

The Information Age: Transborder Communicative Capacity

Conventional public sphere theory is ill-placed to evaluate the import of cross-border communicative flows, as it presupposes an alliance between political territory and the circulation of dialogue. This fit once seemed so close that some have made the extrapolation that public spheres require a physical locale and proximate interlocutors. This misapprehension is perhaps partly encouraged by the terminology of public sphere theory. It is unfortunate that the imagery of face-to-face interaction is encouraged by repeated allusions to reflexive dialogue. In fact, virtuality has been a central feature of the public sphere in most of its historical manifestations, that is to say that discourse has been conducted at a distance (Warner, 2002). Mediated dialogue is a necessary feature of any large-scale, complex social organization, providing the only means of interaction between spatially dispersed actors. Therefore there is no a priori reason why transnational mediated communication should be incompatible with critical publicity.

Transnational communication dates back thousands of years, but before the mid-nineteenth century, the few transnational communication channels that did exist were the province of the aristocratic or military elites. Since the invention of the telegraph, the transmission capability and rates of global access to ICT has risen exponentially. The resulting transformation in the world's media landscape has been awesome. Our society is suffused by a dense network of information exchange and communication flows, mediated through technologies such as radios, televisions, fixed telephones, mobile telephones, personal computers (PCs), and the Internet. New media¹ such as the latter have facilitated an unprecedented explosion in the scope and intensity of cross-border communicative activity. This

expansion in physical infrastructure could provide the material capacity for transnational public spheres to materialize around certain issue-areas.

A transnational public sphere rests on the ability of interlocutors to communicate across state borders with ease. It could be said that this requirement has already been met in terms of material capability. ICT has eradicated temporal and spatial barriers to distanced communication. However, the prerequisites of public sphere debate are more demanding than this; the category of “transnational communicative capacity” also entails qualitative requirements. Critical publicity must be as inclusive as possible—and so there should be wide diffusion of communication technology and maximal opportunities for access and participation. In addition, dialogue should be free and open, unhindered by censorship and undistorted by manipulative publicity from governments and corporations. Evidently, this ideal is far from met in the present world communication order. There are entrenched social exclusions and ownership of global media is concentrated to the point of oligarchy. Many governments also restrict freedom of expression and censor media content.

This chapter considers whether these factors effectively preclude the realization of transnational public spheres. It is structured into three main sections. First, there is a survey of the emergence of the new media environment, where the rise of global media corporations and the commercialization of media content are critiqued. The second section offers an analysis of corporate and state involvement in Internet censorship and citizen surveillance. Lastly, there is an outline of the multiple disparities and inequalities that characterize our supposed “information age.” I conclude by acknowledging that the structural precondition of communicative capacity is only present for privileged sections of world society.

4.1 THE “INFORMATION AGE”

The advent of the Internet prompted many to herald the coming of an “information age.” It is a useful term that also captures the sense of the immense penetration and ubiquity of ICTs in a media-saturated world. The impressive-sounding moniker suggests an epochal shift comparable in socioeconomic importance to past eras such as the Industrial Revolution. It also mistakenly suggests that the shift has been sudden. In fact, the new media environment is the result of an incremental transformation that cannot be ascribed to a singular innovation or one particular type of technology. It is the culmination

of a long historical process that can be traced back to the invention of the telegraph. As Deibert observes, the information age

reflects a complex melding and converging of distinct technologies into a single integrated *web* of digital-electronic-telecommunications—a process that has roots reaching back to the late nineteenth century, and that encompasses a series of technological innovations that continued through the twentieth century, culminating in the digital convergence that began in the late 1960s. (Deibert, 1997: 114, original emphasis)

Digitization has produced an intricate global network of communication infrastructure, characterized by the enmeshment of technologies that were once part of separate platforms (audio, visual, or textual). Technologies such as mobile phones—where it is possible not only to telephone others, but also to send text messages, download films, and listen to MP3 files—illustrate how different functions have been successfully integrated in one facility.

The capacity to translate a range of information into digital format and to process it through the same channels is eroding the boundaries that once used to exist between traditional media industries. Formerly, media corporations grew around discrete sectors (such as newspapers, cinema, or radio) and concentrated on manufacturing product appropriate for a specific means of delivery (news articles, motion pictures, disc-jockey shows). But such divisions are of less significance with the dawn of a “universal media.” Digital convergence merges the traditional functions of computers, telephony, televisions, and other media. As a result of either initiative or necessity, media corporations are broadening their product range and diversifying their investment portfolios (Croteau and Hynes, 2005). In recent years, there has been a flurry of mergers and acquisitions, as companies in the midst of technological upheaval have sought to protect themselves from an uncertain future by investing in an ever-expanding profile. Convergence has increased the importance of the media sector to the global economy. The ICT industry has been growing significantly faster than the wider economy, with international communication growing fastest overall. It is difficult to overestimate the importance of this sector for the health of global capitalism.

It remains to be seen how such massive conglomerates will perform in the long term. But the unique position of these corporations clearly affords them a substantial structural advantage in manipulating publicity to promote self-serving commercial values. The Internet is not immune to these trends, having become irrevocably commercialized

since its inception (Simpson, 2004). Companies are hugely significant providers of online content, which has tilted the online balance further in favor of mass distribution, advertising, and e-commerce (Salter, 2004: 196–197). The specific issues surrounding the Internet will be examined shortly. Beforehand, it is worth placing the Internet into a wider political-economic context by considering the global corporate structure of the industry.

4.1.1 *The Rise of Global Media*

Although media systems still remain primarily national or local, digital convergence and the worldwide trend toward telecommunications liberalization have bolstered the position of the global media conglomerates. The changes in global media in the last couple of decades are perhaps most apparent in the international rise of commercial television. The worldwide trend toward deregulation and privatization has triggered an explosion in global commercial broadcasting owing to the liberalization of national television systems. The immense growth of commercial television has intensified since the 1990s, at the expense of public broadcasting services (PBS). The aggressive competition poses a long-term threat to the survival of PBS in all regions of the world. The BBC's adaptation strategy to this changed environment is perhaps one of the most ambitious. The BBC is attempting to pursue global commercial activities while sustaining their public service remit at home. In recent years they have capitalized on their famous brand name by launching BBC World Service Television, the BBC Web site, and expanding BBC World Service on radio. A major project has been the expansion of existing analogue channels to digital interactive services. The commercial branches of the corporation are seen as ensuring the future survival of the BBC by providing an important source of subsidy for public service programming, whilst retaining the prestige associated with the brand (BBC, 2006). How successful the BBC will prove in this venture is still too early to tell. However, it is the type of strategy that is only open to well-funded Northern PBS—much of the rest of the world's public sector are facing a future of increasing marginalization, or future commercialization. The domestic push toward privatization and underfunding of PBS represents core themes behind the rise of global media. It illustrates how convergence and neoliberalism have helped to serve the commercial interests of the global media corporations, and how media diversity has been eroded as a result.

The United States exerts a domineering hold on the global entertainment industry, with no comparable export rivals in terms of television, film, and music. Some scholars warn against overstating U.S. hegemony (e.g., Compaine, 2002, 2005). Certainly, some of the largest U.S. firms have significant foreign ownership, and a number of the world's greatest conglomerates originate from outside the United States, such as Japanese Sony, French Vivendi Universal, and the Canadian Thompson Corporation. There are other important film industries outside of America—such as India's "Bollywood" that exceeds U.S. output, and is a major Asian supplier. Moreover, the U.S. industry has had difficult times of late: for example, there has recently been a drop in music sales owing to the rise in CD piracy (RIAA, 2006). The black market in the latter is said to have an annual global turnover of \$4.5 billion (IFPI, 2006). Likewise, piracy is estimated to cost the worldwide motion picture industry \$18.2 billion during 2005, with the U.S. industry accounting for \$6.1 billion of the loss (MPAA, 2006). Common suppositions regarding the "cultural hegemony" of U.S. media can also be challenged. There is a notable trend toward the regionalization and localization of media content to suit the cultural priorities of audiences. Robertson calls this phenomenon "glocalization": a term that describes how Northern media adapt using new media to appeal to local languages, styles, and cultural conventions (Robertson, 1992). Chevaldonne describes this process as a

subcontracting of market niches to local companies better equipped to deal with audiences which possess special characteristics which create special expectations at the level of message: language, the place of music and dance, history, religion, and a certain way of coding the relations between the sexes, generations and social classes. (Chevaldonne, 1987: 145)

This global-local interaction can therefore be "good for business," and serve to reinforce ethnic cultural identity, rather than U.S. cultural hegemony.

