

VIRTUALLY NO POLICY

MODULATING THE DIGITAL DIVIDE

Markets in personal computers are moving very quickly, as populations in both the advanced industrial nations and the developing world become more familiar with online resources including the World Wide Web, email and data bases. The Internet is now integrated into the everyday life of a high proportion of Americans. In early 2000, roughly 55 million went online on a typical day, using email, seeking information or completing online financial transactions (Pew Internet and American Life Project "Who's Not Online" 5). Personal computers are now almost as affordable as televisions and may — according to some predictions — become as endemic a feature of private life and public communication systems. This is an unpredictable expansion. No one really knows how dynamic the market will be, what its boundaries are, or at what point it will reach saturation. Market research is struggling to keep pace with statistical tracking and user interviews. Governments are also trying — with their often slower and more involved intellectual technologies — to plot these changes and to plan for their impact. There has been an explosion of data gathering and publication, matched by strong public interest, especially where information has attempted to track developing trends and differences between the generations.

New technologies are now widely seen as critical economic resources for communities and nations. The presence of computers in schools and households has become a symbol of confidence in future prosperity. Their absence, by the same token, appears to signify a future legacy of poverty. The debate about the "digital divide" — now a shorthand term for inequality in access to computers — has struggled to keep up with changing technologies, markets and consumer preferences. "Connectivity" is now expected by many to be the answer to endemic social policy problems; it has become equated in political rhetoric with "full participation in...economic, political and social life" (White House "The importance"). The problems of the inner city and alienation will be solved through schooling; everyone will have access to further education; online resources will promote a new generation of educational families and autodidacts (Hesketh and Selwyn). Technology skills will be the means of staying competitive in a changing work environment generated by the New Economy. Through the Net, every child and family could have access to the store of public knowledge. Imagined in this way, connectivity breaks down barriers and promotes

new social and political partnerships; preeminently, between people and their governments. As people become able to access information, government becomes more transparent. Computer access and connectivity will enhance social and economic participation, giving citizens more flexible ways to access social services and support networks. Online services will link local communities and promote self-help, breaking the cycle of isolation, ethnic division, unemployment and inter-generational poverty (Benton Foundation; Rich; McConnell).

The blueprints are already being unrolled. In March 2000, the British government launched the "Closing the Digital Divide" program, which involves partnerships between businesses, schools and communities. School-based technology centres will be supplemented by a series of Internet access points in "deprived" urban areas. Sites will include pubs, sports clubs, churches post offices and bus and train companies (*BBC News Online*). Considerable funding has gone into school technology centres and training centres; every job seeker is to be given a voucher for free computer training; the goal is a "modern socially inclusive e-Britain," according to Learning and Technology Minister Michael Wills. (*BBC News Online*). Government will seed fund programs of social investment by business and local communities, linked in entrepreneurial social partnerships. With broadbanding and convergence, education and health services can join the array of entertainment and communication options available through the remote control. Technology will free the family from bureaucracy, securing private choice and encouraging associational networks, while equalising access to public information (cf. Kofler).

The same logic informs "e-governance" initiatives in the United States. With much publicity, municipal governments have been planting Internet kiosks in grocery stores and other public places. The enthusiasts are undeterred by the public's general indifference to these new civic devices. In September 2000, President Clinton launched FirstGov.gov, linking 20,000 government sites. The site, which amongst other things allows citizens to track social security payments, download tax forms and plan travel to National Parks, will give them, according to Clinton, "the Information Age government they deserve." FirstGov.gov can also be promoted as an exemplary instance of cooperation between government and the corporate research sector. It uses the search engine FedSearch privately developed by Inktomi chief scientist Eric Brewer, who donated it, suggested the FirstGov site and established the Federal Search Foundation to manage it for the first two years, whereupon the government will either run it or outsource the task (*Washington Post*; White House "Clinton-Gore Administration"). FirstGov.gov and its ilk are good examples of technology shaped by political vision: citizens can make rational decisions on the basis of a

wealth of information, ideally available in their own homes. They will have the liberty to access information in private; they may also have equal access to these resources, if they can be persuaded to make the smart choices and invest in a wired domestic environment.

I Consumer communities

If that's the vision, what happens in practice? It is not clear how citizens might actually use online social services of this sort. There has been little research on the social and cultural impact on the everyday user of these new technologies. No-one really knows whether digital communication will bond communities more closely, atomise them, or exacerbate social conflicts (Roberts et al; Ayres; Mehter and Darrier). Despite all the talk of "virtual communities," it was widely supposed until recently that frequent use of personal computers and of the Internet would produce social isolation and disconnection; these results were reinforced by a Stanford study (Nie and Lutz). Recent work however suggests that those who use the Internet and email extensively are indeed more likely to be socially active and to have strong connections with friends and their extended family (Pew "Tracking Online Life" 7). What is not clear is what the effect of these private pattern of consumption will be on social networks more generally (cf. Harris).

