

# Chapter 8

## Governing information and communication technologies

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Global computer networks promise to make the circulation of information easier, cheaper and faster than ever before; new digital technologies are transforming the production and distribution of media of all kinds. The social and economic consequences of the emerging digital communications technologies are, however, not yet clear. While commercial and legal systems designed to manage analogue communications and the movement of physical cultural objects are slowly adapting to the new digital environment, the place of governments and nation states in this process is still uncertain, as is the functioning of democracy. National governments have historically exercised strong controls over telecommunications and the distribution of books, films, and other so-called 'packaged' cultural materials across their borders. Where necessary, as in the case of international telecommunications, governments successfully co-operated in the formulation and implementation of technical standards and common industry practices. In most countries, the electronic media and telecommunications were directly owned by governments or subject to interventionist government regulatory regimes well into the 1980s. As a result, national cultural and economic policies shaped the development of the world's communications for over a century.

Some theorists of the digital revolution suggest that nation states will lose their relevance in a borderless future cyberspace, where transactions and communications will occur beyond the reach of government regulation or control. There are two common versions of this particular view of the future. Some see the decline of national regulation as a positive step towards the exercise of greater individual freedom in communications and more direct democratic participation (see also Chapter 4 on this issue). A variant of this view is that a digital enfeeblement of government will only strengthen the powerful transnational commercial interests that are already dominant. The latter view serves as a reminder that

it is national governments which constitutionally represent the individual citizen.

An alternative approach is to see the new technologies as 'embedded in the real world', as the Internet was once described by one of its pioneers. Without ignoring the potential of new communications systems, this approach emphasizes both the economic, legal and policy factors that influence the emergence and adoption of these services. Innovation in communications occurs within a longer historical pattern of evolution. Recognizing the fact that few, if any, governments will have the capacity or inclination to control every aspect of increasingly sophisticated communications systems does not mean the end of long-standing responsibilities. Governments will need to balance the potential benefits of new information and communication technologies with the threats that they pose. Questions of preserving privacy, protecting children, and enforcing the rights of authors are more complex in the new media, but they have not disappeared.

Are national governments fighting 'a lost battle', as the Spanish sociologist Manuel Castells has put it (Castells, 1997, p. 259)? If so, it is striking that governments around the world have themselves been vigorous in highlighting the economic and social ramifications of technological change. This chapter considers the relations between nation states, citizens and the new information and communication technologies in a range of important legal and policy fields. The rapid emergence of a wide spectrum of new global communications systems has without doubt created new challenges and opportunities for governments and communities which will be examined in this context.

## NEW MEDIA

Traditional mass media are going through a process of transformation, as described in more detail in Chapters 5 and 6. The transition to digital broadcasting transmission systems in developed societies,

and the proliferation of subscription television, is likely to lead to much greater diversity in media services, including interactive data transmission, high definition television, more targeted special interest programming, pay-per-view programming and electronic commerce facilities. The technical key here is the expansion of bandwidth, the capacity of a communications channel to convey information. The shortage of frequencies is much less a factor in limiting services than in the past. This factor has important ramifications for policy: in the context of a generally more liberal, market-oriented approach to media and telecommunications, spectrum scarcity can no longer function as a primary rationale for close government regulation of electronic media. At the same time, the diversification of electronic media appears to challenge the traditional unifying, 'nation-building' missions of public sector broadcasting services (see Chapter 5).

Revolutions in the computer industry have also had a major impact, as Chapters 9 and 11 of this report explain. Global computer networks have only recently become mass communication systems in their own right, with the worldwide spread of small, cheap and easy-to-use desktop computers, which are now in use in almost all areas of human activity. New telecommunications technology made it possible to adapt the telephone system for data transmission. New kinds of software expanded enormously both the variety and the purpose of networked information: beyond their traditional messaging and database functions, computer networks became systems for publishing and distributing information of all kinds.

As their sophistication increased, networks ceased to be strictly text-based. High-resolution colour images, video, and sound documents have become commonplace network resources. Applications in the form of browser plug-ins, Java 'applets' and proprietary components are also becoming commonplace. At the same time, the world's computer networks have become more interconnected, and therefore more

readily accessible. The network of networks that has evolved into the Internet uses a decentralized, packet-switched architecture to link computers in over two hundred countries. Proprietary online services – the self-contained, subscription-based, market-oriented systems of the early 1990s – were by the mid-1990s forced to connect to the Internet since many were failing to compete with the larger, freer, public system.

But while these technologies have developed quickly, and the ultimate objective of an accessible, low-cost global information infrastructure has become available, the consequences of their diffusion will take much longer to recognize and respond to. Actual applications and benefits remain hazy. It is not yet clear that greater diversity in services will deliver greater diversity in content. Critical issues which are yet to be resolved include the scope of the public domain in the digital environment, and the ability of governments to adapt existing systems of regulation. These questions are discussed later in this chapter.

## POLICY RESPONSES

Since the beginning of this decade at least, governments and international organizations around the world have devoted substantial resources to understanding the implications of 'the digital revolution' in communications. Indeed such is the volume of this material, and the enthusiasm with which it embraces technologically-driven change, that we can scarcely doubt that the very concept of an 'information revolution' must be in part the product of official policy discourse, despite the advocates of a cyberspace without rulers.