Despite these caveats, it cannot be denied that the overall economic and cultural predominance of U.S. media persists. The six largest media and entertainment corporations in the world today are all regarded as American: General Electric, Microsoft, Time Warner, Comcast, News Corporation, and Disney (Financial Times, 2006). No other country can match this concentration of economic might and global reach. Robert McChesney refers to these companies as the "first tier" of the media industry, which are followed by around 50 or

so “second tier” companies that operate on a national or regional level (McChesney, 2001). Nationally, the concentration can be even more intense: for example, over the past 20 years the number of corporations dominating U.S. media companies has contracted from 50 to just 5 giants (Bagdikian, 2004). Recent trends suggest that corporations will persist in attempting even larger mergers. For instance, Viacom attempted to buy out CBS in 1999, Comcast bid for Disney early in 2004, and AOL made the largest merger in media history with Time Warner in 2000. The latter deal represented \$350 billion—which was more than 1,000 times larger than the biggest deal of 20 years earlier (ibid.). Some of the disquiet that this move precipitated was voiced by Tom Rosenstiel of the Project for Excellence in Journalism, who warned that “what this merger invites is the possibility of a new era in American communication that sees the end of an independent press” (BBC, 2000).

For Herman and McChesney, these firms are no less than the “new missionaries” of corporate capitalism. They conceive of their influence thus:

As the media are commercialized and centralized, their self-protective power within each country increases from the growing command over information flows, political influence, and ability to set the media-political agenda (which comports well with that of advertisers and the corporate community at large). (Herman and McChesney, 1997: 9)

These themes resonate strongly with the thesis of public sphere degradation in *Structural Transformation*. Habermas demonstrated the corrosive effect of the overweening influence of large media corporations on critical publicity. Deliberation was progressively distorted and manipulated to serve commercial interests. If not adequately counterbalanced, the continuing conglomeration of global media is likely to perpetuate this process.

Media concentration can mean that companies can act together as an oligopoly or cartel. They will have a common interest in avoiding public scrutiny of their actions. It is a democratic necessity to ensure such powerful actors are publicly accountable, and of heightened importance considering the major defense interests of companies like General Electric. Cartels also work together to marginalize their competitors to consolidate their stranglehold on the market. They are likely to have an ideological interest in filtering out counterhegemonic discourse that they find threatening or unpalatable. Sometimes the owner may exercise this power by covertly or overtly compromising

editorial independence; for instance, it is commonly thought that undue prominence is accorded to the political opinions of Rupert Murdoch by his newspaper stable in the United Kingdom. But often, distortion of publicity arises through the structural effects and commercial pressures of the media market, which conditions editors and journalists to prioritize certain issues and to neglect others. Naturally, sensationalist stories that attract prurient interest are likely to be high profile, and stories that could damage the profitability of important advertisers will tend to be shelved. Counterhegemonic ideas are also unlikely to be treated seriously because they do not easily complement the values of hyper-commercialism embodied by the media cartel. Miller considers the consequences of this trend for the United States:

Of all the [media] cartel's dangerous consequences for American society and culture, the worst is the corrosive influence on journalism. Under AOL Time Warner, GE, Viacom et al., the news is, with a few exceptions, yet another version of entertainment that the cartel also vends nonstop. This is also nothing new—consider the newsreels of yesteryear—but the gigantic scale and thoroughness of the corporate concentration has made a world of difference...the news divisions of the media cartel appear to work *against* the public interest—and *for* their parent companies. (Miller, 2002: 13, original emphasis)

Moreover, global media moguls have such a potential degree of influence over media content and distribution that they can claim to have a sizeable role in influencing public opinion, and therefore have disproportional leverage with governments. The concern of free speech advocates is that greater media concentration translates into less diversity of expression, fewer dissenting voices, and thus fewer opportunities for meaningful debate. The output of media conglomerates reflects such a concentrated ownership base that it is unlikely to fairly reflect the diverse range of society's needs, values, opinions, and ideas (particularly of marginalized and subordinate groups). It restricts the space and opportunity for governing orthodoxies to be exposed to challenge. News coverage may be particularly skewed and political bias may be apparent in reporting, which can have the effect of distorting public debate. These concerns appeared to be evidenced by the studies conducted by Fairness and Accuracy in Reporting (FAIR). For example, in the run-up to the 2003 Iraq War, the major networks only gave 3 percent of on-camera news coverage to U.S. sources representing an antiwar stance. For CBS, the figure was less than 1 percent. Yet this was at a time when opinion polls were consistently registering

that around 27 percent of the American public were opposed to the war (Rendall and Broughel, 2003). Across the corporate media, there was a chronic lack of critical analysis of the government's claims before, during, and after the invasion; and substantial underrepresentation of voices that differed from the official agenda (FAIR, 2007).

Distortion of public debate by powerful corporations runs counter to the ideal of a public sphere representing an open realm for discussion, free from manipulation by partisan economic forces. This as an ideal may be ultimately unobtainable, but it provides a normative paradigm against which actual circumstances can be measured. Current conditions fall far short of this ideal. The predominance of neoliberal, profit-motivated, corporate interests behind the development of global media signals the further degradation of publicity. However, this pessimistic portrayal of public sphere decline must be balanced against encouraging signs that the expansion of global media has dramatically expanded transborder communicative capacity for millions of people—even those in the poorest countries of the world. With specific reference to the Internet, the remainder of this chapter evaluates whether an expansion of communicative capacity can be said to simplistically equate to an expansion of the public sphere.

4.2 THE INTERNET REVOLUTION

The most iconic technology of the information age is the Internet. It is unprecedented in terms of its scale, scope, and global rate of adoption. For example, it took almost 40 years for radio to reach an audience of 50 million, and 15 years for television to do the same—but the Worldwide Web (WWW) achieved this goal in just a little more than three years from inception (Naughton, 1999). The proliferation of content has been staggering. There are well over 100 million Web sites on the Internet, and growth reached record highs in 2006, when the Web gained 30.9 million sites during the course of the year (Netcraft, 2007). On average, Internet Protocol (IP) traffic has been growing at approximately 1,000 percent a year, which compares to a rise of just 10 percent a year in traffic on the Public Switched Telephone Network (PSTN). If the demand for bandwidth can be met by new technologies, then IP traffic should easily surpass PSTN traffic, with much of the growth being accounted for through “e-commerce” (i.e., trade that occurs over the Internet) (UNDP, 2001: 36). The global commercial backbone services and network services industry sales were estimated to account for an astonishing \$1.3 trillion in 2004 (Chadwick, 2006: 213).

The Internet has excited fevered speculation as to its revolutionary potential, owing to its unique, intrinsic features. It is distinct in that it is a matrix of networks based on a “many-to-many” model of information distribution, as opposed to the “one-to-many” structure of mass media. The continuing increase in computing capacity permits information exchange at dizzying volume and velocity. It is an eminently flexible medium, able to support any application and transmit any kind of data, whether text, images, or sound. As a result, media production and distribution has undergone a process of rapid and radical decentralization. Sites containing user-generated content, such as YouTube and MySpace, are now amongst the most visited domains on the Web. Peer-to-peer file-sharing sites, where media files can be uploaded and accessed amongst a community of users, have attracted devoted audiences. This democratization of the media has already resulted in severe losses by media producers and outlets that were previously entrenched in an oligopolistic market position. For example, the profitability of the record industry has been gravely damaged by the rise of illegal file-sharing music sites. Similar challenges face the mainstream news industry. Large corporations no longer have the exclusive privilege of transnational publication and product promotion. For a small outlay and with a modicum of technical knowledge, people can set up their own Web site or blog and potentially access a global audience of millions. An online presence enhances the accessibility of independent media outlets and grants them a greater reach than ever before. Amongst certain sections of society, such as young Westerners, the implications in terms of news consumption habits have been profound. For example, a recent study of the 18–34 age group in the United States found that 44 percent used the Internet at least once a day for news, compared to just 19 percent who bought a daily newspaper on a regular basis. Further, 39 percent expected to use the Internet more in the next three years, versus 8 percent who expected to make greater use of newspapers. The report speculated that these findings are likely to partly reflect the declining levels of trust that young people have in traditional mass media, noting that only 9 percent of respondents would describe print news as “trustworthy” (Brown, 2005). The survey precipitated Rupert Murdoch to deliver the following warning to a gathering of the American Society of Newspapers Editors

They [young people] don't want to rely on the morning paper for their up-to-date information. They don't want to rely on a god-like figure from above to tell them what's important. And to carry the religion

analogy a bit further, they certainly don't want news presented as gospel... They want control over their media, instead of being controlled by it. (Murdoch, 2005)

As a self-confessed "digital immigrant," slow to appreciate the ramifications of the Internet revolution, Murdoch was belatedly recognizing the attitudinal shifts that may be attributed to distributional changes in media. Hitherto, public debate has been largely channeled through a limited range of mass media outlets, whereas cyberspace is an infinitely more heterogeneous discursive environment. The coherence of mass-mediated, national public spheres contrasts sharply with the Internet's hyperlinked, interactive structure, which creates a highly complex web of overlapping discussion forums on every conceivable topic. Neither do the same logistical constraints of mass communication apply. The Internet can transcend physical obstacles, empowering those disenfranchised by geography and facilitating deliberative exchanges outside of the nation-state context. In short, it affords unprecedented potential for interactivity and global interconnectivity. Hyperbolic speculation about the deliberative opportunities of the medium continues to thrive, and can seem seductive. But optimism about the Internet's public sphere potential should be tempered by recognizing the extent to which corporate dominance has been replicated online.

