

THE EMERGENCE OF CONVERGENCE: TECHNOLOGIES, INDUSTRIES, AND REGULATIONS

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Abstract

Technological convergence has spurred the restructuring of communication industries and has stimulated the need to reconsider existing media laws.

Traditionally the technologies of telecommunications, broadcasting, satellite and computing operated independently while the industries associated with each were regulated independently along the same lines.

Technological convergence challenges the vertical regulatory models of broadcasting, telecommunications and computer services while simultaneously challenging the traditional approach to regulation by nation-states.

This article explores the scope and early phases of regulatory convergence examining approaches to and sources of regulation in an ever increasingly globalized media world. The shift toward moving media regulation into market regulation internationally is examined within a survey of diverse approaches to regulating convergent technology. The authors propose a model of communication which could be used in future consideration of communication regulations worldwide.

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The driving force behind the greatest change in communication today is digitalisation paving the integration of formerly different forms of communication. The phenomenon of *convergence* is characterised by multi-functional terminals and multi-media networks (Holznagel 1998/1999, 1). Technological convergence has spurred the restructuring of communication industries and has stimulated the need to reconsider existing media laws. Media supervision and regulation have become increasingly complex, rapidly more globalised from both a technological and market oriented perspective. Critics argue that the current regulatory environment, characterised by tensions between the reality of the media environment and the legal regulatory context, is unworkable. Among the most challenging tasks is the reconceptualisation and systematisation of communication rights and regulations in the new internationalised communication environment.

This article explores the scope and early phases of regulatory convergence examining approaches to and sources of regulation in an ever increasingly globalised media world. We suggest a model of communication that can be used to guide future considerations of free expression in a media world.

Telecommunications, broadcasting, satellite and computing traditionally operated independently with associated industries each regulated independently along the same lines. Convergence towards “a single multi-media market in which TV operators supply voice telephony, telecommunications companies supply video images, and where the Internet is delivering both basic voice telephony and moving pictures on a commercial basis” has been rapid (Cowie and Marsden 1998, 1). Increasingly, functionality is placed in the foreground while the specific medium is relegated to the background. Due consideration of the nature of the media/medium to be regulated is key to the development of a manageable new regulatory framework, but it is difficult to fix the nature of the medium when considering a technological picture which includes the Internet. The Internet defies traditional categorisation because of its convergent character which joins various media, each with its unique grammar, syntax, and convention — the letter, the telegraph, radio, television, recorded sound, film, the telephone, facsimile, etc. Multipurpose networks have replaced the single-purpose medium. On the Internet literally every node is both a transmitter and a receiver. However, convergence effects media areas as well, resulting in novel questions even in the more established regulatory environments such as broadcasting, most notably in the realm of digital TV (Holznagel 1998/1999, 4).¹ Issues and inquires are less and less media specific with regard to regulation reflecting the need for a new “digital media framework” of regulation.

Conflicts and confusion have led to calls for new regulatory bodies capable of managing the new international media environment (Aragón 1999). Vertical regulatory models of broadcasting, telecommunications, and computer services are challenged by technological convergence. So too, regulation by nation-states is called into question.

Ultimately, efforts have focused on how to govern the “new frontier,” “the chaotic,” “the ungovernable.” While these issues are, of course, significant and must be addressed, this approach is flawed as it fails to address the convergent nature of the medium to be regulated. The difficult challenge of regulating the convergence of telecommunications, broadcasting, and information technology has led some to propose a variety of systems for the “choice of law” in the absence of a clear and consistent regulatory framework. Given the nature of the Internet in particular, it

is difficult to apply traditional choice of law principles which are generally rooted in physical connection to place such as domicile or *lex loci delicti*. Matthew R. Burnstein has suggested ways of applying rules of “choice of law” to the Internet in “Conflicts on the Net: Choice of Law in Transnational Cyberspace,” an article in the *Vanderbilt Journal of Transnational Law* (1996). It has been suggested that various ways to implement the “choice of law rules” to the Internet would include a) creating a forum selection agreement clause between contracting parties, b) No-Man’s Land, where no applicable law of any land would apply in cyberspace, therefore the applicable law would be the law of the forum where a suit is brought; c) law merchant rules evolving from the customs and practice of merchants applicable to all countries meaning a system of self regulation on the Internet would be created and d) virtual flags of convenience which would encourage forum shopping, resulting in the formation of cyber-havens which might provide greater protection than other countries (Aragón 1999).

Significantly, commercial convergence in which economic sectors of media industries merge, is shaping much of the debate about regulatory convergence. Conceptually there is a shift moving communication law issues from the realm of media regulation into *market regulation* internationally.

