re-examine the role and weight of regulation in a converging marketplace. (European Commission, 1997)

Public interest objectives do not become irrelevant or invalid as a result of technological change. Where the listed features of pervasiveness, invasiveness, publicness and influence remain, content regulations may continue to apply. The regulatory challenge in content regulation in a digital setting is thus to find appropriate legislative and other

mechanisms to safeguard these policy objectives. It is suggested that a functional approach is needed, one which does not depend solely on technology or forms of delivery, but which recognizes the nature of the content and the character of the audience receiving it. All this led to the call for and shift towards self-regulatory approaches within the new regulatory paradigm.

### Shift in Regulatory Mechanism

Because analogue television was considered as more pervasive, invasive and influential within society than any other medium, the call for and development of stronger government regulation were justified. Broadcasting regulation was and is based upon a licensing system with guidelines restricting what kinds of content and advertisements can be broadcast, specific programme schedules or watershed policies, classification of programmes developed by a single institution, and consequent acoustic or visual announcement of programmes.

Broadcasters, as a rule, took their responsibility toward programming content very seriously, and have been keenly aware of the expectations of their audiences, who could complain to statutory bodies in case of offence. Moreover, analogue television was controlled nationally and audiovisual policies were in many cases nationalistic. Finally, access rules and mechanisms ranging across ownership rules, must-carry rules, listed events and even public service broadcasting monopolies all helped to ensure that broadcasters fulfilled the envisioned roles.

Clearly, these approaches, originally established for terrestrially based mass audience channels, have become much more difficult to maintain as the sources of programming have multiplied and new technologies have made the prospect of regulation far more unmanageable. Because of converging technologies, it is also increasingly difficult to differentiate between 'telecommunications' and 'broadcasting'. New mechanisms and paradigms appropriate for a changing multichannel, digital and online environment need to be considered. Table 25.3 provides a review of the traditional methods used to control broadcasting content compared with the new methods now being developed for controlling content in the online converged environment.

Self-regulation plays an overarching role in this search for adequate solutions. It involves many regulatory subjects such as domain names, standard setting of conditional access systems, open access and e-commerce. However, most of the public concern and debate concerning self-regulation has focused on illegal and harmful content, the scope of this chapter. This concern has prompted substantial and public industrial response. However, given the

Table 25.3 *Regulatory mechanism*

Traditional means of content control	Paradigm shift: digital ecology
1 Government regulation through: <ul style="list-style-type: none"> <li>• licensing systems (programme code)</li> <li>• programme scheduling (watershed)</li> <li>• physical bottlenecks (broadcasting responsibility)</li> <li>• statutory complaints mechanism</li> </ul>	1 Self-regulation through: <ul style="list-style-type: none"> <li>• codes of conduct</li> <li>• green/red listing (pool)</li> <li>• technical bottlenecks (parent empowerment)</li> <li>• hotlines</li> </ul>
2 Single institutional approach (monopoly)	2 Plural/competing approaches
3 Sector-specific rules	3 Content/convey distinction
4 Media ownership rules (diversity/pluralism)	4 Access and bottleneck regulation

complexity of the new services (different platforms with different communications capacities) no single approach, relying on one form or one set of actors, can provide a solution to content concerns in the changing and shifting environment that is the Internet. The development of a self-regulatory regime for digital services will comprise multiple complementary actions, tools and mechanisms. At least four main strands have been suggested and recommended:<sup>16</sup>

- First, codes of conduct should be adopted to ensure that Internet content and service providers act in accord with the law and with principles of social responsibility.
- Second, there should be comprehensive use of rating/filtering technology and green/red lists.
- Third, content response and complaints systems such as hotlines must be made available to users.
- Fourth, success requires awareness among users of the means to filter and block content, their power to redress complaints, and the level of conduct that is promised by the industry.

It has been argued that the most distinct of these means for enhancing protection and free speech is the use of filtering and blocking mechanisms, using plural and often competing rating systems. This is not to say that legal controls or codes of conduct are unimportant, but rather that the shift from 'hard law to software' can clearly be considered as an empowerment and improvement of users' choice. Hence the major response to the call for self-regulation involves processes that promote filtering and rating systems.