The media conglomerates have altered their modus operandi in response to the rise of the Internet, and in some respects they have been successful in maintaining their hegemonic market position. For instance, after years of declining CD sales, the Recording Industry of America (RIAA) have recently announced that illegal file-sharing has been "contained." An industry-led campaign to clamp down on music piracy, which included sponsoring the surveillance and prosecution of 18,000 individual consumers, has achieved notable success. And the increase in sales of legal downloads in 2006—some 77 percent—more than compensated for the 3 percent decline in album sales in the same period (Graham, 2006). In essence, the corporations have turned the tables on the cyber-pirates, by using the Internet to police and prosecute digital copyright infringement. The industry has also benefited from aping the behavior of online music communities. Free file-sharing and "viral marketing" PR campaigns have been used to promote industry acts. This new type of "stealth" PR promotion manufactures the appearance of a groundswell of support. Marketers infiltrate chatrooms, send mass e-mails, and post messages on blogs and bulletin boards. The artificial "buzz" can then be

publicized through mainstream outlets as “evidence” of public interest. Corporations have quickly become adept at finding ways to harness the Internet revolution to suit their commercial interests.

In the aforementioned speech, Murdoch forecast ways in which News Corporation could adopt a similar process of assimilation. He argued that the news industry should not perceive the Internet solely as a threat—providing they adapt to the changing behavior of the consumer, it also offers an unrivalled opportunity to increase advertising revenue. Murdoch advocated a more Web-centered, consumer-focused approach to news production, and predicted the economic benefits that could result:

... the [I]nternet allows us to be more granular in our advertising, targeting potential consumers based on where they’ve surfed and what products they’ve bought. The ability to more precisely target customers using technology-powered forms of advertising represents a great opportunity for us to maintain and even grow market share and is clearly the future... (Murdoch, 2005)

Subsequently, News Corporation bought Intermix Media, the owner of MySpace, for \$580 million. The site contains detailed personal information about the users, a large proportion of who are young and affluent. The commercial desirability of this data is obvious.

These examples are representative of a broader trend that is apparent in numerous sectors and across the globe. New media evidently has the capacity to extend the disciplinary influence of the market; to enhance corporate opportunities for manipulation and domination. ICTs are important arsenals in corporate surveillance strategies. Companies routinely collate commercially useful data by a variety of sophisticated and surreptitious devices, such as tracking online behavior, which enables them to build customer profiles. As Murdoch suggests, marketing campaigns can then to be targeted to the consumer demographic with greater effect. As a result, the Internet experience can be considerably impaired for many who are subjected to intrusive “pop-up” adverts, or bombarded with “spam” e-mails. Without sufficient safeguards in place, this type of advertising can make efficient communication and Web-browsing impossible. Furthermore, the Cyber Security Industry Alliance has reported a high level of anxiety amongst the American public over privacy and security issues, and suggested that their findings indicate that “many will not participate” as a result (CSIA, 2006). Thus, the commercial colonization of the Web may limit the opportunities for critical discursive spaces to flourish.

Unfortunately the commercial exploitation of Internet users is growing apace in a weak regulatory environment (Lessig, 1999).

Corporate dominance is also evident in Internet software itself. The future development of Internet applications has largely become the domain of big business. Microsoft has held a long-held position of unparalleled dominance as supplier of Internet software. For example, Microsoft's Internet Explorer commands 85.81 percent of the global usage share (although it is facing a growing challenge from the open-source browser, Mozilla Firefox, which has a 11.69 percent share) (OneStat, 2007). Internet Explorer is often already installed on new computers, and hence gives the company a considerable advantage in the marketplace. Microsoft has also produced programs that automatically save a number of Web sites in the "favorites" section of the browser. Prompted by such developments, the U.S. government took legal action against Microsoft as an illegal monopoly. Following four years of legal battle, Judge Thomas Jackson ruled in 1999 that Microsoft had used its monopoly power with Windows to harm consumers, computer makers and other companies. It was proposed that the company should be split in half, but the appeals court eventually overturned the ruling, and the government agreed to a settlement (Antitrust Division). However, controversy about Microsoft's monopoly position continues (Chin, 2005). The EU Commission found the company guilty of abusing its market dominance, and issued a fine of €495m in 2004. The commission was forced to criticize Microsoft again in 2007 for not altering its behavior, the exceptional nature of which was underscored by a spokesperson's comment that "[i]n the fifty years of European antitrust policy, it's the first time we've been confronted with a company that has failed to comply with an anti-trust ruling" (BBC, 2007). Microsoft's defiant response suggests that the commission will continue to struggle to curtail such abusive practices.

Research regarding the patterns of ownership in the rapidly evolving communication industry is patchy. The complexities of the market are such that, as Slevin observes, "it is unlikely that our understanding of these developments will be ever more than partial" (Slevin, 2000: 39). But an increasingly evident trend is that smaller companies are becoming rarer, as large corporations continue to expand by swallowing up their minor competitors. An example is WorldCom, whose acquisitions in recent years has meant that it carries more than half of all Internet backbone traffic, controls more than half of all direct connections to the Internet, and leases line-capacity to two-thirds of all Internet service providers (ISPs) (34). The conglomeration of new media has conferred significant strategic power to a select few organizations.

From the perspective of public sphere theory, the oligopolistic media market is alarming in several respects. First, conditions of monopoly could allow companies to demand license fees for the use of their products. This could further restrict opportunities for Internet access for those on low-incomes (Gimmler, 2001: 34). Second, companies may be able to pursue discriminatory practices against certain users, for example by charging ISPs prohibitive amounts for line-rental. Third, if powerful corporations monopolize the design of applications and control of the interfaces, they will have considerable influence over information content. Not only does this maximize the potential for the commercial exploitation of users, but also the opportunities for corporate actors to manipulate and distort publicity. These fears are manifested by so-called filtering technologies, which can significantly restrict information access and freedom of expression.

4.2.1 Filtering Technologies

Censorship online is mainly carried out through Internet content filtering. Many filtering systems are marketed to parents and schools as “safe portals” for juvenile Internet usage (e.g., NetNanny.com, Cyberpatrol.com, Cybersitter.com). Certainly filters are valuable in restricting children’s access to unsuitable material, or to chatrooms where they may be exposed to pedophile “grooming” techniques. They can also be useful in limiting a user’s vulnerability to computer viruses. However, the reasons for installing filtering programs range from benign concerns to malign motivations. The technologies are widely used to “spy” on Internet behavior, to monitor personal communications, and to prevent open debate. For example, employers may wish to control Web sites accessed by their employees, and check on the content of their e-mails. Suspicious lovers may want to keep tabs on their errant partners. Even more sinisterly, governments frequently use filtering to clamp down on internal dissent.

Deibert and Villeneuve (2004) specify two main types of filtering techniques. First, “blocking” can be used to deny access to certain IP addresses or port numbers, that host material deemed offensive, such as hardcore pornography. Access can be restricted to a limited number of approved sites, or alternatively Web-surfing can be unregulated outside of a “black list” of undesirable sites. Institutional use of “blocking” filters enables the installment of “firewalls” that prevent access to certain sites (e.g., by an employer or state government). “Content analysis” is a more sophisticated form of filtering, where access to information is controlled based upon the textual and/or

graphic content of the site. The filtering system can be programmed with criteria, usually based on keywords related to the offending topic. The user is either denied access to the page or the taboo words are replaced automatically with alternative signs, such as “xxx.”

The invention of the Platform for Internet Content Selection (PICS) was highly significant in the development of rating and filtering technologies. It assigned a series of electronic labels to Web sites that conveyed the characteristics of the content. Some labels serve to indicate the presence of adult material; others contain information about the Web site's policies on the use or resale of personal data to third parties. PICS enabled rating programs to access such labels, so that users can set a “content adviser” based on filtering criteria that regulate access to offensive material. One of the most popular rating systems was developed by the Recreational Software Advisory Council (RSACi), eventually integrated into Microsoft's Internet Explorer. It attracted controversy for several reasons (Sobel, 1999). Despite the council claiming to be independent, it had received support from a number of companies including CompuServe PointCast, Dell, and Disney Online. The possible effects of these linkages could not be fully scrutinized because of the limited accountability and transparency of RSACi programming. The reasons behind the assignment of certain PICS labels to Web sites and servers did not have to be publicly justified. Concerns were raised that in the absence of an effective system of supervisory regulation, the filtering system could be used to assign negative labels to Web sites from its political opponents or commercial competitors.