The phenomenon of governments embracing new communications technologies has several facets. In highly industrialized societies, the early and middle years of the 1990s were characterized by a 'visionary' fascination with the promise of future interactive broadband delivery systems. National government documents such as Denmark's *Info-Society 2000* (1994), the United States' *National Information*

*Infrastructure and Global Information Infrastructure* reports (1993), and Singapore's *IT2000* (1992) fell into this category; at the international level, the European Union's *Bangemann Report* and the G-7 summit's *Information Society* conference were comparable (see also Chapter 18).

William H. Melody argues that these visionary information policies 'tend[ed] to be more statements of aspiration than realistic policies aimed at achievable goals' (Melody, 1996, pp. 243–59). Yet these grand if somewhat unfocused visions still shape information policies around the world. New technologies were seen as the key to improved delivery of essential government services, especially in health and education. They were also seen as major driving forces for economic growth, offering improved productivity and new demand for skilled labour. In general terms, governments accepted without critical scrutiny the potential benefits of information technology, focusing on the perceived need for a broadband infrastructure. At the same time, the absence of this infrastructure was uniformly seen as a significant disadvantage from which other problems flowed: deficiencies in technological skills, uncompetitive industries, low growth rates. The analysis was circular (see Chapter 1 and Part Three).

A broadband infrastructure was not, in fact, necessary for many practical improvements in communications, either in the West or elsewhere. The success of the narrowband Internet, for example, rests on its accessibility through standard twisted-pair telephone lines and comparatively inexpensive modems. The rise of the Internet has made possible the proliferation of network computing earlier than the most ambitious prophets of the information revolution imagined; but it has done so without the expensive broadband infrastructure which was so widely considered a prerequisite for information societies.

Nevertheless, the best of these broad policy statements have had a number of important effects. First, they gave information policies greater political priority. What was once an obscure dimension of

### Box 8.1 → Teledemocracy

Teledemocracy is the adaptation of Internet-based information tools by government, business, and civil society to create an advanced participatory form of democracy. In its purely theoretical form, teledemocracy is the use of the Internet to produce an informed and publicly active citizenship. But in its current form, teledemocracy is a misused and misconstrued term: while the prefix tele explicitly means 'distance' or 'way of', adding the conception of the Internet gives teledemocracy a more technical characteristic.

Empowerment is the foundation of teledemocracy. In order to fulfill the ultimate goal of empowering citizens, two measures must be put in place:

- All citizens must have access to information tools. This highlights the importance of universal access to knowledge and participation in the Information Society.
- Government, business, and civil society must have a strong and committed Web presence. Teledemocracy cannot advance properly without the necessary balance between these three groups.

How does teledemocracy work? In existing democracies, the process starts locally with a virtual administrative body which consists of Web sites sponsored by local governments to facilitate exchange between elected officials and local citizens. Experiments of this kind are being carried out all over the United States, in parts of Europe, and other democratic countries. The Web sites are a dedicated forum for public policy debate, government outreach program, and in some cases, replace conventional mail with e-mail. Teledemocracy is further promoted through cyber-neighbourhoods, which are connected communities with access for each individual family, and cyberparties, which are representative groups that encourage on-line public participation. Both serve the function of increasing citizen partnership, through direct, active lobbying by citizens. On-line lobbying is no longer restricted to

government and business; informed and empowered individuals may take an active role in voicing their opinions.

In non-democratic countries and governments in transition, teledemocracy is practiced differently: through teledemocratization, which is the use of Internet-based information tools to promote knowledge-sharing among citizens and to organize citizen opposition groups. In turn, it may be used to circumvent oppressive regulatory efforts and facilitate discussion among civil societies, government and business. The effect of teledemocratization cannot be underestimated: the technical aspects of the network allow for technical solutions to offset government propaganda, censorship, and other repressive measures. Such is the case with Radio B92 in Belgrade. When shut down for its anti-government broadcasts, the station moved onto the Internet, and was rebroadcast into Yugoslavia by Radio Free Europe and Voice of America. It has become the sole source of independent reporting in Yugoslavia and a rallying point for democratic opposition.

Teledemocracy is only beginning to gain recognition for what it is: a valuable tool to produce an empowered and active society. While the theoretical evolution is still in its infancy, functional teledemocracy is already spreading to many parts of the world. Virtual local administrations are being envisaged and constructed, citizens are becoming more active in communities through cyber-neighbourhoods, and government regulations are circumvented by the technical solutions offered by the Internet. In step with the advancement of information and communication technologies, teledemocracy may well be a fast-developing, governing characteristic of the Information Society.

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industry, media and cultural policy, has slowly come to be seen as a coherent set of objectives, both at national and international levels. Governments have begun to make strategic connections between issues that were hitherto fragmented across traditional administrative boundaries – issues such as data protection, intellectual property, electronic commerce, and computers in school education.