### Shift from Law to Technology

Lawrence Lessig in his book *Code and Other Laws of Cyberspace* (1999) has also made an analysis of the paradigm shift from 'hard law to software'. He challenges the myth that cyberspace is incapable of regulation, and argues that our notions of liberty and rules are undergoing a transformation as we are forced to make value choices not previously confronted in constitutional theory. According to

Lessig, social order is created by human activity in four realms – technology, economy, civic institutions and the polity. Table 25.4 outlines these realms. Social order emerges because human activity is routinized or regulated in each of these realms. Lessig defines the 'modalities of regulation' in each realm – architecture, the market, norms and laws – by the nature and timing of constraints and the enforcement agents (1999: 235–7). Sociologically, many other aspects of social order can be added in each realm. Central in the discussion below are the institutions through which activity is channelled and the nature of relationships, identity and participation in each.

Using the terminology in Table 25.4, Lessig suggests that the very architecture of cyberspace allows profound control of information flows. Technical rules and protocols are themselves critical regulators of cyberspace. In these terms, the 'code' becomes the constitution for cyberspace. At the same time, Lessig points out that 'code' is not the sole regulator of behaviour in cyberspace. Social norms form an important aspect of control in cyberspace, whether those norms are formed locally or remotely. Similarly, market regulation (such as pricing and terms of service) has a powerful and central constraining effect on behaviour in cyberspace. Finally, Lessig indicates that law is still present in the equation. Indeed, he argues that law may regulate the architecture itself, or change behavioural norms.

Lessig's discussion of modalities of regulation is not simply descriptive, but proscriptive. First, he argues that open code, as opposed to proprietary code, reduces the capacity of government to impose requirements on citizens. At the same time, while open code might make it harder for government to control the myriad of software developers around the world, open code can also facilitate the capability of government to impose particular software modules for products sold in its territory. Second, as the Internet moves into a commercial phase, the emerging paradigm requires urgent measures to preserve the Internet's openness. Lessig's concern in the discussion of cyberspace is that in the face of a powerful technology, there is a tendency to

Table 25.4 *Paradigm of society*

Characteristics of social interaction	Realms of social order			
	Technology	Economy	Civic institutions	Polity
Modalities of regulation	Architecture	Market	Norm	Law
Enforcement agent	None	Seller/buyer	Peers	Police/courts
Timing of constraint	Before	During	Before/after	After
Nature of constraint	Physical	Money	Opprobrium	Sanction
Basis of relationships	Structure/flow	Production	Experience	Power
Basis of participation	Inhabitant	Producer/consumer	Member	Citizen
Primary institutions	Place/space	Enterprise	Family/Church	State
	Internet	Union		Media

passively accept the technological edicts of the code writers, rather than assert control over the definitions and development of society.

We will treat code-based environmental disasters – like Y2K, like the loss of privacy, like the censorship of filters, like the disappearance of an intellectual commons – as if they were produced by gods, not by Man. We will watch as important aspects of privacy and free speech are erased by the emerging architecture of the panopticon, and we will speak, like modern Jeffersons, about nature making it so – forgetting that here, we are nature. We will in many domains of our social life come to see the Net as the product of something alien – something we cannot direct because we cannot direct anything. Something instead that we must simply accept, as it invades and transforms our lives. (1999: 233)

Lessig goes on to issue a call to arms (1999: 58–9). The animus for the call is a fear that the dictates of the code writers, driven by commercial interests, will be corrosive of fundamental values in our society such as justice, equality and democracy (1999: 15, 206, 209). He stresses the need to act to preserve key values and policy objectives on the Internet.

These legal, market and technological analyses suggest that there is a close nexus between technology and the economic and legal structure and that these spheres are driving changes through the remainder of society. As Manuel Castells argues in his book *The Rise of the Network Society* (1996), technology deployment, economic activity, social interaction and political institutions, within broad limits, can be directed toward specific goals.