Possible malicious intent was not the only cause for concern. Filtering is a crude means of censorship, and has inaccurate and unintended effects (EPIC, 1997). For example, RSACi's system had a facility that allows all non-RSAC rated Web sites to be blocked. The council recommended that users choose this option, since new sites are created every hour, and many will not be rated. However, this meant that Web sites would be blocked for no better reason than they had not yet been assigned a PICS label (*ibid.*). In addition, “taboo” words programmed in the filtering criteria can have alternative meanings or inferences. Hence, gratuitous and offensive material could be debarred together with valid and responsible contributions to public debate. For example, a system that filters out sexual content with the intent to restrict access to salacious pornographic material may also have the effect of blocking serious sites about sexual health. A system that filters out content on sexual violence may block sites that include reports of war crimes. Obviously the meaning and value of a text

cannot be adequately derived on the basis of words divorced from their context. Weinberg expands further:

[RSACi] classifies sexually explicit speech without regard to its educational value or crass commercialism... A typical home user, running Microsoft Internet Explorer set to filter using RSACi tags, will have a browser configured to accept duly rated mass-market speech from large entertainment corporations, but to block out a substantial amount of quirky, vibrant individual speech from unrated (but child-suitable) sites. This prospect is disturbing. (Weinburg, 1997: 455)

Microsoft has now developed its own content adviser and RSACi has evolved into the Family Online Safety Institute. However, amongst free speech advocates, the same misgivings about filtering technologies remain, even in instances where filters have been installed with the user's consent. Users may subscribe to ISPs that use filters without being fully aware of the facility or of its ramifications.

Organizations as Cyber-Rights and Cyber-Liberties and the Electronic Frontier Foundation have led strident calls for careful monitoring, greater accountability, and transparency of the practices of companies involved in filtering and rating systems.² Human Rights Watch is a leading participant in this campaign and produces regular reports monitoring freedom of expression on the Internet (Human Rights Watch, 2007). These reports focus on the activities of filtering companies as well as those of censorious governments. Their recent research also has explored the implications of state-controlled or state-influenced ISPs in Tunisia, Iran, and Bahrain that filter Web sites containing political or human rights criticism of their governments (Reporters Without Borders, 2007).³ As will be seen, Internet censorship and surveillance does not just empower corporate actors, but also increases the disciplinary and repressive capacities of states over citizens.

4.2.2 State Censorship and Surveillance

States from all regions of the world rely on ICT for the most basic functions of governance. From data-processing to multilateral communications, ICT are an indispensable part of modern administration. However, they also present intractable policy problems, facilitating crimes such as identity theft and "cyberterrorism." They also permit citizens to disseminate and access material that governments regard as morally corrupt and/or politically subversive. Hence,

as Internet usage proliferated during the 1990s, so did regulatory constraints around the globe.

States have always pursued forms of censorship, and authoritarian regimes are usually the most robust perpetrators. More than a 100 years ago, for example, the import of typewriters was banned in Turkey, reflecting official disquietude with the democratization of print. The authorities feared incendiary pamphlets that promoted rebellion and dissension would be produced. Likewise, Western radio broadcasts were routinely jammed by the Soviet Union during the cold war. Similarly, today the North Korean government exerts tight controls over the access of their citizens to typewriters, photocopiers, and radios. The emergence of Internet censorship across the globe was inevitable.

The Internet's unique structure means that it has a latent potential to circumvent centralized management (and thus complicate efforts at censorship). Such decentralized global information flows are exceptionally difficult for governments to control. Thus to some extent, the Internet has actually hindered the prosecution of censorship, by facilitating communications in dictatorial regimes. For example, Reporters Without Borders have made regular use of the Web-phone service Skype to communicate with sources in authoritarian states, as conversations are automatically encrypted, ensuring a high degree of privacy. There are other ways in which citizens in censorious countries can thwart restrictive laws, such as redirecting the information they send and retrieve to a proxy server, which helps to protect their identity. Indeed, Reporters Without Borders (2005) have a downloadable handbook for cyber-dissidents that gives extensive advice on the safest means of circumventing censorship controls. Also, when sites have been banned, users can simply disperse the information to other sites. For example, when Canadian universities banned a site that published details of a legal trial that the judge had deemed unfit for public consumption, users diverted the information to an alternative address (Shade, 1996). John Gilmore, cofounder of the Electronic Frontier Foundation, describes the problem of regulation thus, "[t]he [I]nternet treats censorship as system damage and routes round it" (cited in Corn-Revere, 2002: 13).

The governmental dilemma has been compounded by the exponential growth in the speed and volume of information traffic. The unremitting deluge means that attempts at control and surveillance are likely to have a limited reach, even those that are well funded and have a high public profile. Thus vulnerable human rights defenders can be shielded by the "safety of numbers." Unfortunately human

rights abusers are also sheltered by the crowd. A good example here is the international police investigation, Operation Ore, launched after raids on the offices of a Texan Web site that was distributing obscene images of children. It was the largest ever child protection investigation, resulting in almost 1,500 convictions in the United Kingdom alone. Officers in the United States identified 35,000 customers of the site (Cobain, 2006). Yet children's experts commonly agree that this represented merely a small proportion of those likely to regularly access child pornography in both countries.

However, there is conflicting evidence to suggest that the Internet can be better adapted for the purposes of control than can older forms of technology such as telephone, fax, or print. If sufficient resources and political will can be mobilized, the software exists for detailed surveillance across large sections of the population. For example, following the 9/11 attacks, there has been a concerted push from Western governments for greater access to personal electronic data and communications. Ostensibly for purposes of criminal investigation, the measures often alarmingly encroach upon civil liberties. The USA Patriot Act was passed with minimal debate only 45 days after the attacks, which consolidated the FBI's authority to install surveillance software to monitor e-mail content and store details of Internet behavior by those suspected to be in contact with a hostile country. These decisions are only subject to review by a secret tribunal. The act also made it easier for ISPs to share details of Internet activity with the authorities. The American Civil Liberties Union has been at the forefront of a campaign for legislative reform, arguing that the act has had a "profound chilling effect on public discourse... [people] inevitably feel less comfortable saying what they think, especially if what they think is not what the government wants them to think" (ACLU). Similar steps have been taken in the EU, where Article 15.1 of the 1997 directive on confidentiality and privacy was amended in 2002 to oblige ISPs and phone companies to retain all records of Internet activity and e-mails for police and judicial access. Indeed, despite the medium's inherent flexibility, and the sheer volume of information traffic, Internet censorship is well-established and becoming more prevalent. The following brief survey of some of the most notorious examples of global Internet censorship illustrates how governments have become increasingly adept at control and surveillance.

China is the most egregious example of Internet repression, hosting more "cyber-dissidents" in jail than any other state in the world. Amnesty International has exposed an ongoing campaign by the Chinese government to suppress online dissent, claiming that

54 people have been arrested from December 2003 to February 2004 for disseminating their beliefs through the Internet—an increase of 60 percent on the previous year. The crimes that they were alleged to have perpetrated include organizing online political petitions, expressing support for the outlawed Falun Gong movement, and for spreading “rumors” about AIDS and SARS. It was reported that the prisoners face maximum sentences of 12 years, that they are subject to torture, and that four died in detention (Amnesty International, 2004; 2006). These arrests reflect the Chinese government’s concern with the rapid growth in Internet users, currently estimated at 111 million (*ibid.* 2006: 16). A 30,000-strong “Internet police force,” has been established to monitor chatrooms and Web sites. Filtering technologies are habitually used at public access facilities to block access to Web sites such as the BBC. In addition, search engines have been filtered so that no results are returned for searches such as “human rights,” “democracy,” or “Falun Gong” (Kalathil and Boas, 2001, 2003: 27; OpenNet Initiative, 2005a; Zittrain and Edelman, 2003b). Internet cafes and service providers are under increasing pressure to assist in the government’s actions. Tens of thousands have been shut down by the authorities for not fully installing the required software filters (Reporters Without Borders, 2004).