The Regulatory History of Convergence

Every technological innovation inherits a regulatory framework so that existing rules are often imposed on new technologies based on a comparison between the new and old technologies. The regulatory approach often taken has been the “mapping” of new technological advances onto existing regulations. Although various media converge, the main thrust of consideration and regulatory activity has been in the realm of the newest medium, the Internet.² Devoid of pre-existing regulations for the Internet, the process of “mapping” continues, yet no comfortable “match” has been agreed upon by regulators. Application of the rules of publishing has been suggested, implying that some control over content furnishes the basis for liability (depending on the degree of editorial control and sponsorship).³ Alternatively, a distribution model like that of a bookseller, news vendor, or library, also raises issues of control or knowledge of content as a basis for regulation. So too, this model has been proposed, as has a telecommunication regulatory approach, positioning the Internet as a common carrier with a duty to carry all content without discrimination. The application of real property law to the realm of cyberspace has also been recommended (Drucker and Gumpert 1995).⁴ Divergent approaches have emerged in response to both cyberspace and the Internet. The earliest phase of exploring regulatory approaches to the Internet was characterised by the claim that government could not regulate cyberspace, that cyberspace was essentially and unavoidably free. The second generation, or the next phase of conceptualising regulation, according to Harvard Law Professor Lawrence Lessig, sees control of the Internet possible with regulation emerging from an alliance of commerce and government. Lessig argues that, rather than direct content-based regulation, it will be through the regulation of the architecture of software and hardware that a system will develop (Lessig 1999). Some critics have called for separate regulators for infrastructure and content arguing that regulatory agencies must reflect the fundamental distinction between delivery system and content. But convergence blurs all the distinctions between services. All networks will be capable of delivering

any service making this type of separation unappealing. According to William Mitchell, dean of the School of Architecture at MIT, "Code is cyberspace's law" (Lessig 1999, 6). The two forces of commerce and code will come to be the framework of regulations, according to Lessig (p. 6) who further suggests that regulation of software and hardware rather than content makes cyberspace capable of being regulated. Regulation is made possible through codes, both those of a technological and governmental type. The example provided in *Code and Other Laws of Cyberspace* (1999) is the passage of the Telecommunications Act of 1996, (a legal code) was passed requiring the television industry to develop and implement the "V-Chip" to facilitate the blocking of broadcasts based on criteria of content. The law required manufacturers to build television sets capable of responding to a rating system of content broadcast on television, thereby allowing parents to block what children see (Lessig 1999, 47). The technological code could facilitate decisions by consumers of television broadcasts. In this way, the U.S. Congress enacted a law requiring a technological code to regulate without directly regulating content. The amorphous nature of *cyberspace* makes regulation improbable if not impossible. Distinguishable from *cyberspace* is the *Internet*, which is the infrastructure consisting of nodes, routers, gateways, paths, etc. This distinction, often neglected when considering regulatory challenges, makes the Internet more definable and therefore more regulable than cyberspace.

Convergence of all sorts of media is expected to accelerate in the coming years. The regulatory implications of convergence are both the substantive issues of access to technical services and the question of institutional design of the regulatory framework. So who shall be the regulators?

Convergence of Regulators

Information flow has long been on the international agenda but never with more complexities than in the age of convergence. The Internet, perhaps more than any other medium, has been said to render traditional terrestrial borders meaningless. It is generally accepted that some degree of regulation is required if the Internet is to operate and grow. Although rationale, areas of regulation, and the form those regulations take are debatable, non-debatable is that the responsibility and legal parameters of jurisdiction are shifting from the proximate local to any site removed from spatial constraints. Does site of transmission or site of reception determine jurisdiction?

Geographically/territorially based terms, are undermined when borders become transparent, easily permeable, and often imperceptible. Diverse suggestions with regard to regulation have led some legal thinkers to advocate that cyberspace be conceptualised as a "place" rather than a medium with its own constitution on which to base a developing body of applicable law.⁵ One approach to surmounting the issues of border-based jurisdiction has been via the regulation of the architecture of the Internet rather than content or access.⁶ Whatever the approach, it is a time to critically examine the relationship of state-based, commercial, and technological sources of regulation.

The past five years have seen world-wide consideration and action, from formal to informal, from governmental to private enterprise, from individual to multi-national, from multi-national governmental to multi-national non-governmental, from global to local. Rulers and legislators, and nation-states promulgate rules, issue ordinances, and attempt to carve out cyberlaws as they would telecommunication laws.

Undeterred by the daunting issues of jurisdiction, governments around the world have jumped into the regulatory arena and attempted addressing diverse issues arising in and from cyberspace and the Internet, while just a few have addressed the complexities of true convergent technologies and industries in their policies and regulations. Censorship, restrictions on access, and high prices have sought to regulate Internet growth in the Middle East and North Africa, China, Singapore, and other nations.

For instance, the State Council in China issued a draft set of rules to regulate use of the Internet; subscribers were ordered to provide a written guarantee that they would not use the Internet for purposes "harmful to the state." It has been said that China is trying to erect boundaries between "China's cyberspace" and "foreign cyberspaces" and between online political communication and apolitical discussions (Qiu 2000). In Singapore, there have been protests against restrictive government Internet policies. Protests have occurred against the Indonesian government's arrest related to on-line communication. Since the Internet dramatically empowers people to exercise their right to seek, receive, and impart information and ideas regardless of frontiers, some governments have adopted various means to restrict the flow of information online. Saudi Arabia, Yemen, and the United Arab Emirates impose censorship via proxy servers, devices that are interposed between the end-user and the Internet to filter and block specified content. In many countries, including Jordan, taxation and telecommunications policies keep Internet accounts quite costly and thus beyond the means of many.