Yet, if society does not determine technology, it can, mainly through the state, suffocate its development. Or alternatively, again mainly by state intervention, it can embark on an accelerated process of technological modernization able to change the fate of economies, military power, and social well being in a few years. Indeed, the ability or inability of societies to master technology, and particularly technologies that are

strategically decisive in each historical period, largely shapes their destiny, to the point where we could say that while technology *per se* does not determine historical evolution and social change, technology (or the lack of it) embodies the capacity of societies to transform themselves, as well as the uses to which societies, always in a conflictive process, decide to put their technological potential. (1996: 7)

These concerns involve values that are very much at the heart of the debate over the role the government should take in a self-regulatory environment, the subject of the next section.

## THE PARADIGM SHIFT REVIEWED

### The Concept and Definition of Self-Regulation

The initial problem inherent in every approach to self-regulation lies with definition. There is no single definition for self-regulation that is entirely satisfactory, nor should there be. Self-regulation on the Internet evolves as the nature of the Internet alters. Different profiles of self-regulation emerge that adjust to the varying regulated aspects of the Internet. Self-regulation has and will continue to have different meanings from sector to sector and from state to state. Furthermore, whatever its implications or suggestions, self-regulation is almost always a misnomer. It hardly ever exists without some relationship to the state – a relationship that itself varies greatly. The meaning of self-regulation shifts depending upon the extent of government coercion or involvement and upon accurate public perceptions of the relationship of private sector and state.

Despite these and similar complexities, governments, industries and users employ the term ‘self-regulation’ frequently, almost indiscriminately. It is assumed to have a predetermined meaning when it does not. A study of self-regulation in the media sector and European Community law noted that

'the term "self-regulation" is often used as a matter of course, as if it were (1) a specific and defined term, and (2) an equally specific and defined regulatory practice. Yet in general, this is not the case' (Ukrow, 1999: 11). From the outset, then, in order to manage social concerns connected to the new technology there needs to be an exploration of self-regulation's variety of meanings and the implications of each meaning.

Larry Irving, former US Assistant Secretary of Commerce, observed: At one end of the spectrum, the term is used quite narrowly, to refer only to those instances where the government has formally delegated the power to regulate, as in the delegation of securities industry oversight to the stock exchanges. At the other end of the spectrum, the term is used when the private sector perceives the need to regulate itself for whatever reason – to respond to consumer demand, to carry out its ethical beliefs, to enhance industry reputations, or to level the market playing field – and does so.<sup>17</sup>

Even here, the range of variable meanings emerges. Because 'self-regulation' is thought to exist when private entities have been commanded to act or become the delegates of state power, the intertwining of state and private industry is implicitly recognized, although the 'governmental nature of self-regulation' may differ across sectors (Baldwin and Cave, 1999: 125). Questions remain over the propriety and clarity of delegation, the circumstances under which state functions can or ought to be carried out by private groups, and the division of power and responsibility between the state and private groups.

On the other hand, as Secretary Irving suggests, the private sector 'perceives the need to regulate itself'. The source of that need is often the threat of public regulation, a societal demand for increased responsibility by the private sector, or economic factors. Other variables may include the extent of the role played by self-regulators, the degree of binding legal force attached to self-regulatory rules, and their coverage of an industrial sector (1999: 126). These areas of indeterminacy are grounds for a statement in a recent bibliography on self-regulation on the Internet prepared for the OECD: 'While there is broad consensus that self-regulation of the Internet is critical to its future growth, there is little consensus about how to achieve or implement a self-regulatory regime' (Gidari, 1998).

### The 'Self' of Internet Self-Regulation

In addition to the confusion over how to define self-regulation, determining what ought to be included in the 'self' of self-regulation in the context of digital content is also a complex question. A cornucopia of institutions partakes of self-regulatory

characteristics. Voluntary institutions generated by the Internet and not by government are the very backbone of efforts to deal with harmful content.<sup>18</sup> In many discussions, governments have failed to recognize that the Internet industry is not monolithic and that there is no single 'industry' that speaks for the whole of the Internet (Gidari, 1998). Moreover, the fact that the Internet is relatively young and still in a rapid growth stage also means that in many cases effective cooperative action such as the creation of industry associations is also in its early stages. One interesting example of such cooperation is the pan-European Association of the Internet Service Providers' Associations (EuroISPA) of some EU member states.<sup>19</sup>