Iran is estimated to have the most extensive use of filtering technology after China. Typical targets include the BBC, opposition groups, and sites deemed “immoral” by the religious authorities. Recently efforts have been made to clamp down on dissent and cultural influences from the West by banning some of the most popular sites such as Wikipedia, Amazon, and YouTube (Tait, 2006). The head of the information committee has issued warnings to site owners of the unacceptability of content deemed to pose a threat to national unity, or insulting to religious sensibilities (*ibid.*). Reporters Without Borders have documented several instances of the intimidation and imprisonment of antiestablishment bloggers (Reporters Without Borders, 2007). Iranian citizens tend to be enthusiastic Internet users and banned material is commonly accessed through proxy servers. The software company, Anonymizer, runs such a proxy system that has been cofinanced by the U.S. government to help Iranian citizens evade censorship. Sadly, this initiative is not fully effective because Anonymizer has its own crude filters installed that block access to sources of legitimate information. In a misguided attempt by the puritanical U.S. government to regulate access to pornographic material, key words such as “boys” and “breasts” are filtered out. These controls block sites with responsible and important content—for

example, health information about breast cancer. Ironically, the Iranian government operates its filtering system through commercial software developed by Secure Computing—an American-based company (OpenNet Initiative, 2005b).

Censorship policies are pursued with particular vigor in Arabic countries. For instance, Saudi Arabia's censorship laws are extensive, prohibiting the publication of access of material that includes "anything contrary to the state or the system, news damaging to the Saudi Arabian armed forces, anything damaging to the dignity of the heads of states, any false information ascribed to state officials, subversive ideas and slanderous or libelous material" (Zittrain and Edelman, 2003a). All 30 of the country's ISPs are linked to a ground-floor room at the Riyadh Internet entry portal, where all of the country's Web activity is stored in massive cache files and screened for material deemed to be offensive before it is released to individual users. The central servers are configured to block access to certain sites that might violate "the social, cultural, political, media, economic and religious values of the Kingdom" (Kalathil and Boas, 2003: 113; also see OpenNet Initiative, 2004). Banned sites range from the UK-based Movement for Islamic Reform in Arabia, the International Gay and Lesbian Human Rights Commission, and the companion site of the music magazine Rolling Stone. Likewise, the Syrian government censors the publication or access of online material that it deems to endanger "national unity." This includes statements that are interpreted as being pro-Israeli. Syrian citizens also face jail for sending e-mail to people abroad without correct government authorization. There is only one Internet server in the country, which is run by the government under heavy surveillance (Arabic Network for Human Rights Information, 2006).

In Africa, Zimbabwe has deserved notoriety as a censorious regime. It has a well-developed Internet infrastructure compared to much of the rest of the continent, with 12 large-scale ISPs and an estimated 100,000 users. The Internet was one of the few communication channels accessible to anti-Mugabe activists after independent publishers had been shut down and government control established over radio and television broadcasts. Several subversive Web-based newsletters have circulated in recent years. However, in 2004 the government declared that maintenance of phone-line access for ISPs was conditional on accepting the terms of a contract stating that "the use of the network for anti-national activities will be regarded as an offence punishable under Zimbabwe law" (Meldrum, 2004). The contract also required ISPs to turn over the details of subscribers sending such

messages to the police. The Zimbabwe Internet Service Providers Association has protested at the unfeasibility of the policy: “The volume of our traffic makes that impossible. And how would we be able to judge what the government finds objectionable? It would make us the [I]nternet police instead of the [I]nternet providers” (ibid.). The Supreme Court has already declared some aspects of this legislation as unconstitutional. Mugabe was undeterred by this setback, and drafted the Interception of Communications Bill 2006, which will compel operators to intercept and store information at the government’s discretion.

Power struggles between ISPs and governments over Internet censorship are not just restricted to dictatorial regimes. Spats are frequent, and often aggravated by the legal ambivalence of the international regulatory framework regarding freedom of online expression. Groundbreaking precedents were set by the long-running dispute between Yahoo! and the French courts over online auctions for Nazi memorabilia. The case was brought by interest groups *La Ligue contre le Racisme et l’Antisemitisme* (LICRA) and *L’Union des Etudiants Juifs de France* (UEJF). They argued that the sale of Nazi artifacts violated Article R645–1 of the French Criminal Code, which prohibits the display of any symbol associated with an organization deemed to be criminal. Yahoo! argued in defense that the Internet is globally accessible and companies cannot be subject to the laws of different jurisdictions where their sites may be viewed. Further, as Yahoo! is mainly based in the United States, they claimed a constitutional guarantee of free speech under the First Amendment. In 2000, the court found in favor of the plaintiffs, declaring that French law applied if the material was available within French borders (Corn-Revere, 2002: 4). Yahoo! was directed to do all it reasonably could to identify French IP addresses and to block access to the offending information accordingly. It was also ordered that Yahoo! users who were difficult to locate should be required to declare their nationality when attempting to access such material. Yahoo! was given three months to carry out these changes, and was threatened with a penalty of 100,000 francs for each day of noncompliance. The case was regarded as a highly significant attempt at the extraterritorial application of national law (Greenburg, 2003). It implied the emergence of a transnational legal framework whereby Internet servers could be held accountable for Web content in national courts; regardless of whether the assets of the ISP were sited outside the jurisdiction in question, or the court’s decision contravened the laws of their home territories. In other words, Internet servers could be legally obliged to assist in state policies of censorship.

Yahoo! chose to bring a lawsuit against the ruling in the United States, where the District Court for the Northern District of California held that the Yahoo! order could not be enforced in the States. Judge Fogel also rejected the French Court's finding that filtering software could be used. However, the French parties appealed the decision on the basis that Judge Fogel's decision would "give United States Courts worldwide jurisdiction over any non-forum conduct that has the potential of offending local sensibilities" (cited in Corn-Revere, 2002: 11). The Ninth Circuit Court of Appeals issued an ambiguous judgment that asserted jurisdiction over the dispute but also determined that free speech had not been restricted by the French Courts, as Yahoo! had voluntarily removed most of the material. Therefore, the tensions between the global nature of the Internet and the application of national laws are still to be fully resolved.

This issue has progressed following the Council of Europe's (CoE) Convention on Cybercrime 2001. The treaty, also signed by the United States, aims to pursue a common criminal policy against cybercrime, such as defamation and child pornography. The principle established in the Yahoo! case may be put to the test again if the signatory states attempt to apply the protocol extraterritorially to sites based outside of Europe. Indeed, an additional protocol on hate-speech was signed by 12 CoE member states in 2003, which expressly makes cross-border communications of racist or xenophobic material by foreign Web sites illegal (CoE, 2003). Legal uncertainty about Net censorship may have the effect of discouraging users to freely express their views. For example, Tom Krwawecz of Blue Gravity Communications, who was ordered by Italian regulators to withdraw from hosting "blasphemous" sites, protested "[h]ow are we to know what the laws of another country might be" (Thierer, 2002: 2). Likewise, David Farber, former chief technologist at the Federal Communications Commission and the moderator of a popular listserv on technology policy warns: "if this happens too much, and I start getting letters from overseas, it's going to water down my willingness to do things and say things" (*ibid.*). Perhaps the most insidious threats to freedom of expression are regulations that create a climate of timidity and self-censorship.

Nonetheless, it is not always the case that private actors are pressurized into censorship and customer surveillance under duress. They are often willing collaborators in government human rights abuses—prepared to overlook the ethical consequences of cooperating with repressive regimes in order to promote their economic self-interest. In these cases, a powerful and dangerous nexus forms

between tyrannical governments and irresponsible industries with grave implications for freedom of expression. China is the most flagrant example of this unholy alliance. As one of the world's most important emerging info-markets, China promises immense financial rewards for the ICT sector, which is a strong incentive for companies to cooperate with government surveillance and censorship. Yahoo! has provided access to e-mails that resulted in the conviction and subsequent imprisonment of Shi Tao, a Chinese journalist currently serving 10 years for posting information relating to Tiananmen Square on a U.S. pro-democracy Web site (Amnesty International, 2006: 15). Cisco and Sun Microsystems have cooperated closely with the Chinese government to design monitoring technologies for public chatrooms (*ibid.*: 11). In apparent contradiction to its position on corporate ethics, Google also recently agreed to launch a modified version of its search engine for Chinese use, which filters out sensitive information. Hitherto, Google were famously known for their commitment to full information access (symbolized by their motto "do no evil"). The company itself has publicly recognized that: "...removing search results is inconsistent with Google's mission..." (Watts, 2006). The Chinese search market represented \$151 million in 2004 and the online population is predicted to outnumber that of the United States by 2010—it seems that the commercial considerations outweighed the ethical implications (*ibid.*).

Internet censorship issues will continue to be globally contested between governments, courts, and civil society for many years to come. It is difficult to generalize about the contribution of the Internet to critical publicity in the context of a constantly evolving international situation. The picture is mixed. The Internet evidently provides new channels of cross-border communication, and in certain instances, grants a voice to those otherwise silenced by authoritarian regimes. However, there is evidence that as the Internet has diffused, censorship has escalated and surveillance has intensified, which has had deleterious effects for the norms of publicity.