This exclusion of some may or may not be the objective of these policies. Tunisia has enacted the region's most detailed Internet-specific legislation, which is in large part designed to ensure that online speech does not escape the government's tough controls on critical speech in other media. In the majority of countries where Internet-specific laws have not been enacted, legal or de facto constraints on freedom of speech and of the press have a chilling effect on what is expressed online, especially in public forums like open bulletin boards and "chat-rooms" (online discussions where participants communicate in real time). And in a region where many governments routinely tap the phones of dissidents, Internet users in many countries, including Bahrain and Tunisia, suspect that the right to privacy of correspondence is being violated by government surveillance of e-mail. One Bahraini spent more than a year in jail on suspicion of e-mailing "political" information to dissidents abroad (*The Internet in the Mid-East and North Africa* 2000).

According to Henry H. Perritt, Jr., dean of Chicago-Kent College of Law, "If a Web site is accessible to all, and is subject to jurisdiction by every nation on earth, then the law of the lowest common denominator nation" will govern the Internet. "On the other hand, if we say that the only important law is the one where the content provider resides, then local values of foreign nations will not be enforced. We also run the risk of creating havens for shyster practices" (Kaplan 2000).

The vexing questions of jurisdiction are illustrated by a case heard in French courts in 2000 involving French authorities seeking to require Yahoo Inc., an American company, to limit French citizens from accessing Nazi artefacts appearing on an auction site available throughout the world. In May, a French Judge issued a ruling which was effectively a prior restraint against a foreign Internet company. French law forbids the display of Nazi souvenirs in France for the purpose of sale. Further, Judge Jean-Jacques Gomez of the Superior Court of Paris noted the online

exposition of Nazi artefacts in France is “an offence against the collective memory of a country profoundly wounded by the atrocities committed by and in the name of the Nazi criminal enterprise” (Kaplan 2000). On appeal in July, representatives for Yahoo argued that while it respected French law, it was technically impossible to block French surfers from its auction site and also note that France is trying to apply its laws outside its borders (Kaplan 2000). Some experts argue filtering technology that screens out access on the basis of country of origin will provide the solution to Internet-generated jurisdictional conflicts. Notably, Michael Traynor special counsel to Yahoo in the case, noted that he believed that French law in question might violate “certain free expression standards embodied in European human rights law, to which France is subject” (Kaplan 2000).

Not surprisingly, the two major players in the regulation of the new telecommunications and cyber environments are the United States and the European Union. Given the two distinct regulatory and market environments from which these two approach the task, it is not surprising that there has been much disagreement. U.S. regulatory policies are influenced by Constitutional guarantees of free speech and press that shape the requirements and limitations placed on government regulation and policies. Emerging policies are moulded by the dictates of the First Amendment to the U.S. Constitution. Regulation has been framed as a matter of public policy with individual freedoms and the concept of “the public interest” influencing public intervention. This is not to suggest that the U.S. has ignored the economic sector. The United States has proposed *A Framework for Global Electronic Commerce* and in *The U.S. Green Paper on Internet Governance* has suggested a regulatory framework favouring free flow of information to promote free trade. Framework addresses taxation and customs, intellectual property protection, privacy, security, content, a Uniform Commercial Code for Electronic Commerce and Internet governance (Clinton and Gore 1998).

In the European Union, media law reform is “traditionally presented as a shift from Regulation to Competition (law)” (Nihoul 1998/1999). Emphasis has been placed on the convergence of not only technology but also economic sectors of broadcasting, information and telecommunications (Blackman and Nihoul 1998). The European Union has alleged that the notion of “public interest” is vague and overbroad (Aragón 1999). The E.U. places market issues in the foreground of regulatory analysis and activity.

The European Union has taken the lead in comprehensive planning for convergent technology following this economically oriented approach. Reflecting the leadership role of the U.S. and E.U. in paving the way for world-wide regulations, European Commissioner Martin Bangemann has argued that “if the European Union and the United States don’t agree to terms globally, each of us will try to set our own regulations, which will lead to over-regulation” (Aragón 1999).

Following the economic sector approach, legal scholars have considered the relationship between Regulation and Competition law in the area of convergent technologies.⁷ “Regulation is seen as sector-specific whereas Competition (law) would be more general. The feature, it is said, implies that Competition (law) would probably offer the best tool to govern the markets, as a general intervention is apparently better designed to cope with a converging world where specificities should be removed” (Nihoul 1998/1999). It is argued that the regulatory approach to be followed is more concerned with the allocation of resources in an environ-

ment of guaranteed economic freedom with little public intervention and this is an approach associated with competition law. Markets would be governed by competition and rules associated with it rather than by more general regulations primarily concerning the medium itself. This approach uses the concept of “regulation” (sometimes synonymous with the term “law”) in the sense generally associated with all kinds of rules which could be adopted and enforced by public authorities, sometimes referring to the rules applied to specific industries (i.e. transportation, public utilities, or communications) (Nihoul 1998/1999). While some regulation can address economic issues, the approach is generally limited to intervention associated with control on prices, entry into the field, and prohibiting unfair competition. Competition, on the other hand, focuses on the state of markets, competition, and the legal structures of markets. Competition law is “understood to prolong natural rules in force on the markets ... interpreted as a legal expression of rules existing on the markets — which implies that they are considered as a sort of *jus naturalis* for business” (Nihoul 1998). So it has been suggested that resorting to generic competition law would be an attractive alternative. New Zealand has employed such an approach, but some critics note that this E.U. approach (also reflected in Germany) may not be adequate to confront institutional and constitutional issues removed from considerations of economics. The example of the regulation of television content in the European context reflects the problem that generic competition law may not be adequate to deal with public policy concerns with quality and diversity (Cowie and Marsden 1998).