The definition of 'self' cannot be divided between different sectors of the industry that form cohesive communities either. Indeed, it has been suggested that self-regulation operates more effectively when it involves interrelated levels of the industry, which often do not form one coherent body. For example, Boddewyn's (1989) study of the advertising industry found that self-regulatory systems were strengthened when they included distribution systems such as television networks. Many of the Internet self-regulatory bodies contain representatives from different sectors of the industry. For example, in Australia, Internet Industry Association Australia (IIA) has a membership that includes telecom carriers, content creators and hardware developers.<sup>20</sup> In contrast, the self-regulatory organizations in the United Kingdom tend to have a narrower membership, with the Internet Service Providers' Association (ISPA) and the London Internet Exchange (LINX) the two leading ISP groups, whose memberships are restricted to providers.<sup>21</sup>

There is also an increasing social demand for breadth in the definition of 'self' for self-regulation on the Internet. If the function of self-regulation is to minimize harmful and illegal conduct on the Internet, particularly as it affects young people, then it must become more, rather than less, extensive. Albert Gidari (1998), Executive Director of the Internet Law and Policy Forum, has stated that often the 'self' in self-regulation too narrowly focuses only on the business sector. A narrow conception of self-regulation places too much of the burden on industry to solve the legal and policy issues when other participants such as stakeholders and administrators could contribute to the overall self-regulatory regime.

Because of the multisectoral nature of online content, a wide variety of self-regulating communities or mediating institutions is likely to come into existence. Moreover, competing self-regulatory regimes may emerge within any given sector. Resulting patterns and institutions of self-regulation will differ geographically. Each state has different social demands, different constitutional

structures, and different traditions of industry–government cooperation in the fields of media and speech. One study of self-regulation and self-generation of standards that compared the experiences in Canada and the United States demonstrated marked differences in the scope of cooperation with the government, shared standards, and the notion of self-regulation as a social and collaborative act (McDowell and Maitland, 1998).

When it comes to content regulation, differences in self-regulation, state to state, will also turn on the speech traditions in each society and the way that each conceptualizes the Internet and digital content. Where the Internet is perceived as derived or related to telephony, self-regulatory practices and standards that have emerged in telecommunications may predominate. In the United States, partly because of the First Amendment tradition, self-regulation is distinctively a form of avoidance of, confrontation with, and studied separation from government. However, a comparative overview of self-regulatory systems in the media in all EU member states identified clear differences in meaning and structure of the self-regulatory systems (Brohmer and Ukrow, 1999).

### **Costs and Benefits of Self-Regulation**

It is generally suggested that the professed advantages of self-regulation over governmental regulation include efficiency, increased flexibility, increased incentives for compliance, reduced cost, and minimized government intrusion in the speech field (Price and Verhulst, 2000). However, when considering these self-regulatory attempts as an effective alternative to government regulation, several considerations must be weighed.

First, self-regulation ought to be perceived as a paradigm different from deregulation or non-regulation. Deregulation directly aims at removing any regulation perceived to be excessive and hindering market forces. Self-regulation, as an ideology or approach to management, does not aim primarily to dismantle or dispense with a framework for private activity.

Second, self-regulation involves a dialogue between government and a business association. The form of the dialogue depends on the situation of each party at the beginning of discourse. This may differ across sectors, across countries and in time. As a result, self-regulation has and will continue to have different meanings in different contexts. It is clear, then, that whatever its implication or suggestion, self-regulation is almost always a misnomer. Self-regulation rarely exists without some relationship to the state, which is a relationship that varies greatly.

Third, it is naive to suggest, as is done continually, that self-regulation does not itself involve

significant regulatory costs. For any system, regulatory or self-regulatory, costs are determined by a combination of the policy goals they envisage and the structures and dynamics of the economic and social activities they regulate. Monitoring and evaluative costs otherwise assumed by governments may be incurred directly by individual companies or indirectly by industry associations that will also generate significant amounts of third-party costs associated with governmental compliance procedures.