4.3 DISPARITIES AND INEQUALITIES IN THE INFORMATION AGE

A public sphere must be open and accessible to the widest possible audience. Yet perhaps one of the most distinctive features of the "information age" is the grave extent of global disparities in ownership and access to ICT. These exclusions are structured along the fault-lines of gender, race, social class and education, among others.

They reveal that the so-called information revolution is tightly circumscribed, and also raise concerns about whether the proliferation of ICTs could exacerbate extant socioeconomic inequalities. The UN's response to such misgivings has been to announce a Millennium Declaration about widening worldwide ICT access. The declaration acknowledges that ICTs are an important tool to achieve the broader goal of poverty reduction and global development (UN, 2000).

One may be forgiven for thinking that ICT access is an absurdly superfluous development priority in the context of endemic global poverty, where huge swathes of humanity lack access to the most basic facilities. This is an erroneous assumption, as will be discussed in more detail further on (section 4.3.2). Nonetheless, the sentiment is understandable, and it is indeed worth reflecting on some appalling statistics that illustrate the huge gulf between the world's rich and poor. For instance, of the 4.9 billion people that live in developing countries, 1.1 billion live on less than \$1 a day, 950 million are illiterate, and 2.7 million do not have access to basic sanitation (UNDP, 2004). There are 104 million boys and girls of primary school age who are not in school (*ibid.*). Electricity has not reached some 2 billion people—or a third of the world's population. In 1998, average electricity consumption in South Asia and sub-Saharan Africa was less than one-tenth of that in OECD countries (Jensen, 2003: 87). The low ownership of ICT in the developing world is partly because the technologies are usually dependent on the availability of electricity or recharging facilities. For example, radio access in rural Africa tends to be relatively good compared to other media because they are largely battery-operated (ITU, 2003: 8–9). Increasing ICT diffusion will demand massive investment in the essential utilities and infrastructure of the global South.

However, in recent years, there has been gradual narrowing of the global telephony gap. In 1994, 4 percent of inhabitants in developing countries owned a fixed telephone line compared to 49 percent in the developed world; in 2004, those figures stood at 13 and 54 percent respectively (ITU, 2006c). The rapidity of growth has been startling. The proportion of subscribers in developing countries did not even double during 1980 to 1990, but during the next 10 years, the rate of growth quintupled. Between 2000 and 2005, the number of subscribers tripled once again. Developing countries now account for 60 percent of the world's telephone lines (fixed and mobile), up from less than 20 percent in 1980 (World Bank, 2006).

Much of the growth can be accounted for by the spread of mobile telephony, an ideal communication solution for those living in regions

with poor mainline infrastructure (UNCTAD, 2006b). Mobile penetration was just 0.2 percent for developing countries in 1994, but in just 10 years this has increased to 19 percent (ITU, 2006c). This means that whereas fixed line networks have taken over 130 years to reach a billion consumers, mobile telephony will take only 20 years at the current rate of growth to do the same. However, the spread is uneven, as most of the growth in non-OECD countries has occurred in China. Moreover, third generation (3G) mobile phones have hardly penetrated the developing world at all. 3G phones have Internet connectivity, and are proclaimed as the “next telecommunications revolution” (Covell, 1999). They could potentially be extraordinarily valuable to the developing countries, as they involve the greater use of satellite technology to provide multimedia access as a cheaper alternative to telephone and cable based services. An advantage that satellite technology also possesses over “wired” services is the ability to cover the type of lightly populated, rural areas that usually host the poorest peoples on Earth. This is a crucial consideration in addressing inequality in telecommunications access, even in the global North, where an estimated 30 percent of customers are far from population centers (Thussu, 2006: 209). However, nearly all of the 150 million 3G subscribers are located in the developed countries. Just three states account for 100 million of these subscribers: the United States (49.5 million), the Republic of Korea (27.5 million), and Japan (25.7 million) (ITU, 2006a). Thus, statistics must be treated with caution. Apparent success stories can conceal the reality of the deepening “digital divide.”

4.3.1 Understanding the Digital Divide

Following the rise of the Internet, the “digital divide” has been endlessly discussed by scholars and politicians alike. It has been defined and applied in varying ways (Gunkel, 2003: 502–504). A simplistic understanding of the term has been popularized by the “Falling through the Net” series of reports provided by the U.S. Department of Commerce’s National Telecommunications and Information Administration (NTIA), which defines it as “the divide between those with access to new technologies and those without” (NTIA, 1999: xiii). For the NTIA, the divide has profound implications for U.S. citizens: “To be connected today increasingly means to have access to telephones, computers, *and* the [I]nternet. While these items may not be necessary for survival, arguably in today’s emerging digital economy they are necessary for success” (77). The OECD’s interpretation

of the concept is broader in scope and application. It describes the “digital divide” as an international, multidimensional issue, which involves not just differentials in material access but also in the quality of use. In a comparative analysis of telecommunications structure in OECD and non-OECD countries, the term “digital divide” is defined as “the gap between individuals, households, businesses and geographic areas at different socioeconomic levels with regard to both their opportunities to access information and communications technologies and to their use of the Internet for a wide variety of activities” (OECD, 2000: 5). This wider approach is more satisfactory, as mere physical access to ICT is a necessary, but not sufficient condition for full inclusion. What use, for example, is access to the Internet if one does not have the education or the technical expertise to productively navigate the Web? Unequal *competence* can be as problematic as unequal access (Gandy, 1988).

Competence in this regard is best understood as existing on a continuum, rather than a dichotomy between those who are capable with ICT and those who are not (Cope and Kalantzis, 2000). Warschauer explains that there is considerable variability in the way in which people access and contribute to the new media environment:

Compare, for example, a professor at UCLA with a high-speed connection in her office, a student in Seoul who occasionally uses a cyber-café, and a rural activist in Indonesia who has no computer or phone line but whose colleagues in her women’s group download and print out information for her. This example illustrates just three degrees of possible access a person can have to online material. (Warschauer, 2002)

Similarly, statistics on disparities in access to media in the developing world may not adequately reflect the communal sharing of resources: for example, in Africa, 10 people may read the same newspaper or share an Internet account, and a whole village could share a single telephone line or television set (Jensen, 2003: 86). Therefore, although the “digital divide” is a useful descriptive term for global communicative inequalities, it is important to make the caveat that there are complex variations of access, competence and usage of ICTs. The “digital divide” may best be conceptualized as a “social stratification,” rather than a simplistic binary definition (*ibid.*).

The digital divide has become a subject that has gained a high profile on the global political agenda, as the following quote illustrates. It is taken from the G8 Charter on the Global Information

Society signed in Okinawa in July 2000:

Our vision of an information society is one that better enables people to fulfil their potential and realise their aspirations. To this end we must ensure that [ICT] serves the mutually supportive goals of creating sustainable economic growth, enhancing the public welfare, and fostering social cohesion, and work to fully realise its potential to strengthen democracy, increase transparency and accountability in governance, promote human rights, enhance cultural diversity, and to foster international peace and stability. (G8: 2000)

Despite the seeming consensus at the international level that Internet access is desirable and should be promoted, there has been little positive action taken to reduce the startling disparities between the privileged and the marginalized. There are some encouraging steps, such as in the work of organizations such as the UN ICT Task Force, the G8 “dot.force,” the World Summit on the Information Society, the World Bank’s Global Development Gateway, and national governments adopting digital divide policies. Also important is the adoption of “social inclusion” policies by the private sector, as well as the emergence of initiatives like “Connect the World,” the Stockholm Challenge, and Global Junior Challenge.⁴ There is also evidence of community and grassroots initiatives to improve access (Molina, 2003: 145–147). However, these efforts have made only a modest impact, and the huge task of reducing the digital divide will require a more concentrated and coordinated effort on behalf of all of these actors.

I now turn to examine the characteristics of the digital divide, in order to explore the scale of this challenge. It is possible to separate analysis of the digital divide into two categories: the *global digital divide* (the disparity that exists between states, particularly between North and South) and the *intrastate digital divide* (internal state disparities).

4.3.2 *Global Digital Divide*

The global digital divide is deplorable, but unfortunately deeply rooted. Although almost every country in the world has a direct connection to the Internet, there are only an estimated 840 million people online globally, which represents around 13 percent of the world’s population (ITU, 2006c). Dramatically stark differences in opportunity and life expectation exist between the info-rich and info-poor. The sources of inequality are manifold, but income is the main determinant. Certainly, the “information age” sounds like a

wildly inappropriate misnomer when one considers that person in a high-income country is 22 times more likely to be an Internet user than someone in a low-income country (UNCTAD, 2006a: xi). Little wonder when the cost of Internet access in a low-income country is 150 times the cost in a high-income country, relative to income (*ibid.*). And yet 37 percent of the world's population is located in low-income countries (*ibid.*). The entire African continent—including more than 50 nation-states—only hosts a measly 2.6 percent of Internet users (ITU, 2006c). There are more users in France alone (ITU Statistics). In fact, there is roughly the same amount of Internet users in the G8 countries as in the rest of the world combined (*ibid.*). The United States is markedly dominant, accounting for a full third of all Internet users worldwide (UNCTAD, 2006b: 5). Whereas in countries such as Bangladesh, a computer is an unimaginable luxury for most, costing eight years average pay (Lucas and Sylla, 2003: 4).