Given the leadership role of the U.S. and E.U. in this area of regulation, the specific cases of conflict that have emerged to date are noteworthy. Perhaps the issue that has received the greatest attention in the press focuses on differences associated with privacy protection. The European Union adopted a directive that prohibits the transfer of personal data on the Internet (European Parliament and European Council Directive 1995). The directive took effect in October 1998 and to date, six member states, Belgium, the UK, Italy, Portugal, Sweden and Greece have notified the commission that they have implemented the data protection directive. Differing privacy policies throughout the world could make trade throughout the world problematic, as evidenced by the fact that U.S. policy on privacy laws conflicted with this E.U. directive threatening trade between member states and the U.S. On May 31, 2000 a “safe harbor privacy arrangement was reached between the E.U. and U.S. designed to allow U.S. organizations to comply with the European Directive on Data Protection for transfers of data to third countries and to ensure that data flows are not interrupted” (EU—U.S. Summit 2000). After two years of negotiation, the European Commission formally approved the privacy principles proposed by the U. S. Department of Commerce in July 2000 (Taylor and Seligman 2000). This arrangement is meant to bridge policy differences on privacy while protecting the approximately \$120 billion in U. S.-EU trade. Safe harbor is a technique, figuratively a place, where U.S. companies can find a means through which to exchange documents in such a way as to certify that participating U. S. companies meet the EU requirement for adequate privacy protection (Data Privacy Accord with EU, 2000).⁸ The data privacy issue is the first of many trade issues involving electronic commerce to arise between conflicting U. S. national laws and EU directives.

Security on the Internet, reflected in such issues as authentication and encryption, has led to further conflicts potentially slowing the growth of e-com-

merce. The United States proposed limitations on encryption software in the name of law enforcement. The U. S. argument is that criminals could use encryption programs to exchange illegal information undetectable by law enforcement authorities but EU policy assumes encryption promotes faith in electronic commerce (Aragón 1999). Issues of consumer confidence will extend to knowing that electronic commerce transactions are not going to be hacked or interfered with. To support this, the commission has proposed measures to harmonise equipment for encrypting transmissions and the use of digital signatures for messages like online payments. Encryption helps keep data and communication confidential, whereas electronic signatures help to prove the origin of the data and verify whether data has been altered. So far the main commission effort has been concentrated on a directive on digital signatures with any encryption proposal taking a back seat. French regulations on the use of encryption technologies have recently been relaxed, a move strongly welcomed by the commission and pressure groups, who say the French stance undermined consumer confidence.

The French regulations imposed restrictions on technologies to be used, and required that trusted third party holders of security keys be French citizens.

"The French probably realised that being the only member state with such regulations in a booming electronic commerce market is similar to committing suicide," said a Commission official. The commission is of the same opinion, saying the worst scenario, would be the use of key escrow with electronic signatures and encryption devices. The directive for electronic signatures was to be discussed again by telecom ministers in April, where the commission hopes a decision will be reached after France, Germany, Italy and Portugal blocked the proposal at the end of last year.

The array of legislation from the EU to police the setting up, transmission, content, and advertising of online services risks putting off potential operators. They also have to consider what technical norms to use for payments and threats from holders of copyright material. Together it makes regulatory overload a real threat (EuroInfoTech1999). U. S. policy of the Clinton administration has ultimately has been altered to provide for trade with the E.U.⁹

Content regulation also reveals tensions in approaches between regulatory leaders. Under interpretation of the U.S. Constitution, protection of non-commercial free speech is afforded the greatest protection from government regulation so the U.S. has advocated a system of self-regulation in terms of content promoting the importance and effectiveness of parental controls and other filtering devices to block some Internet sites. "Here the United States is protecting its very broad principles of freedom of speech that are protected by the First Amendment. Especially, if the Internet is regarded as a public forum rather than as a forum for commercial speech" (Aragón 1999). Constitutional requirements will continue to significantly influence all future regulations.

In the upcoming era of convergence it will also be difficult to regulate content control as to broadcast quotas. It will be more difficult to regulate the content rules, because one can no longer count on television stations. There are countless Internet sites making broadcast regulation hard to control simply because of the sheer quantity of broadcasts. In addition, the consumer can regulate the amount of local sites he visits, if he/she decides to visit local sites at all. For this reason it is unlikely that broadcast quotas (associated with E.U. directives) be adequately applied to the Internet (Aragón 1999).

Other Approaches to Regulation

Throughout the world emphasis has been placed on rudimentary and pragmatic concerns: privacy, secured transactions, taxation, intellectual property rights, safety, harassment, privacy, encryption, pornography/morality, and access.