Fourth, self-regulation can quickly become moribund without strong and committed support for its development, implementation and enforcement. The very nature of a voluntary system potentially creates a ‘free-rider problem’, where some actors expend significant resources on the development, monitoring and implementation of codes and standards while others ignore their existence. To be a living and working instrument, a code of conduct or its equivalent must, in practice, be implemented with the agreement of the industry sector to which it is applied.

Fifth, effective self-regulation requires active consumer and citizen consultation based upon shared responsibility at all stages of development and implementation. Without user involvement, a self-regulatory mechanism will not accurately reflect user needs, will not be effective in delivering the standards it promotes, and will not create confidence. Table 25.5 demonstrates these five considerations.

### **Self-Regulatory Mechanism**

In addition to the considerations regarding the concept of self-regulation, there are also several challenges in the suggested self-regulatory mechanism.

#### *Codes of Conduct*

Codes of practice or good conduct embody, at times, mutual obligations by competing actors, for example, in the form of agreements, that require each of them to take certain actions to restrict content that would give any one of them a temporary competitive advantage. Codes provide an indication of the nature of the self-regulatory authority, including whether or not it will impose sanctions for breaches of the code, and upon whom. Codes are often the instrument for the generation or refinement of norms. In the Internet setting, norms negotiated between the industry and government authority are codified to produce the rules.

There are a number of industry initiatives under way directed at developing codes of conduct, and a number of national governments specifically endorse codes as a front-line mechanism for addressing content issues (Blinderman et al., 2000).

Table 25.5 *Self-regulation*

Advantages of self-regulation over governmental regulation	Considerations and challenges for self-regulation
<ul style="list-style-type: none"> <li>• Increased efficiency</li> <li>• Increased flexibility</li> <li>• Increased incentives for compliance</li> <li>• Transnational scope</li> <li>• Increased expertise</li> <li>• Reduced cost</li> <li>• Minimized government intrusion in the speech field</li> </ul>	<ul style="list-style-type: none"> <li>• It is almost always a misnomer and government involvement usually continues</li> <li>• The paradigm is different from deregulation or non-regulation</li> <li>• It involves significant regulatory costs</li> <li>• Self-regulation requires active consumer and citizen consultation (corporatist)</li> <li>• Strong and committed support or social responsibility from all parties is necessary; free-riders should be considered</li> <li>• A balance between the carrot and the stick may improve effectiveness</li> </ul>

However, a level of compliance needs to be ensured. Users, both industry and consumers, need guidance with regard to the content of these codes and an impartial arbiter needs to have an appropriate redress mechanism – variables often absent in current initiatives.

#### *Rating and Filtering*

As indicated above, rating and filtering techniques may offer the best solution to empower parents in controlling the content they deem to be suitable or unsuitable. Developing rating systems is always difficult. However, within an Internet and converged communications setting the following additional challenges can be observed:

- How can sufficient coverage of websites be reached to encourage the use of rating and blocking software?
- How can varieties of rating software be made available to all who want to use them?
- How can the cultural bias (many are US-centric) of existing rating systems be overcome?
- How can an internationally acceptable system be developed that allows national differences?
- How can such systems be made easy to use for content providers and for parents alike?
- How can accuracy, objectivity and consistency of ratings be ensured?

Many initiatives have been developed in response to these questions. Internet Content Rating for Europe (INCORE) and the EU Internet Action Plan have examined guidelines for developing self-rating systems that are appropriate for European cultural and linguistic specifics and are also suitable for global requirements. At the national level, Germany, via the Secorvo Jugendshutz study, and the UK, through the Internet Watch Foundation, have considered the adaptation of US ratings systems to their specific value systems.

Several US-based awareness campaigns such as GetNetWise and NetParents have developed with

the goal of highlighting the functioning of filter systems. Since most websites are not currently rated, most software provides users with the option of blocking sites that do not contain Platform for Internet Content Selection (PICS) ratings. However, this choice may be appropriate for some, but it severely restricts the available options. By blocking most of the web (including possibly some sites designed for younger users), this approach presents children with a severely restricted view of the world.