There is an enormous gap in Internet use across countries, even within developed regions. This is demonstrated by the figures on the proportion of households with Internet access—a key indicator for the developed world. For example, Iceland ranks as the nation with the highest Internet penetration level, with 64.79 users per 100 inhabitants, and yet Spain only hosts 19.31 users. Moreover, the Internet penetration levels in Sweden are almost twice as high as they are in France (Chadwick, 2006: 61). Of course, the majority of users in developing nations do not have household access to the Internet; instead they rely on relatives, friends, work, school, or public places such as Internet cafes. It is therefore more pertinent to study community-access facilities when evaluating Internet access for the underdeveloped world. Making international comparisons with this data can be quite striking. For example, 19 percent of primary and secondary schools have Internet access in Mongolia, compared to 15 percent in Malaysia, and only 1 percent in Malawi. At the other end of the scale, 99 percent of Norway's schools are online (World Bank, 2006). Disparities in the level of e-commerce are also vast, as signified by the uneven global spread of secure servers. While developed countries have 300 servers per million inhabitants, developing countries have less than two. In fact, Canada has more secure servers than the rest of the developing world combined (*ibid.*).

The global digital divide has an added dimension in terms of quality of provision. In low-income countries, broadband availability is sparse, and the reliability and speed of dial-up are often compromised by poor infrastructure. Sometimes even simple Web-browsing can be impossible in this context (UNCTAD, 2006a: 9). An increasing

amount of digital content and services requires broadband, which puts full access out of reach for those without high-speed connectivity. Broadband also has critical applications in terms of e-government, e-learning, and e-commerce. Currently these opportunities are largely the preserve of developed states, which host the majority of the world's broadband users. The Asian region sets the benchmarks for Internet access, usage as well as connection speed. For example, South Korea is the most intensive Internet-using population in the world, recording the highest average rates of usage per month. It also has the highest rate of broadband access, mainly owing to large-scale public investment in telecoms infrastructure (Doward, 2006a). Japan is not far behind, with one household in three having a broadband connection (Foster, 2006). Africa is at the other end of the spectrum in the global bandwidth gulf. The entire continent only hosts 0.1 percent of all broadband subscribers (ITU, 2006c). Perhaps no other statistic more effectively illustrates the enormity of global communicative disparities.

A notable characteristic of the Internet that is sometimes thought to be significant in explaining differential access is the predominance of English. This reflects the Internet's development in the United States, and subsequent fast growth in the English-speaking world. It can be argued that even today, hardware and software companies reinforce the language bias of the Internet by producing computers with operating systems and keyboards that discriminate against non-Roman languages. As a recent UNESCO report noted, reliable statistics on the linguistic diversity of the Internet are scarce. However, an Internet sampling study by O'Neill et al. found that English was overwhelmingly dominant, representing 72 percent of the Web pages surveyed (UNESCO Institute of Statistics, 2005). Chinese accounted for a mere 2 percent, even though Chinese speakers are fast increasing. English predominance persists despite the fact that numbers of non-English speakers online far outweigh English native speakers. Non-English speakers account for 64.2 percent of the world online population, and for 5,822 million of the global population, as compared to native English speakers, who account for just 35.8 percent of the world's online population, and for 508 million of global population (Global Reach). In addition, in a sample of 156 multilingual sites, the aforementioned study found that all provided English translations, but less than a third offered French, German, Italian, or Spanish. This despite the fact that 87 percent of the sites were located outside of the Anglophone world (UNESCO Institute of Statistics, 2005). Thus, multilingualism online appears to acknowledge and even reinforce English dominance. Certainly a large proportion of

English-language sites are based in non-English-speaking countries. In some developing countries, this may be due to the fact that not many other local speakers are online, and there is also an incentive to use English to try and garner an international audience (UNESCO Institute of Statistics, 2005). It can be expected that English will remain disproportionately high for some time to come, even though the linguistic diversity of users will increase.

There are also indications that the Internet can strengthen other national and regional languages. An example is the diffusion of news. In terms of print and broadcast, it has been the English-language media (more specifically the U.S. media) that have managed to gain a significant worldwide news distribution. However, online directories such as Online Newspapers or World Newspapers Online give easy access to a huge spectrum of newspapers from each continent, the majority of which are non-English.⁵ A perfunctory online search will uncover countless live streaming sites, downloadable media, chat-rooms, and blogs in gloriously rich linguistic diversity. It is becoming easier for the members of all types of language communities to gain remote access to government information, educational materials, scientific journals, and the digitized collections of major national libraries. Online discussion groups can increase connectivity between members of geographically dispersed communities, serving as a vital means to preserve links between linguistic and cultural diasporas. Nonetheless, it must be acknowledged that dominant and marginalized languages online are a reflection of global economic and information disparities.

In a recent article, Robert Lucas suggests that this information gap between rich and poor countries would only be temporarily significant (Lucas, 2000). He argues that latecomers to industrialization grow faster than earlier developers by a factor proportional to the average income gap between the two groups, as latecomers avoid the costs of technological innovation. Moreover, as industrialization spreads, and world economic growth slows down, Lucas predicts that income gaps will gradually reduce. He envisions that within the space of 100 years, all or most countries could be at similar levels of income.

Lucas's model makes a mistaken assumption that the world's technological stock remains static; or undergoes only a very slow process of change. In reality, technological innovation is constant and rapid. Therefore it is extraordinarily difficult for latecomer countries to catch up to similar levels of affluence and technological proficiency enjoyed by others. As Henry Lucas and Richard Sylla argue in response, network innovations in the financial, transportation, communication,

and electrical sectors have historically been repeatedly characterized by disproportional access. They suggest this pattern is being repeated by the Internet:

Suppose . . . that the Internet and related IT are really epochal innovations such as those of the British industrial revolution two centuries ago . . . If so, these new technologies . . . might well increase inequality in the world for decades, with political and social consequences that do not differ from those that came with inequalities brought by industrialization after 1800. (Lucas and Sylla, 2003: 7)

Using regression analysis of Internet host data, they find that while certain developing countries are increasing their hosts at a high rate, countries with a significant Internet presence still predominate in absolute terms. This suggests that the divide between states regarding Internet participation will continue to grow (14).

Nonetheless, it is worth restating that the divide is complex, which presents a problem for accurate analysis. The divide is not consistent—in some respects, such as telephony, it is narrowing. The World Summit on the Information Society has pioneered a composite measure that reveals some of these dimensions. The “digital opportunity index” (DOI) incorporates indicators on factors such as affordability, fixed and mobile telephone access, household ownership of ICT, connection speeds and patterns of Internet usage. Countries can thus be assessed according to their differential strengths and weaknesses (for example, the rise of mobile density in the developing world can be measured as a distinct advantage). The DOI reveals that although the United States and Europe are leaders in realizing digital opportunity, Latin America and Central Asia are closing the gap owing to major infrastructural investments and sharp rises in mobile and Internet users (ITU, 2006b). Since the DOI was measured in 2001, the countries that have gained the most have been developing nations such as China, India, Russia, and Brazil. The rapid growth of ICT access and usage in these states has propelled them to the top of the opportunity league. But the recent gains of these countries largely represent nothing more than “catch-up.” Developed states still enjoy the fastest speeds of connection and the lowest costs, largely as a result of the inherited privilege of possessing the most advanced electrical and technological infrastructure (not to mention the benefits of economies of scale).

In sum, although the inequities of the broader global political economy are evident in the world communication order, it is possible

to identify a general trajectory toward wider use. However, the international picture conceals the social constitution of domestic divides.

4.3.3 *Intrastate Digital Divides*

Information inequalities are not only exhibited *between* countries, as they also exist most profoundly *within* them. For instance, in affluent America, only 70 percent of citizens are online, whereas the sizeable minority of the population that does not has remained stable over recent years (Pew Internet). Low household incomes limit wider expansion. Adults living in households with annual incomes of \$30,000 or less are half as likely to go online as those with the highest incomes (*ibid.*). Recent research has uncovered a number of interesting insights into the characteristics of this “information underclass” in the United States. The Pew Internet and American Life Project found that 22 percent of Americans had never used the Internet or e-mail and do not have household access (Fox, 2005). Several reasons were provided, ranging from lack of interest (32 percent), no access (31 percent), difficulty of gaining access (25 percent), lack of free time (7 percent) and expense of access involved (5 percent) (*ibid.*). In addition to the “low-income,” this “offline” population also largely derives from categories such as the over-65s, African Americans, and the poorly educated (*ibid.*). Further, it was found that connection speed has introduced a new element into the divide. Bandwidth is now a more important factor in Internet use than the extent of the user’s Internet experience, which has previously been one of the most significant predictors of online behavior. Broadband users are far more likely to spend more time on the Internet, and to be more extensive users across a variety of activities from banking to blogging. The effects are so profound that the author of the report suggested conceptualizing the U.S. divide into three tiers: the truly disconnected (22 percent), those with more modest connections, such as dial-up users (40 percent), and the broadband elite, who mainly have the highest socioeconomic status (33 percent) (*ibid.*).