Not only regulatory activity on the regional or traditional local and nation-state level, but increasingly regulatory activity has come in the form of international agreements and the work of non-governmental organisations (NGOs).

International Agreements

Since the early nineteenth century governments tried to establish an international regulatory regime for the transborder flow of communication. In 1815, after the defeat of Napoleon, the powers of the Holy Alliance started negotiations toward a treaty, which regulated the transport of printed materials across borders and gave governments the right to confiscate unwanted books and journals (Carlsbad Treaty). After the invention of the telegraph, on 17 May 1865, the first International Telegraph Convention was signed by twenty participating countries and the International Telegraph Union was established. The agreement between members guaranteed the free flow of information, but reserved the right of governments to stop the telegraph traffic when their security or their order were endangered. Today, the reasons that led to the establishment of the Union still apply and the fundamental objectives of the organisation remain. At the same time, the changes taking place in the Member States of the ITU are affecting the working of the Union: In the area of telecommunications, new trends are emerging: globalisation, deregulation, restructuring, value added network services, convergence (of services as well as technologies), intelligent networks, and regional arrangements. Telecommunications have become a key ingredient in the transborder delivery of many non-telecommunication services such as banking, tourism, and transportation as well as consultancy and information services of various types. This development has led to the transformation of telecommunications from its earlier status of a public utility to one having a greater nexus with commerce and trade. The traditional role of telecommunications is being transformed every day with new service dimensions. Against this background, it seemed inevitable that the ITU had to change as well. The new environment in which the ITU is now working is entirely different from that which existed when it was set up (<http://www.itu.int/aboutitu/index.html>).

In another historical example of international co-operation, there was the International Radio Convention (1906), the Geneva Broadcasting Convention (1936), drafts for UN Treaties for the International Flow of Information (1948), drafts for a convention for satellite broadcasting (1972), and the discussion on the New World Information and Communication Order until 1990 (Kleinwächter 1999).

International agreements between nation-states have been an arena of increased activity focusing on specific areas such as copyright (i.e. 1996 agreement between 160 countries on an extension of international copyright law). Recognising that with the Global Information Infrastructure (GII), "territorial borders and substantive borders as key paradigms for regulatory governance disintegrate" (Reidenberg 1996, 45), fundamental and long accepted concepts are being reconsidered. Regulatory power and jurisdiction, and geographically/territorially based terms, are undermined when borders become transparent, easily permeable, and often imperceptible.

Much attention has been focused on what has been called the "Internet's new governing body" (Clausing 1999, C17) known as ICANN (the Internet Corporation for Assigned Names and Numbers, a non-profit corporation formed under California law, selected in 1998 by the United States Commerce Department to "take over administration of the Internet" (Kleinwächter 1999). But what is meant by this turns out to be very limited jurisdiction thus far, with the meaning of "administration of the Internet" really meaning administration of the Internet domain name system and Internet standards.¹⁰ It has been argued that ICANN has a technological rather than a political mandate but the political, social, and economic implications cannot and should not be overlooked (Kleinwächter 2000). The structure of ICANN as a private corporate entity is composed of 19 members of the board; 3 councils, 2 advisory committees. The *governmental role is an advisory one* through the Government Advisory Committee (GAC) in which government representatives lobby ICANN members. In fact, the by-laws of ICANN state that no government representative can be a member of the ICANN board, creating a new alignment of power in the regulatory framework, and having less accountability in decision making than governments.

Self-regulation, voluntary international co-operation, and "soft laws" are promoted by the European Union. "Soft law" is being used to describe regulations which, while not legislated, are malleable, or changeable as a situation dictates and often rooted in enforcement of findings of international organisations like the United Nations. It encompasses the notion that through co-regulators of government and business, agreeable regulations will be developed (Wenzel 2000).¹¹ It is suggested that the time is over for strong regulations so the preferred approach is for light more flexible solutions and rules (Goldberg 1999). Soft law could be used together with traditional governmental laws. This has been the EU approach to discussions with industry and governments with regard to regulation. This also calls for the need to re-evaluate all other international agreements.

The United States questions the practical enforcement ability of "soft laws," maintaining the market can be the only regulator. Critics voice concern over the fact that "self regulation lacks characteristics of democratic responsibility or accountability" (Kleinwächter 1999). At this time, it would be a mistake to consider this type of self-regulation removed from intergovernmental organisations in understanding how regulations may emerge. Nordenstreng (1999) states that "The nation-state will not disappear but self-empowerment and transfer of power to above and below the state is already happening and should be accounted for in governments too."

Following the competitive law/economic markets approach, much activity has come under the auspices of the World Trade Organisation (WTO). Specifically, fifty-five governments negotiated the Fourth Protocol of the GATS (General Agreement on Trade in Services), designed to foster a liberalisation of telecommunications markets. The Fourth Protocol of the GATS advocates granted Most Favoured Nation treatment to other WTO Members who have signed the Fourth Protocol addressing entry regulations that address participation of Member's basic telecommunications. The WTO produced a Reference Paper to create a common regulatory system among its members, which, while not an official WTO document has been adopted by all fifty-five members of the Fourth Protocol. Response to the regulatory approach of the WTO has resulted in conflicting responses, most notably from the U. S. and E. U. So for example, The U. S. advocates the Internet be declared a tariff-

free environment by the WTO. The U. S. approves of the World Intellectual Property Organization's (WIPO) approach and the adoption of a copyright and performance and photography treaties (Clinton and Gore) but the E. U. is concerned that the WIPO does not deal with issues of online service provider liability or trademarks.