Second, some of these early government responses did adopt a wider social perspective on the possibilities and consequences of the new communications environment. Denmark's Info-Society 2000 policy, for example, looked beyond the provision of infrastructure. It was concerned with how a future 'info-society' might retain the distinctive Danish characteristics of equity, democratic participation, and openness. It was much more concerned with applications than the supply of technology, and addressed the ways in which the public sector could co-operate with business. It emphasized the need to consider questions of access to government information. These issues were developed alongside an agenda for micro-economic reform, which concentrated on the need to liberalize Danish telecommunications (Munk Ris, 1997, pp. 424–56).

Third, the wide-ranging information policies developed in the mid-1990s have led to more concrete, if somewhat scaled-down, programmes for change. The aspirational thinking of the mid-1990s may have diverted attention from such practical policy questions as access to the Internet, improvements in basic telecommunications, and the development of real services and industries. But these issues have recently become the focus of policy attention, especially since the emergence of the Internet as the most important and fastest-growing global computer network. Singapore's IT2000 plan provides an example. Like so many other visions of the information age, IT2000 was aimed squarely at a universally accessible broadband network. The rise of the Internet changed this priority, forcing Singapore's National Computer Board to con-

centrate on the emergence of markets for interactive services rather than the development of the enabling technologies. This in turn meant an analysis of Singapore's particular strengths in fields such as logistics, transport and government information provision.

The increasing pervasiveness of information and communication technologies in the everyday activities of citizens has spurred governments to develop policies aimed at ensuring maximum community participation. In *A Strategic Framework for the Information Economy* (December 1998), the Australian government states its commitment to provide all Australians with open and equitable access to information available online as a way of securing 'a strong democratic, informed and inclusive society', and to avoid 'a social polarization between the so-called "information rich" and "information poor"'.

The challenge highlighted by the Secretary-General of the United Nations is to use the technologies to make information available to all and harness its democratizing power (*Secretary-General Says . . .*, 1998). However, as discussed later on, citizens in many countries do not have the opportunity to share in the benefits of the new technologies. Participation of developing countries, in particular, is being impeded by a lack of adequate communication infrastructure and relatively high computing costs. These issues were highlighted at a seminar sponsored by the United Nations Population Fund and the Government of Turkey in December 1998. The seminar also discussed the need for policies to address social and gender inequality to prevent information and communication technologies from further marginalizing disadvantaged groups (*Expert Seminar Supports . . .*, 1998).

Even so, available information and communication technologies are being used in developing countries as tools in advocacy and to promote social change. For example, in the area of reproductive health services, new media are being used to build political commitment and community support. In Senegal, youth leaders have organized cyber-cafes

where young people can discuss life-planning skills and connect with the world's youth. Ecuador has a service using the Internet to provide news to community radio stations. There is a website linking a network of Turkish NGOs against gender-based violence. In South America, distance learning programmes are offered on population and reproductive health. A cellular phone network serves rural communities in Bangladesh.

## FRAMEWORKS FOR GOVERNANCE AND DEMOCRATIC PARTICIPATION

Rights to freedom of expression, information and communication among citizens and with the state are essential components for democracy. New communication technologies provide comparatively decentralized and open environments which appear to promote these rights. Networked environments like the Internet allow individuals to create their own content and interact with a large audience worldwide at relatively low cost. This in turn increases the diversity of information and views that are expressed by and accessible to users around the world. In particular, information and communication technologies can assist the democratic process by facilitating greater accountability and transparency of governments: official documents are increasingly being made available on line and opportunities for direct communication with elected representatives are being created (Rabb, 1997, p. 165). A concomitant of this situation is that the medium may be used to generate and disseminate content, which may itself be seen to be anti-democratic and offensive to many that receive it (see Box 8.1, Teledemocracy).

The characteristics of the new media mean that, unlike traditional broadcast media, there are higher expectations of individual freedom and autonomy. However, as more parts of the networked world and the real world overlap, the need for governance increases. Numerous commentators have highlighted

the difficulties of governance in a computer-generated public domain that has no territorial boundaries or physical attributes and is in perpetual use (Longworth and Grainger, 1998). Further, democratic governance requires public interests and values to be reflected within the rule-making processes. In attempting to meet these challenges and retain the democratic characteristics of networked environments, there has been a tendency toward a governance model that is decentralized or self-regulatory in nature, especially in Australia, Canada, Japan, the United Kingdom, the United States and many European countries, particularly under the influence of the European Commission.

A number of international organizations are also influencing the emerging framework for governance of new information and communications mediums, including the United Nations (UN), the Organization for Economic Cooperation and Development (OECD), the World Trade Organization, the International Standards Organization, and the World Intellectual Property Organization. UNESCO's strategy is described in Box 8.2.

The OECD is actively contributing to a global framework for electronic commerce. A Ministerial Conference on electronic commerce held in October 1998 in Ottawa proposed an action plan to bring notions of physical world governance into the networked world. The action plan is organized along the following lines:

- building trust for users and consumers, so that the safeguards which provide confidence in the physical marketplace are adjusted to instill equivalent confidence in the digital marketplace;
- establishing ground rules for the digital marketplace, including providing protection that is as effective as that provided by legal and commercial frameworks in the physical world;
- enhancing the information infrastructure for electronic commerce, including creating effective competition in telecommunications markets;
- maximizing the benefits of electronic commerce.