#### *Zoning*

Zoning, or the development of green and red lists, is often considered a more effective manner for creating a 'safe playground'. There are, however, several problems with filtering based on lists of sites to be blocked.

First, both green and red lists are always under-inclusive and incomplete. Owing to the decentralized nature of the Internet, it is practically impossible to search all Internet sites for 'objectionable' or 'acceptable' material. Furthermore, since new websites are constantly appearing, even regular updates from the software vendor will not block out all adult websites. Each updated list will be obsolete as soon as it is released, as any site that appears after the update will not be on the list, and will not be blocked.

The volatility of individual sites is yet another potential cause of trouble. Adult material might be added to or removed from a site soon after the site is added to or removed from a list of blocked sites.

There is a general lack of transparency concerning the criteria used by list developers. This obscurity is compounded by practices used to protect lists of blocked sites. Vendors often consider these lists to be proprietary intellectual property, which they protect through encryption. Encryption renders the lists incomprehensible to end users. Companies such as Cyberpatrol have vigorously fought organizations that published Cyberpatrol's

Table 25.6 *Self-regulator mechanisms for a digital age*

Ideal	Reality: key challenges
<p><i>Codes of conduct</i> 'Reflects industry morality'</p>	<ul style="list-style-type: none"> <li>• Level of compliance/awareness</li> <li>• User guidance</li> <li>• Impartiality of arbiter</li> <li>• Appropriate redress</li> </ul>
<p><i>Rating and filtering</i> 'Golden fleece of parental empowerment'</p>	<ul style="list-style-type: none"> <li>• Volume of content</li> <li>• Different transmission paths</li> <li>• Objectivity and plurality</li> <li>• Ease to use/access for all parties</li> <li>• Awareness and literacy</li> </ul>
<p><i>Zoning</i> 'Safe playground'</p>	<ul style="list-style-type: none"> <li>• Underinclusive/overrestrictive</li> <li>• Transparency</li> <li>• Property rights and access</li> </ul>
<p><i>Hotlines</i> 'Concern response system'</p>	<ul style="list-style-type: none"> <li>• Awareness</li> <li>• Transparency</li> <li>• Expertise</li> <li>• Public/private partnership</li> </ul>

lists of blocked sites and programs that would break the encryption. Peacefire.org was one such organization that posted a program that enabled users to access the list developed by CyberPatrol. CyberPatrol challenged the posting in court, claiming copyright violation.<sup>22</sup>

### *Hotlines*

Finally, hotlines have been suggested as an appropriate content concern response system for a decentralized and global environment such as the Internet. However, as Burkert (2000) has indicated, the quality, rules, procedures and organizational contexts of these hotlines play an important role in the acceptance, functioning and effectiveness of content concern response systems. Hotlines need to establish efficient communications systems, with availability, reliability and transparency as the main qualitative requirements.

Table 25.6 outlines the challenges in instituting codes of conduct, rating and filtering, zoning, and hotlines as effective self-regulatory mechanisms. This is juxtaposed with the ideal of each mechanism, to summarize this section.

## CONCLUDING REMARKS: NEW SCARCITIES AND NEW INTERMEDIARIES

The current regulatory paradigm shift for digital content, as outlined and reviewed above, is based upon assumptions of disintermediation and loss of scarcity, which in themselves decrease the

pervasiveness, invasiveness, publicness and influence of content. Yet a critical analysis may indicate that some of these assumptions are incomplete, and are based upon limited notions of access, scarcity and mediation. Indeed, a subtler phenomenon of reintermediation is emerging, and in many ways it creates new (artificial) scarcities (Mansell, 1999: 155–81).

The process of reintermediation is initiated by several elements. One of the dilemmas posed by the increasing flow of information is that too much information paralyzes and enervates. The abundance of content has led to a call for and the creation of new types of mediation and hence new intermediaries that can:

- search and navigate in the wealth of information for the right match of information needed;
- warn or even filter and block information that is unwanted or considered harmful;
- contextualize or give information about information through so-called metadata;
- integrate and decode different streams of information;
- customize the reception and consumption of services and information; and
- verify or authenticate the source, the user, and whether payment has been received (Firestone, 1994–5).