Offshore

A challenge to the presumed jurisdiction of nation-states, regional unions, or international agreements has been the founding of "a rebel outpost" in cyberspace. On June 5, 2000 a small international group of "computer rebels" introduced an offshore "data haven" which is an installation connected to the Internet by way of high-speed microwave and satellite links to become a refuge "from governments increasingly trying to tame and regulate the Internet" (Markoff 2000, 14).¹² "Simply put: Sealand won't just be offshore. It will be *off-government*" (Garfinkel 2000, 230). The physical installation of a computer server is located in the North Sea six miles off the coast of England on a self proclaimed sovereign territory called "Sealand" which is an abandoned World War II military fortress. Run by Havenco, the plan is to have an "acceptable use" policy banning its customers from using the service for sending unsolicited bulk-mail (spam), mounting attacks on other computer systems, or trafficking in child pornography. Basically the offshore Internet services offer a base of operation, in this case Sealand, and claim to be governed only by the laws prevailing in that locale so those choosing to operate according to Sealand's rules will be governed by "particularly lax — though not quite anarchic" laws (Garfinkel 2000, 232). One early client for Havenco is Tibet Online, the Net presence of the exiled government seeking to escape Chinese regulations. While there are sceptics, some critics suggest that Sealand be in a stronger position than other new micronations, because it has a small population and will have an economy. According to Caroline Bradley, professor at the University of Miami School of Law, "the question is whether other countries are going to be able to exercise any jurisdiction over Sealand to shut it down. ...Countries don't like data havens" (Garfinkel 2000, 239). But one of Havenco's founders responds that even if they cannot overcome jurisdictional challenges, Sealand can always "fall back on being a first-rate collocation facility which is good for business" (Garfinkel 2000, 239). Given the complexity of these approaches, we suggest a model to conceptualise communication, which could be used to guide rule making and regulatory approaches of convergence in the future.

The Regulatory Web and a Model of Convergence

The entire spectrum of communication options available (or not available) must be taken into consideration when describing and evaluating communicative patterns and governance. The concept of an eco-system comes to mind because it is based upon the premise of the interdependence and interrelationship of organisms residing and bound together in the same environment. "The approach to analysis should include consideration of each communicative option from interpersonal face-to-face to mediated interpersonal options to mass media interact and how these influence each other" (Gumpert and Drucker 1999). Contemporary media systems, including written, telephone, computer-mediated, and their countless variations (e.g. cellular telephones, answering machines, facsimile, and computers

linked by satellite relays), continue to make use of the basic features of human communication while influencing interactional choices. Each communicative act must be seen within the context of past, present, and future channel choices (or the lack thereof). We have proposed “*A Model of Communication Convergence*” (Gumpet and Drucker 1999) rooted in a systems analysis of face-to-face and mediated forms of communication used in a definable area or by a definable population. We have argued that a shift from a one channel, *one medium of communication* orientation to that of *convergent technologies of multiple shifting media* found in a complex of large band-width channels requires a re-examination of our models of communication and our approaches to regulating communicative activities and technologies. While other models contribute by delineating and mapping the discrete components of the act to be analysed, it is suggested that each communication act can only be seen and understood within a larger context and communication ecosystem. The range of communicative options, the lack of choices, access, resources, or the perception of alternatives serve as a critical factor in describing, explaining, and predicting the causal relationship of technology and acts of communication. The model suggests a notion of interconnected impact, influence, and causality rather than a more linear cause and effect relationship. By extension, the regulations governing that communication environment must likewise account for the full range of communicative options and the interconnectedness of these options and technologies along with the more traditionally examined regulatory issues of jurisdiction, international agreements, and the role of NGOs.

A new regulatory framework must first account for the nature of the media/medium to be regulated. The problems and issues of freedom and access with regard to any new technology can be immense, but those of the Internet are almost incomprehensible — because of the uniquely converging and pervasive nature of the medium. Within the medium one may discover one medium enclosed within another enclosed within another. The Internet cuts across once traditional boundaries, blurring the distinctions between mass and interpersonal media. Traditional governmental and technological obstacles to dissemination and connection are easily circumvented, challenging traditional regulatory schemes. But converging digital technologies extend these inquiries requiring a re-examination of traditional approaches to regulation, calling into question fundamental structures for regulation and regulators. Broadcasting and telecommunication have been regulated under separate departments in most countries, based upon fundamental differences associated with mass communication, telephony, and PTT services; differences being erased when the Internet combines telegraphy, photography, telephony, facsimile, and personal correspondence with radio transmission, television, film, and video. “The Internet has changed thinking about broadcasting since, in principle, it allows anyone with a computer and modem to become a broadcaster or publisher” (Levin 1999, 4).