### Box 8.2 → UNESCO and cyberspace

The emergence of an information society, with new systems and modes of expression, representation and action, is a major challenge for UNESCO and its Member States. As part of its response to this phenomenon, the Organization is striving to 'help its Member States frame integrated policies and strategies, taking account of the convergence of telecommunications, information technology and the electronic media, which will enable them to adapt themselves to this new technological environment and take advantage of the opportunities it offers' (Medium-Term Strategy 1996–2001).

The most striking aspect of this new environment is cyberspace, which is also known as 'information highways'. This new electronic space, open to all forms of expression, information exchange and transactions, is becoming progressively accessible to an increasing number of people, whatever their age, geocultural origins or occupation. The ICTs which form the infrastructure of cyberspace, more particularly the Internet, are used for many different purposes, for the best and the worst. This new environment transcends state borders and largely escapes national jurisdictions.

UNESCO's governing bodies, the General conference and the Executive board, have urged the Organization to take a leading role to ensure that education, science and culture are given adequate intellectual space on the information highways. UNESCO's strategy is being developed around two complementary main lines of action. The first is to encourage international interdisciplinary reflection on the ethical, cultural, legal and social issues which characterize the emerging information society and, second, to promote the use of information technologies for the development of education, science, culture and communication.

In collaboration with producers and users of the ICTs and providers of cyberspace information and services, the Organization promotes the ethical values and legal principles essential for a democratic and participatory information society. In particular, UNESCO's efforts are directed towards promoting universal access to information and creating the conditions under which the information society can guarantee respect for privacy and personal data, enrich all lives, include the excluded and disadvantaged, ensure cultural pluralism and be free from violence, pornography, paedophilia, racism,

alienating ideologies and criminality. These are the objectives of the Project on ethical and sociocultural challenges of the new information society.

The Organization is also working to ensure that ICTs are used more effectively to foster freedom of expression, the free flow of information, access to knowledge for all throughout life, scientific research, artistic creativity, the protection and enhancement of the heritage and the common good. The programmes being implemented contribute to these ends in different ways and include: the diversification of educational services, especially through distance education; the establishment of networks and discussion forums on the Internet for educational, scientific and cultural communities; the digitization and on-line presentation of the cultural heritage, the organization of virtual curricula, libraries and laboratories; 'on-line governance'; the provision of computer hardware and software and means of access to networks; and the training of electronic network managers and trainers in informatics, telematics and multimedia.

Together with its international, regional and national partners, UNESCO has taken several initiatives in organizing a series of conferences and expert meetings worldwide. These include the African Regional Symposium on Telematics for Development (Addis Ababa, 1995), the Conference on Electronic Publishing in Science, organized with the International Council for Science (Paris, February 1996, see Box 7.2), the International UNESCO Symposium on Copyright and Communication in the Information Society (Madrid, March 1996), the second International Congress on Education and Informatics (Moscow, July 1996), the regional symposium on The Arab World and the Information Society (Tunis, May 1997), the Asia-Pacific regional meeting of experts on A Legal Framework for Cyberspace (Seoul, September 1998), the Expert Meeting on Cyberspace Law (Monaco, September 1998) and the two infoethics congresses held in Monaco in 1997 and 1998.

To fulfil its role as a platform for international debate, UNESCO has initiated an Observatory on the Information Society on the World Wide Web with a focus on ethical, legal, social and cultural aspects. For UNESCO's mission in general, see Box 1.1.

## EDUCATION AND INFORMATION TECHNOLOGY

One key field where the governmental response to technology has had a major impact has been in education. This field demonstrates more clearly than any other the influence of information policy, and the efforts of governments to address the problems identified by information policy. Chapter 2 of this report provides many examples of government efforts in this respect. The recent OECD Information Technology Outlook (1997) made an explicit link between increased government emphasis on information technologies and the transition of OECD economies to 'knowledge-based' economies. According to the report, it was imperative for nations that their people have the knowledge and skills needed for participation in a knowledge-based society.

Policy initiatives such as those mentioned in Chapter 2 are new developments. They indicate not only the aspirations of governments, but also how little has been achieved to date. For example, in the United States, which is often assumed to be far advanced in the introduction of information technology into the classroom, a recent Federal Report noted that 'few schools have adequate numbers of modern computers or access to the Internet, and relatively few teachers are prepared to use technology effectively. Further, access to computers and other technologies is not enough; integration of technology into the curriculum is also needed'.

## DEALING WITH THE 'DOWN SIDE'

A recent Irish government report describes what it calls the 'down side' of new technologies. A host of potentially illegal uses of the Internet have emerged as major issues for national policy and international co-ordination. These include:

→ Piracy of intellectual property: the infringement of copyright in cultural property; the infrin-

gement of moral rights of authors; and the illegal distribution of copyright works such as books or videotapes.