These requirements have caused the emergence of new intermediaries in the form of electronic programme guides, portals, search engines, walled gardens, filters, push technology, billing software and intelligent agents. It is predicted that many of these components will be combined within new

Table 25.7 *New challenges*

Regulatory paradigm	New challenges
Disintermediation	Reintermediation
Abundance	New scarcities
User empowerment	Sender power
Open access	Closed offering
Civic sphere	Commercial sphere

middleware such as the Multimedia Home Platform to be developed by the Digital Video Broadcasting Group.<sup>23</sup> Table 25.7 delineates the new challenges in the Internet environment against the previous assumptions about that environment.

These new communications network intermediaries do not work, however, in a user-neutral way. The selection, evaluation and functions are to a large extent determined by the creators of the gateway (Hargittai, 2000: 233–53). They decide how much information there will be, what form it will take, in what package or bundle, at what price, and whether there will be choice and access at all. Ultimately, content producers and distributors are not interested only in providing full and free access for users; they are interested in attracting an audience for their portals, packages and developed services, linked with advertising or subscription revenue.

Moreover, there are many ways that intermediaries can influence users' communication patterns. Representation and placement of the information or programming that 'match' the need allow for promotion of or discrimination against some services. The design of the navigation device by intermediaries can influence choice and access (Introna and Nissenbaum, 2000: 1–17). Stand-alone filter systems limit users to decisions made by the software vendor. Moreover, to customize the service, intermediaries also collect valuable information about users and their communication patterns, with risks of privacy intrusions. The danger here is that new and artificial scarcities are created: access to information will vary according to the portal and gateway that are used and whether the user can afford specific subscription fees. As such, information exiles may result if no regulatory paradigm is reconsidered soon – perhaps an even much bigger challenge and priority for policy-makers.

#### NOTES

The author is grateful to the Markle Foundation for a visiting scholarship in the autumn of 2000 at their New York headquarters that enabled further review of the paradigm shift. The chapter reflects also the content of two seminars held at the Markle Foundation.

1 In his groundbreaking book, Kuhn (1970) argued that 'paradigms', or conceptual world views, that consist of formal theories, classic experiments and trusted methods, define scientific research and thought. Scientists typically accept a prevailing paradigm and try to extend its scope by refining theories, explaining puzzling data, and establishing more precise measures of standards and phenomena. Eventually, however, their efforts may generate insoluble theoretical problems or experimental anomalies that expose a paradigm's inadequacies or contradict it altogether. This accumulation of difficulties triggers a crisis that can only be resolved by an intellectual revolution that replaces an old paradigm with a new one. Kuhn's book revolutionized the history and philosophy of science, and his concept of paradigm shifts was extended to such disciplines as political science, economics, sociology and even law.

2 A more recent and perhaps more 'business management' version of the paradigm concept is offered by Joel Barker (1993). It states that 'a paradigm is a set of rules and regulations that: (i) defines boundaries; and (ii) tells you what to do to be successful within those boundaries' (1993: 14).

3 This is expected to be evolutionary since all parts of the value chain (content, packaging, distribution and customer interface) cannot easily develop simultaneously; the technology required for advanced networks is either not fully developed or remains too expensive to be commercially viable; most of the interactive TV services that a switched broadband network would support are very similar to existing and developing broadcast services. Thus a huge incremental expense would have to be supported by a relatively small range of new services; evolutionary development is more appropriate to the expected nature of consumer demand. For a further discussion see Jamieson (1995: 11).

4 As opposed to 'positive regulation' which includes universal service provisions, state aid, etc.

5 The American sociologist and economist Thorstein Veblen (1857–1929) apparently coined the term 'technological determinism' (Ellul, 1990).

6 In addition to digitalization, there are some other common key technological advances such as compression, optical fibre and extended switching (Negroponte, 1995: 12).

7 These public policy goals are generally based upon the view that broadcasting is a means of communicative self-development and important to the functioning of a democratic society. For a detailed analysis of the rationales behind broadcasting regulation see Hoffman-Riem (1996: 297).