Does the existence of different regulatory authorities responsible for different aspects of telecommunications, media and IT activities offer a workable structure for regulatory supervision in the light of convergence or does convergence require a reassessment of regulatory responsibilities at a national or international level, and, if so, in which areas?

Regulatory Convergence or the Convergence of Law is a concept which emerges after examining the notion of convergence technologically and functionally; as with any innovation that can affect regulations, the issues of public interest and com-

munication rights and liabilities emerge. "Technological convergence" quickly leads to the consideration of "market convergence" which immediately suggests "regulatory convergence." There is, without doubt, an awareness of some of the potentialities and realities of "technological convergence." Market convergence results from the liberalisation of the telecommunications sector and gradual market saturation. The increase in competition and decrease in profit margins is pushing companies to expand into related high-growth industries, such as broadcasting; however, there is also increased competition in broadcasting along with an increasing number of channels. For example, in the U. S., the 1996 Telecommunications Act liberalises telecommunications and broadcasting legislation, opening the doors for market dominance of Microsoft and AT&T, and resulting in less competition. Regulatory convergence has been said to be the inevitable outcome of the other two supposed types of convergence (Green Paper). New entrants in broadcasting, Internet service providers, and telecoms operators are all lobbying hard to extend the deregulation we have seen in the telecoms sector to broadcasting. Critics considering regulatory convergence have thus far focused on issues such as the infrastructure required to "ensure free, open, universal access to all platforms" and content regulations.

The Regulatory Working Group of the EU's Information Society Forum addresses the issue of regulatory convergence in terms of the regulation of infrastructure and content, noting:

While a single regulatory framework should be designed to cater for technical standards and competition policy, this should not be tied to rules governing content. Economic imperatives and social and cultural objectives are not always compatible and need to be dealt with separately in the process of regulation. Therefore, whilst the Working Group notes that regulation of economic conditions and regulation of content of information services are closely linked, they should be separated to ensure efficiency and quality (<http://www.ispo.cec.be/convergencegp/greenp.html>).

The European Union is taking the lead in regulatory concerns of the information society, which represent a fundamental regulatory shift in free expression and communication law, as free expression is transfigured into free trade, and communication converted to commerce. This has resulted in some critics calling for separate regulators for infrastructure and content, arguing that regulatory agencies must reflect the fundamental distinction between delivery system and content. However, this view de-emphasises the fact that convergence blurs the distinctions between services; all networks will be capable of delivering any service. Additionally, the nation-state focus of regulation is increasingly called into question as not only Internet regulations are implicated but also the regulations governing other technologies traditionally regulated by nations. Some argue that media policy should actively promote social, cultural, and ethical values regardless of technology being used as a delivery service, and favour rules governing content and other rules governing economic or market issues. The regulatory bifurcation of content and market fails to account for commercial and technological convergence. Should a personal voice message and playing of an on-demand video be regulated in the same way simply because they are both transmitted using the same technology? Do they have the same effect on the receiver? Do they represent the same market sector?

Not only are technologies converging, so are industry structures based on increasingly obsolete distinctions. "Since broadcasting and telephony cannot be transmitted by either wired or wireless means, and the old monopolist model is increasingly obsolete, the formerly separate worlds of telecommunications and broadcasting are converging" (Levin 1999, 5). Telephone companies are joining with cable companies to offer a menu of video and voice services, while cable companies are offering web-tv and are functioning as information service providers. The convergence of technology and industry calls for the need to articulate a clear policy of regulatory convergence.

Conclusions

Convergence offers technological and commercial opportunities while challenging regulatory structures. Global markets, industry reorganisation, and e-commerce offer tantalising possibilities. So perhaps it is to be expected that regulatory impulses stimulated by commercial functions in the environment of convergence are most pronounced at this stage of development. But it must not be overlooked that with the evolution of communication regulation into regulation of commerce and trade, there are serious implications for communication rights, which could easily be relegated to the background of consciousness and concern.

Convergent technologies provide for *functionally* equivalent transmission services, but the *experiential* dimension of media use should be considered in understanding how media are functionally similar, but can be experientially dissimilar from one another. Convergence provides transparency or ease, (an effortless movement in and between media), thereby erasing the intrinsic differences between each. And eventually we begin to confuse the distinctiveness, the uniqueness of each domain. Regulations in an age of convergence must account for the convergence of technologies from perspectives of technological, economic, and human factors, accounting for different cultural orientations and expectations with regard to the total communication environment. We are enthralled by the technologically driven advances in communication options. We are challenged by new configurations of markets and communities capable of claiming sovereignty. Technology is placed in the foreground, while the very human dimensions of communication are neglected, relegated to the background, or forgotten entirely. The model of communication convergence calls for a regulatory agenda addressing technological and commercial convergence based on the human factors and experiences associated with the communication process. In an age of complex technological options, we recommend a return to a simpler concept when exploring regulatory approaches in a globalised environment: the notion that at the heart is the human source or receiver. We call for placing human factors in the foreground once again when considering regulation. This approach requires the collapsing of regulatory barriers based on media differences, national borders, and commercial markets; it can only be built on a porous globally accepted concept of communication.