- Gambling: the emergence of unlicensed and unregulated Internet casinos.
- Invasion of privacy: unsolicited electronic communications; misuse of personal information in databases; theft of personal information; unauthorized interception of personal communications.
- Commercial crimes: fraud, including credit card piracy.
- Harmful communications: illegal material, including child pornography, violent material, and racial or religious vilification; defamatory publications.
- Hacking or cracking: illegal entry into private or government computers; theft of data or malicious damage to data.

One of the great attractions of the Internet remains its capacity for comparatively free global communication, including communication to and from countries where open discourse may be suppressed. It can collapse geographical space, apparently transcending boundaries. But as the United States scholars Brian Kahin and Charles Nesson have written, 'with this empowerment comes enormous potential for unbalancing, even upending, social, business, political and legal arrangements' (Kahin and Nesson 1997, p. vii).

## CONTROLLING ILLEGAL AND HARMFUL MATERIAL

Perhaps the most significant area of need for regulating new information services is in the field of illegal or harmful material. A recent UNESCO Expert Meeting on Paedophilia on the Internet (see Box 8.3) is one example in this area. We know that whether information is considered harmful or not depends on the cultural, religious and social context in which it is circulated. Within and between nations, these

standards vary enormously. At local, regional and national levels, governments have long sought to control the distribution of material deemed harmful. Clearly the task has become much more complicated in the age of global digital networks. It is no longer possible for government censors to mandate the classification of all the material that may be available in any jurisdiction. It is no longer possible to physically police the information that crosses jurisdictional borders; and while screening technologies may be effective in some circumstances, data has the capacity to slip across a frontier in many forms and from many sources including international phone lines, Internet services, satellite transmissions and broadcasting. In the face of this more open global system, how are local, legal and cultural standards to be sustained?

Moreover, many countries have constructed classification or censorship systems which work by making distinctions between different kinds of analogue media, based on assumptions about the different patterns of circulation of, for example, books and broadcast, free to air television. How are these graduated systems of classification or censorship to be applied to digital media? The question which arises is whether it is too simplistic to merely insist that 'what is illegal off line is illegal on line'. There are dilemmas in balancing the principle of freedom of expression against citizens' rights to be protected from illegal or harmful material.

A recent Human Rights Watch report demonstrates the range of methods employed to control content on the Internet (*Freedom of Expression on the Internet*, 1998). Some countries, such as Ireland and Australia, are moving towards the adoption of co-regulatory structures, sharing responsibility between national agencies and industry for raising public awareness, responding appropriately to illegal material when necessary, and providing effective complaints procedures. Co-regulation is being facilitated by technologies that make the development of tools such as content labelling and complaint hotlines possible.

Other national authorities, such as those in Saudi Arabia, Bahrain and Malaysia, seek to control the Internet more tightly, often by restricting access to the global network through a limited number of gateways which may then be monitored and configured to block access to sites considered harmful or undesirable (see Chapter 4).

The report notes the widespread international endorsement of technical tools to assist in the regulation of content on the World Wide Web. In particular, the labelling technology known as Platform for Internet Content Selection (PICS), first developed by the World Wide Web Consortium, has attracted great interest in Europe, Australia, Asia and North America. PICS provides a means for the labelling, and subsequent filtering, of Web content which may be both more standardized and more powerful than simple site-blocking software. One of its features is that such labels may be generated, published and used by anyone: it brings an effective classificatory apparatus within the reach of schools, libraries, community groups, parents, or any interested party.

The PICS protocol can support a variety of ratings and labelling systems so they can be tailored to the needs of each user, and allows content rating to reflect the vast range of cultural perspectives on appropriate access to certain material. In this way it belongs to that tendency of thought about the Internet which stands in opposition to the notion of a distinct and remote digital space, separated from the daily circumstances and places of its use. Instead PICS works from the assumption that 'the Internet is embedded in the real world'. Supporters of PICS have pointed to its feature of enabling, and in fact encouraging, a multiplicity of classification standards as the means to retain local control and responsibility over content. PICS is therefore seen, in the European Union and elsewhere, as a means of preserving cultural and social diversity within a global system.

Organizations in several countries have established labelling schemes designed for use by parents

### Box 8.3 → Paedophilia on the Internet

Violence and pornography have invaded the Internet. Photos and videos of children and young teenagers engaged in sexual acts and various forms of paedophilia are readily available. Reports of children being kidnapped, beaten, raped and murdered abound.

The information and communication technologies have not only changed the rules of the game, they have also moved the playing field. Save our Children, a California based child protection organization, has identified over 8,000 Internet sites dealing with paedophilia. A Japanese wire service reported 500,000 pornographic sites, based in Japan, of which a considerable percentage contain paedophilic images. The danger is not that children will accidentally happen on to these sites. Most of the blatantly illegal sites are well hidden to escape detection by the police. The real danger is that other public sites continue to increase in number and to perpetuate paedophilia and the production of pornography all over the world. One such site addressed to 'boy lovers' has links to over 800 other sites – all of them with 'legally acceptable' images of children.

The Internet has in many cases replaced the media of such paedophilic magazines, films and videos. It is a practical, cheap, convenient and untraceable means for conducting business as well as for trafficking in paedophilia and child pornography. The Internet has also become the principal medium for dialogue about paedophilia and its perpetuation.