Intrastate digital divides in both developing and developed countries reveal the gulf between the poorest and the richest is replicated in all kinds of societies. For example, India is home to Bangalore, rated by *Wired* magazine as top eleventh in a chart of global hubs of technological innovation and excellence. Yet it ranks sixty-third in the 2001 UNDP technological achievement index. Although the country has the world’s seventh largest number of scientists and engineers, in 1999, mean years of schooling were only 5.1 years and adult illiteracy

stood at 44 percent (UNDP, 2001: 38). Bangalore is a grimly appropriate symbol of the social injustices of digital divides: it is an island of information prosperity located in the midst of the masses of the poor and unschooled.

Consider the internal divide of another rising global power—China. The number of Chinese Internet users is growing at a rate as astonishing as the scale of national economic growth. It will likely host the most users in the world within 15 years. Currently, Chinese users are heavily concentrated around the affluent areas of Beijing, Shanghai, Shandong, and Guangdong, with a miniscule amount located in poorer areas such as Tibet (Warschauer, 2003: 61). All but 2 percent of Chinese users have at least two years of college education; naturally this privilege is a rarity amongst the population at large. The Internet will remain out of reach for the foreseeable future for most of China's 1.3 billion citizens.

As these examples reveal, the characteristics of the majority of Internet users are similar worldwide. In this sense, intrastate digital divides mirror the global digital divide, representing a transnational class of the info-rich. In most countries, most Internet users tend to be relatively affluent. The ITU estimates that high-income earners make up over 43 percent of the world's online population. In contrast, low-income earners only represent 1.3 percent of the same (ITU, 2003). Internet users are also predominately male, young, well-educated, and urban. With the exception of the United States and Finland, men are more likely to use the Internet than women in OECD countries. In the EU for example, 38 percent of women regularly use the Internet in contrast to 49 percent of men (UNCTAD, 2006b: 6). In most developing countries, the gender gap is far more substantial. All countries follow a pattern of the younger population being more likely to use the Internet than the old: in Australia, 18–24 year olds are five times more likely to be online than those more than 55 years old. Likewise, in Chile, 74 percent of users are under 35, and in China the share is 84 percent (UNDP, 2001: 40). Users are also usually well-educated. For example, in Chile, 89 percent of Internet users have had tertiary education, in Sri Lanka 65 percent, and in China 70 percent. They also tend to be urban, such as in India, where 1.3 million of the country's 1.4 million total Internet users are concentrated in four states: Delhi, Karnataka, Tamil Nadu, and Maharashtra (particularly Mumbai) (*ibid.*). As to be expected, the broadband divide correlates well with the urban/rural split. For instance, in the UK, the top 10 regions in the country in terms of broadband density are located in London and the affluent Home

Counties. The 10 with the lowest density are in the poorer, remote regions such as west Somerset, Wales, and Scotland (Doward, 2006b).

The challenges in addressing the digital divide in developed states pales in comparison to those faced by much of the rest of the world. Less developed countries (LDCs) are often plagued by poor infrastructure, low income and literacy levels, and restrictions on freedom of expression and political participation. In countries where citizens struggle for food, water, and shelter, ICT access is a much less immediate need, and so maybe seen by some as an impractical aspiration. Nonetheless, it has been widely recognized that ICT can be crucial in enabling NGOs, governments, and citizens to improve the quality of life (World Summit on the Information Society, 2005). And not merely in economic terms—ICT diffusion has been shown to increase civic engagement, promote social cohesion, provide entertainment, and enrich learning opportunities (*ibid.*; Norris, 2001). Indeed, a recent OECD study, which compared data across 30 countries, suggested that the educational benefits are striking. For instance, whilst those students with home computer access had a mean score in mathematics of 514 points, those without such access scored only 453 points (OECD, 2006). Moreover, there are multiple signs that activities such as social networking, decision making, and political activism are migrating online. Thus, those on the wrong side of the digital divide are not only disadvantaged globally, but also in relation to their privileged fellow nationals. Effectively, the info-poor will be excluded from realizing their full potential for citizenship.

As the technology continues to develop apace, the gap becomes increasingly difficult to bridge and the social exclusion it engenders becomes increasingly complete. Anssi Vanjoki, the executive vice president of Nokia, alluded to this fear in an interview about the introduction of mobile broadband, the next major stage in Internet development:

In the mid-1990s, I said that if you don't have a mobile phone you will be making a declaration that you want to be outside organized society... People said I was crazy, but now everybody has a mobile phone. Today, I'm saying that in 10 years' time the same will be true if you don't have the full [I]nternet in your pocket. If you don't, you will be socially incompetent. (Smith, 2006)

What Vanjoki fails to recognize is that although mobile phones have reached saturation points in developed societies, Internet diffusion is more complex, as successful navigation requires literacy and technical

skill. Without these skills, info-poor citizens will certainly find it impossible to be a fully effective member of society, but this position will usually not be a matter of choice.

There are encouraging signs that some of the digital disparities are being successfully challenged, particularly in terms of gender. For example, in Thailand, the share of female users jumped from 35 percent in 1999 to 49 percent in the space of a year (UNDP, 2001: 38). In the United States, women under 30 and black women actually outnumber their male counterparts (Fallows, 2005). There have been ambitious initiatives, such as the EU's *Broadband for all* program, which aims to deploy broadband infrastructure, broadband public services, and the promotion of ICT skills by rolling out substantial funds to poorer, remote regions (EU Commission, 2006). Yet there is much further progress still to be made. The problems in the poorest regions of the world cannot be tackled in isolation, but only as part of a comprehensive poverty reduction program, which includes plans for infrastructural improvement and educational provision. The challenges are immense.

4.4 CONCLUSION

Transborder communicative capacity is a structural precondition for the emergence of transnational public spheres. This requires freedom of expression, access to diverse sources of information, and wide diffusion of access and ownership of ICT. It is not easy to evaluate the impact of the global information revolution on these deliberative prerequisites. The optimist may point to the long-term trend of rising access to communication technology worldwide, both internationally and within developed and developing states. ICT are breaking down temporal and spatial barriers that were historically regarded as insurmountable. This could indicate that the communicative infrastructure for transnational publicity is being put in place.

But the pessimist would counterbalance this assessment by critiquing the entrenched global exclusions to ownership and access to ICT. States have consistently attempted to retain control over the development of ICT, which sometimes has negative implications for wider public access. For instance, the neoliberal international drive to privatize communication networks has been to the detriment of subsidized services to the economically and socially marginalized. In addition, some states use ICT for political propaganda and/or to stifle free and open debate. Another disturbing trend is the huge influence of corporate interests in ICT development. A handful of mainly

Western (U.S.) media corporations wield considerable potential power to both limit ICT access and to distort public debate.

The digital divide is widely recognized as problematic in the context of an emerging information economy. Worldwide, the digital elite are relatively homogenous: they are male high-income earners, well-educated, and often live in urban areas. From a public sphere perspective, this divide is a serious hindrance to maximal participation, although there are indications that inequalities are being reduced in some countries. However, progress is slow, which has attracted much comment from academics and policymakers regarding how it can be accelerated. Richard Joseph argues that the digital divide “will not be understood if it is viewed as purely a technological phenomenon” (Joseph, 2001: 335). Increasing access to information involves wider questions of international economic development, and of supranational regulatory regimes. As Joseph observes: “Property rights, market and regulatory institutions and information infrastructures (in their broadest sense, not just technological) will be crucial... So too will be the informational and political aspects of policy modelling and decision-making in developing countries” (ibid.). One could also add to Joseph’s analysis that the implications of policies in developed countries are equally significant, as this chapter has illustrated, the digital divide is also an intrastate problem. Truly inclusive public spheres cannot be realized if the significant impediments to access and participation are not overcome.

In sum, the intrinsic features of ICTs inhere with a capacity to support the reconfiguration of public spheres across state borders. However, the present world communication order is structured by a depressing triumvirate of multiple social exclusions, concentrated media ownership, and growing corporate and state surveillance. Thus, the structural precondition of communicative capacity is only present for privileged sections of world society.