8 For a critical analysis of the value of Moore's law for other technologies see Coffman and Odlyzko (2001).

9 The 'law' postulates that if  $n$  people are in a network, the value of the overall network is  $n^2$ , given the myriad new connections that can be made to the  $n$ th participant. A simple example is that of a fax machine that becomes more useful the more people are connected to it.

10 Disintermediation may also be achieved by the removal of intermediaries from the industry value chain (Moore, 1996).

11 Charles Firestone (1993) has also indicated that at each level of the communications process, production, distribution and reception, there have been two paradigmatic stages of regulation, one of scarcity and one of apparent abundance and competition. At the scarcity stage, usually obtained after an initial period of skirmishing among pioneers for position, the regulation has taken the general form of governmental intervention in order to promote the broader public interest. At the abundant or competitive stage, which overlaps the earlier stage, there has been a reversal, a deregulation to promote greater efficiency. In each case, the paradigm is a regulatory religion, at times demanding faith on the part of the believers.

12 However, what is available for consultation in central stores can still be centrally determined and much will depend on how diverse the central stores are in content and management. Furthermore, in other interpretations the 'registration' pattern may significantly increase the potential for central control through surveillance of information and information-related activities, which may often be politically sensitive.

13 Paradoxically, however, the Internet often becomes a tool to segregate us hermetically from unwanted but sometimes invaluable experiences.

14 For a US account see Corn-Revere (1997). For a more European and UK-oriented discussion see Feintuck (forthcoming).

15 This was particularly pronounced in the US by the famous case *Red Lion Broadcasting Co. v. FCC* (1969), in which the Supreme Court upheld the FCC's 'fairness doctrine', which required licensees to cover controversial issues of public importance and provide a reasonable opportunity for the presentation of opposing points of view. The Court explained that in order to avoid interference on the airwaves, a government agency must limit the number of broadcast speakers. Because only a lucky few can be licensed to broadcast, the government can require those few to act as trustees or fiduciaries on behalf of the larger excluded community, and obligate them to present views, representative of the community, that otherwise would have no broadcasting outlet.

16 The European Internet Action Plan lists these ways as crucial to create a 'safer' Internet environment. See Decision no. 276/1999/EC of the European Parliament and of the Council of 25 January 1999 adopting a Multiannual Community Action Plan promoting safer use of the Internet by combating illegal and harmful content on global networks.

17 Quote by Larry Irving obtained when he was introducing a collection of papers analysing the prospects of self-regulation for protecting privacy (National Telecommunications Information Administration, 1997).

18 However, the history of a voluntary association such as the Internet Corporation for Assigned Names and Numbers (ICANN) indicates how seeming autonomy begins with government encouragement. See <http://www.icann.org> (17 February 2000).

19 To learn more about EuroISPA see <http://www.euroispa.org/index.html> (19 February 2000).

20 For information about Internet Access Australia see <http://www.iaa.net.au> (19 February 2000).

21 For information about ISPA UK see <http://www.ispa.org.uk> (20 February 2000), and for the London Internet Exchange Ltd see <http://www.linx.net> (19 February 2000).

22 After the case was initially lost, a federal appeals court in the US allowed the American Civil Liberties Union (ACLU) to recommend that peacefire.org along with two other clients exercise their First Amendment rights and continue to post the lists. In addition, the recent copyright law regulations passed by the Library of Congress in October 2000 exempt "reverse engineering" of or unauthorized access to filtering software in order to expose the list of blocked sites' from the law. For further information about the case see ACLU press releases entitled: 'Censorware copyright controversy leaves clients, consumers in the dark, ACLU says', Tuesday 28 March 2000, and 'ACLU gives clients green light to post blocking software code', Tuesday 31 October 2000. They are available at <http://www.aclu.org/news/2000/n032800b.html> and <http://www.aclu.org/news/2000/n103100.html>, respectively (viewed 3 January 2001). Even in light of these events, the considerations behind protecting their lists remain substantial for the companies developing them.

23 See <http://www.dvb.ch>.

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