Fully aware of the need to safeguard freedom of expression, UNESCO nonetheless seeks to make the Internet a safe place for children. It is in this context that the Director-General of UNESCO convened a meeting of experts at UNESCO Headquarters on 18–19 January 1999. More than 400 specialists and institutions, from over 40 countries

attended. The participants adopted a Declaration and a Plan of action. UNESCO, as the UN agency with a primary role of catalyzer, was asked to take the lead in 'breaking the silence'.

In accordance with its mandate, UNESCO proposed to use its educational, cultural, social and communication expertise to contribute to providing safety nets for children online. This means:

- setting up an electronic clearing house for NGOs, researchers, media, judiciary services and other actors to inform and be informed, to seek advice and resources in total transparency. As there are already several networks in operation, this should be rather an electronic interactive index of child care organizations and networks.
- the creation of two electronic watchtowers. One will act as an on-line helpline for young children to obtain advice and help. The other is for reporting illegal contents or sites, and will enable quick links to appropriate police forces regardless of the country where the sites are hosted, or the country reporting the crime.
- a polyglot glossary of terms covering all the themes of this meeting.
- generating funds and using this first circle of donor partners from the private sector to create what the Director General has referred to as a strategic group of personalities and leading citizens to lend resonance to the work, to marshal resources, and to state the case of children to the world.
- promoting and supporting the design of handbooks and safety brochures for children, teachers and parents.

Website: [www.unesco.org/child\\_screen/conf\\_index.html](http://www.unesco.org/child_screen/conf_index.html)

and schools that conform to the PICS standards. Many of these are based in North America. They include the Recreational Software Advisory Council labelling scheme for the Internet (RSACI), SafeSurf, Cyber Patrol and SurfWatch. The Internet Content Rating Alliance (ICRA) was formed in October 1998 with the signing of a Memorandum of Understanding between Internet Watch Foundation (IWF), eco (the German Internet service provider association) and the Recreational Software Advisory Council (RSAC). Formerly the International Working Group on Content Rating (IWGCR), it is now working 'to develop an internationally acceptable rating system which provides Internet users worldwide with the choice to limit access to content they consider harmful, especially to children', and is currently developing for this purpose a consultation paper, which could be used to obtain input from different countries and cultures about the range of matters which an international rating scheme could address.

Whether PICS will achieve the promised results remains uncertain: technical solutions have a tendency to be quickly hacked. One important limitation of PICS is its restriction to the Web: it is not designed for other Internet services, although work is underway to expand the application of PICS to newsgroups and e-mail. But PICS has been criticized mainly on other grounds. As a tool, it can of course be used in many different ways, including the suppression of free speech. While it is true that PICS enables specific communities and organizations to manage Web content, it can also be applied at the level of State control. In Singapore, the National Internet Advisory Committee has recently recommended that a PICS-based rating system be mandatory for all Internet users, with the effect that sites which were not rated would become inaccessible from Singapore-based Internet Service Providers.

Reporting hotlines are also an important element in schemes dealing with illegal or harmful content on the Internet. Hotlines exist in a number of countries

including Belgium, Malaysia, the Netherlands, the United Kingdom and the United States. These hotlines have been set up by industry associations, children's interest groups or police bodies. The hotlines generally have links with a range of relevant law enforcement and industry bodies, and some have developed procedures for the removal of Internet content by Internet Service Providers, once they have been notified.

## COPYRIGHT AND NEIGHBOURING RIGHTS

Transmission through electronic networks raises problems in the field of copyright and neighbouring rights (of performers and producers of phonograms) and it is widely recognized that international co-operation and co-ordination is necessary to solve them. To explore these problems and be able to advise Member States accordingly, UNESCO organized an International Symposium (Madrid, 1996) and three regional Committees of Experts on Communication and Copyright in the Information Society (Bogota, 1996; New Delhi, 1996; San Remo, 1998) and published a number of articles on these problems in UNESCO's *Copyright Bulletin*. A crucial role has also been played by the World Intellectual Property Organization (WIPO). Having organized four international forums and eight Committees of Experts to draw up a draft of two new international instruments to govern the digital transmissions, this organization also convened a Diplomatic Conference of States in December 1996 which adopted a new WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT). The solution proposed by these treaties was to extend the existing right of 'communication to the public' (the term 'public' was initially interpreted as referring to an undetermined number of people) to digital networks transmission (which may be considered as communication to private persons/subscribers) since the latter make the protected subject matters available to the public 'in such a way that members of the public may access

from a place and at a time individually chosen by them' (Article 8 of the WCT and Article 10 of the WPPT). The treaties also aim to provide additional protection for copyright owners in the digital environment by sanctioning the abuse of technological copyright protection measures, such as hardware or software locks or other encryption mechanisms. Sanctions are also provided against any deliberate tampering with 'rights management information', the ownership data which may accompany digital works. Largely as a result of argument from African countries at the 1996 Diplomatic Conference, these measures do not restrict the existing cases of 'fair use' or of limitation of and exception from this protection.