Jurisdiction based entirely upon locale has become outmoded. While place-based jurisdictions may still work in the realm of regulation, it must be within an environment of awareness that policies and rules can only be understood within a more global, barrier resistant environment. Community has been redefined as a regulatory factor. Whereas nation-states and other place-based regulators wane in

relevance, what remains is community, which was at the original heart of those entities.¹³ Traditionally the welfare of the community was a dominating reason for regulation. It was assumed that there was to be a strong link between a specific location and the media that served that location. Thus, the assignment of radio frequencies was based on the premise that community was to be served by a radio station directly connected to a geographical site. Theoretically, in the United States, the FCC assigned a license for a period of time to be renewed if “public interest, convenience, and necessity” were met and could be demonstrated. But community (as a geographically contiguous site) is losing relevance in the face of the technology of the Internet. Both communities of place and cyber communities should be preserved.

An organisational structure based on an exclusive view, focusing on the regulation of a medium is antiquated, and single-issue international agreements (e.g., copyright) are too limited to be effective. All regulatory schema must allow for domestic, regional, and transnational community citizen participation. The development of convergent technology should not be entirely controlled by free market forces, because there is little room for the participation of community members in any sense other than as consumers. We believe that the current path shifts the emphasis from communities of place to virtual communities, where entertainment and commerce are divorced from obligation, and technological and commercial convergence leads to regulatory convergence divorced from locality.

Notes:

1. The Internet would be anticipated to be the first medium in the march toward convergence in need of a newly fashioned regulatory system given the absence of a prior system and it was anticipated that “the whole new media world would shift to the Internet, now it seems as if the new services will first and foremost conquer the TV world” (Holznagel 1998/1999, 4).
2. It may be questionable whether the Internet is really a new medium or really a transport of interdependent media.
3. In the area of defamation law, the question of liability of a service provider for defamatory statements communicated in online communication revolved around the issue of editorial involvement to determine whether the service provider was a publisher or distributor. See: *Cubby Inc. v. CompuServe, Inc.* (1991) and *Stratton Oakmont Inc. and Daniel Pornush v. Prodigy Services Col.* (1995).
4. The issues of freedom and control of access and control of content is analogous to the control of access to property (public, private or quasi-public) and control of land use (as determined by zoning laws, nuisance laws, building and health codes, etc.) (Drucker and Gumpert 1995).
5. In *Space and the Geographies of Power* (1994), Nicholas K. Blomley provides a historical geography of the law. He argues that there has been a process of disembedding of local legal life and legal autonomy marked by a “pervasive judicial suspicion of the vagaries and contextuality of place” (p. 64).
6. One reaction to attempts to regulate cyberspace came in the form of a Declaration of Independence (1996) which declares cyberspace to be an autonomous zone and states: “You have no moral right to rule us nor do you possess any methods of enforcement we have true reason to fear. Governments derive their just powers from the consent of the governed. ... Cyberspace does not lie within your borders.”
7. For a discussion of the relationship of regulation and commercial competition see European Commission, *Towards an Information Society Approach*, Green Paper on the convergence of the telecommunications, media and information technology sectors, and the implication for regulation, COM (97) 623 Brussels, 3 December 1997, 21; Clements 1998, 203; Scott 1998, 243.

8. The privacy principles agreed upon is a combination of rules for collecting and using personal information as provided for within the EU directive and several self-regulatory measures. Organizations must provide notice of their privacy policy and give individuals a choice regarding the use of personal information. There are enforcement and dispute resolution measures along with seven principles of notice, choice, third party use, security, data integrity, access and enforcement (Taylor and Seligman 2000).

9. Legislative action has been taken to develop U.S. policy on electronic signatures in order to encourage international electronic commerce. On June 9, 2000 a bipartisan bill was agreed upon in the U.S. Senate called "The Electronic Signatures in Global and National Commerce Act." While this bill has not become law, it represents an effort within the U.S. government to provide legal protections to bolster confidence in electronic commerce (Statement By Secretary Daley Regarding the Filing on Conference Report ON S. 761 2000).

10. At one time domain names were assigned by one person John Postel in Southern California, USC, with technical standards set by the Association of Engineers; then IAB served a coordination/management function run by Vint Cerf, called the father of the Internet and Internet governance. Under the authority of the US Dept. of Defense. Internet was going global but under United States jurisdiction. ICANN is concerned with the following issues: the guaranteed stability of the NET, the promotion of competition, bottom-up competition and global representation (Kleinwachter 1999).

11. The regulatory impact of the shift from the industrial age to the information age and the EU perspective promoting A "soft laws" as a form of self-regulation was explored by Jörg Wenzel, Director of the Information Society Activity Center (ISAC) of the European Commission, Brussels, Belgium at the meeting of the International Association of Mass Communication Researchers.

12. Other offshore locations include Anguilla in the British West Indies and Bermuda. In the case of Anguilla the government was unwilling to give assurances of data security (Markoff 2000).

13. The essence of public embodies the notion of community. The Internet has been called the "electronic commons" capable of providing a global meeting place. The concepts of "common," "communication," and "community" are intertwined. The meanings of community range from *belonging equally to more than one, to generally accessible, to share and participate with others.*

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