The new treaties, and their policy background, were discussed in UNESCO's 1997 *World Communications Report* (Chapter 6) and in UNESCO's 1998 *World Culture Report* (Chapter 13). It remains to be seen whether adequate legislation is enacted in member countries in the near future. The challenge for policy makers in this field has been the preservation of an appropriate balance between the rights of owners, and the public interest in the free circulation of information. There has been criticism, particularly from developing countries, that enhanced copyright protection inhibits equitable participation in the information society because it further increases the cost of accessing content and applications. It is also important that international copyright agreements do not conflict with the more general principle of freedom of expression, which is guaranteed in the Universal Declaration of Human Rights, by article 8 of the European Convention on Human Rights and Fundamental Freedoms and in relevant conventions. A major achievement of the 1996 WIPO Diplomatic Conference in Geneva was the recognition in the preamble to the treaties of the importance of this balance. Copyright law is not merely a legal means to protect the rights of copyright owners: it is directly concerned with the wider goals of enhancing education, science and culture (Mason, 1997).

## OWNERSHIP OF DATA AND THE FUTURE OF THE PUBLIC DOMAIN

Copyright laws around the world have been designed to protect original intellectual works, although the definition of what constitutes originality in this context varies considerably across jurisdictions. Beyond the problem of protecting creative works, however, there are also major policy issues concerning the ownership of factual information or data, such as environmental information, which in itself is usually unprotected by copyright. The new information economy means that what was once a recondite legal question is now a pressing policy issue at an international level. Information once freely exchanged between countries and organizations is now increasingly seen in a commercial light, with serious consequences for those smaller countries dependent on information – such as meteorological data – which has been gathered by others. This is particularly the case where countries have privatized the public sector organizations that used to collect and distribute information in the past.

Governments around the world are grappling with the question of who should own data and what rules should govern public access and use. The new global networks have made data more valuable than ever before. The market for information has increased enormously as expensive proprietary databases have been replaced by ubiquitous public standards. But these same public networks are also seen as a threat to the data that they carry. In Europe and the United States, database publishers claim that they are now at greater risk of data piracy and attacks from hackers. They argue that tough new laws are required to protect existing databases, and provide sufficient incentives for the industry to grow. They highlight the vulnerability of data, pointing to the ease with which large quantities of digital information can be copied and redistributed internationally. A database worth

millions of dollars, they say, can now be pirated and resold at minimal cost over the Internet.

After various discussions held at the international level, agreement has been reached that the provisions of the Berne Convention dealing with copyright protection of compilations of various materials, originally relating to compilations in printed form, should also cover the compilations in electronic form, i.e. databases. The criteria for the protection should be the same as for the compilations in printed form: they are protected by copyright only if by reason of selection or arrangement of their contents they constitute intellectual creations. This was further expressly confirmed under the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIP) adopted in 1995 under the aegis of the former GATT and at present annexed to the World Trade Organization Treaty, and the above mentioned WIPO Copyright Treaty and WIPO Performances and Phonograms Treaty adopted in 1996. According to these two new international instruments, the exploitation of compilations/databases in digital environment is subject to the copyright owner's authorization in virtue of his/her right of communication to the public. Before the adoption of the treaties the notion 'public' related only to an undetermined number of people. Although in the digital environment exploitation of the contents is made by individual subscribers, i.e. private persons, digital transmissions were considered to be the equivalent of communication to the public, since the contents are made available to members of the public who may access to the protected subject matter 'from a place and at a time individually chosen by them'. As in the case of original intellectual works, not only the entire compilations/databases, but also their substantial parts cannot be used without the authorization of the copyright owner. The latter will be determined under national copyright laws. However, the treaties failed to resolve the extremely important question of whether the traditional 'fair use' cases or limitations of copyright protection should apply in the digital context.

The above solution only partially resolved the problem. Producers of unstructured databases, those relating to remote sensing for example, which do not correspond to the copyright criteria of 'compilations' also insist on their protection under intellectual property laws to better protect their investment and ensure development of the market. In this respect there were three closely-related proposals to deal with this problem, from the European Union, the United States, and the World Intellectual Property Organization (WIPO). Europe has progressed the furthest, with a Directive (adopted in March 1996) that was largely implemented in member countries by the beginning of 1998. Apart from the provision dealing with the copyright protection of structured compilations/databases it also provides for *sui generis* protection for those databases which do not correspond to copyright criteria of compilations, but where 'there has been qualitatively and/or quantitatively a substantial investment in their obtaining, verification or presentation of their content'. Owners of such databases are granted the right 'to prevent extraction and/or reutilization of the whole or of a substantial part' of the contents of the database. In the United States, the initial proposal was strongly opposed by the scientific communities which considered it as limiting the access to and dissemination of scientific information. Compromise legislation on the matter providing for minimal, simpler and more transparent protection is currently being debated in Congress. The problem remains on the agenda of WIPO and has been discussed in a number of their meetings.

The prevailing opinion of the participants in these meetings (governmental representatives and observers from various intergovernmental and international non-governmental organizations), including a representative of UNESCO, was that some kind of protection should be granted to the 'non-original' (unstructured) databases to protect the economic interests of their developers. However, the protection should not hamper the specific interests of scientific

and educational circles working for the benefit of the society at large and interested in free access, exchange and dissemination of information. In this respect, UNESCO also suggested that a clear distinction be made between the databases produced with public funds and those produced by private enterprises. The former must be freely accessible to all users, excluding only their exploitation for commercial purposes, and therefore the rules for their protection should not be derived from the logic of competitive exploitation relevant only to databases financed from private funds. At the last meeting held in November 1998, the Permanent Committee (specially created in the framework of WIPO) asked the International Bureau of WIPO to organize, before it meets in May 1999, regional consultations on the problems, update its documents on national solutions and approaches and prepare a study on the economic and scientific import of the protection of databases for the developing and least developed countries. Therefore, the problem is likely to be discussed for some time, and no new international treaty on this subject should be expected in the near future. Much will depend on the solution to be adopted in the United States which tends towards the creation of a new kind of intellectual property right, specifically tailored for developers and publishers of databases founded on the notion of 'substantial investment' in the production of a database. It remains to be seen whether this solution is sufficiently flexible with regard to the public interest and 'fair use' cases to strike a balance between the private interests of producers of databases and the interests of the scientific and educational communities in the free circulation of ideas and information.

The new database rules should not have the potential to restrict the scope of fair use or free use. As indicated earlier, the 1996 European Directive provides for *sui generis* protection similar to that established under the Berne Convention. Librarians, scientists and educators have expressed concern at both national and international levels that any

proposed new database rules should not significantly inhibit researchers seeking to reuse and combine data for publication or for research, or educators wishing to use portions of data sets for instructional purposes.

The new rules are being prepared at a time of increasing fiscal pressure on educational and research institutions in many countries. Governments around the world increasingly look to these bodies to adopt a more commercial approach. The new information technologies provide them with an infrastructure for commercialized data services. Laws along the lines of the current proposals would provide a stronger regulatory infrastructure. But the consequences of this approach, particularly for the public sector and developing countries, are far from being fully understood.

## CONCLUSION

Developments in information and communication technologies are promising and delivering new opportunities for the exchange of ideas and access to information. In addition to the added convenience that these technologies bring to people's lives, they can significantly enhance democratic processes by promoting freedom of expression, interaction and information sharing. As recognized by policy statements of governments worldwide, the benefits derived from the new media will largely depend on the ability of individuals to access the technologies and approaches to the governance of networked environments. Although governance in a computer-generated domain is difficult, it has been argued that the new technologies are 'embedded in the real world' and that governments, as the representative of citizens, still have responsibilities to address issues such as privacy, copyright, content and access to information. Approaches at national, regional and international levels have tended toward decentralized or self-regulatory models of governance to allow for flexibility to accommodate changing networked environments and to maintain the democratic nature of the environment.

## REFERENCES

- CASTELLS, M. 1997. *The Information Age: Economy, Society and Culture*, Vol. 3: *The Power of Identity*. Blackwell, Oxford.
- Expert Seminar Supports Expanded Use of Information and Communications Technologies in Advocacy for Reproductive Health and Rights. POP/693. UN Press Release. [www.un.org](http://www.un.org).
- Freedom of Expression on the Internet. Human Rights Watch Special Report, December 1998, at [www.hrw.org/hrw/worldreport99/special/internet.html](http://www.hrw.org/hrw/worldreport99/special/internet.html)
- KAHIN, B.; NESSON, C. (eds.). 1997. *Borders in Cyberspace*. MIT Press, Cambridge, Massachusetts.
- LONGWORTH, E.; GRAINGER, G. 1998. Papers tabled at UNESCO Asia-Pacific Regional Expert Meeting on Legal Framework for Cyberspace, September 8-10. Seoul, Korea. [www.aba.gov.av/whatsnew/speeches/index.htm](http://www.aba.gov.av/whatsnew/speeches/index.htm)
- MASON, A. 1997. Public Interest Objectives and the Law of Copyright. In: B. Sherman and J. Thomas (eds.), *Defining the Public Domain*. (Special Issue of *Journal of Law and Information Science*.)
- MELODY, W. H. 1996. Toward a Framework for Designing Information Policies. *Telecommunications Policy*, Vol. 20, No. 4.
- MUNK RIS, A. 1997. *The Information Welfare Society: An Assessment of Danish Government Initiatives Preparing for the Information Age*. In: Brian Kahin and Ernest Wilson (eds.), *National Information Infrastructure Initiatives: Vision and Policy Design*. MIT Press, Cambridge, Mass.
- RABB, C. D. 1997. Privacy, Democracy, Information. In: B. D. Loader (ed.), *The Governance of Cyberspace*. London, Routledge.
- Secretary-General Says Communications Technology has Great Democratizing Power Waiting to be Harnessed to Global Struggle for Peace and Development. SG/SM/6502 SAG/4, UN Press Release, 24 March 1998. [www.un.org](http://www.un.org).
- UNESCO. 1997. *The Internet and Some International Regulatory Issues Relating to Content*. Prepared by the Australian Broadcasting Authority. CII-97/WS/8. Paris, UNESCO.