A March 2000 report on patterns of Americans' everyday Internet use, by the Pew Internet and American Life Project, comments on the transformation since the Pew Center's first comprehensive study of Internet use in America in 1995. That study showed that Americans' Internet use had increased rapidly, though few then saw online activities as essential; email was more widely used than other Internet services. By contrast, in early 2000, the Internet was integrated into the everyday life of a significant proportion of Americans; roughly 55 million went online on a typical day and not merely to check email; they were just as likely to be looking for information or doing online transactions. Nearly half of those who did go online (many of them new users) said that, if they lost access to the Internet or email, they would miss these resources a lot (Pew "Tracking Online Life" 5). The great majority reported that online connection had improved their ability to learn and to manage important aspects of their lives, including work and personal finances (24-28). Far from having an isolating effect, the Internet and email in particular had enabled them to improve their connections to friends and family. Email, especially, helped them to keep in touch with their extended family; 60 per cent of women reported this, and 51 per cent of men (7). The majority of those who used email with family members reported that they now communicated more often with them than when they had relied on the phone, letters or visits (8).

Using, email, they could stay in touch without getting caught up in long conversations; it was also easier to be frank and raise unpleasant or difficult issues, especially with siblings. This may or may not prove to be a benefit in the long run, but such results do seem to indicate that early fears of a networked society of isolates may be unfounded. At the same time, it is clear that people make very different uses of these new technologies once they are available, depending on their interests and preoccupations. These patterns of use are unlikely to be "equalised" any time soon.

The broader social diffusion of the technology reveals continuing disparities in access, use and choice. In the US, it seems that women are increasingly using Internet resources, as are Hispanic and black Americans. However, about fifty per cent of the American population does not use the Internet; about half of these do not intend to do so (Pew Internet and American Life "Who's Not Online"). Of the substantial body of non-Internet users in the Pew study discussed above, almost half were over the age of fifty (28). Non-users were highly likely to have an education no higher than high school (70 per cent) and to be within lower income brackets. Black Americans made up a disproportionately high percentage of non-users; though they were coming online faster than whites, they were not doing so as rapidly as those of Hispanic origin (Pew 28). Non-users were likely to have an education no higher than high school, to be in a low-income group and to be black (Pew 28). Rural households were also much less likely to have computers or to have Internet access. Across these categories, it is worth noting, age, gender and education were strong indicators of what people wanted online; older respondents tended to want health information; the more highly educated were more likely to scan government sites for public information (34); young people predominantly looked for sites on books, films, music and leisure (35).

It is a little (but only a little) simplistic to say that online access is still restricted to higher income, urban, educated people. According to recent Australian research, the two most important drivers of household Internet access are educational qualifications (higher qualification resulting in higher access), and income (higher income results in higher access) (Lloyd, Given and Hellwig). But there are other significant factors: whether or not a household receives government benefits (households in receipt of benefits are more likely to have access, all else being equal); gender (women are less likely to have Internet access); age (people over 55 are less likely to have Internet access); and occupation (blue collar workers are less likely to have it). As Lloyd, Given and Hellwig then point out:

Observed differences in the connection rates between metropolitan and non-metropolitan areas and between some states

are based on socio-demographic factors such as lower qualification levels and lower incomes of the non-metropolitan population, not on regional factors (Forthcoming).

According to a recent US study by Nielsen/NetRatings examining Internet statistics during June 2000, the average time spent online for that month was nine hours. The analysis found that there was still a digital divide with minority groups "lacking representation on the Web." But the picture is complicated by factors including income, age and where people are accessing the Internet. In this area, as much as any, the way in which research is framed has a significant bearing on the results. For instance the Nielsen/NetRatings survey found that those on a comparatively low income — between \$US 21,000 and \$33,000 — spent the most time on the Web (11 to 12 hours a month), while high salary earners (\$53,000-\$136,000) spent the least amount of time online: a result which on the face of it is curious. The findings could be explained in various ways: the intensity of young persons' use of the Net may be one factor at work here; employees' access to online resources at work may be another (*New York Times Online*).

The potential of the Net to change peoples' patterns of media consumption is particularly apparent in households with broadband access (typically cable or DSL services). A study for the US National Association of Broadcasters estimated that broadband households spend more time on the Net and less on television or radio than those with dial-up access. According to the NAB, the average US household tends to spend its media time in the following way: 33 per cent on watching television; 28 per cent listening to the radio; and 11 per cent using the Internet. Broadband increases Net use to 21 percent, with corresponding drops in television and radio time (24 and 21 per cent respectively). Households with broadband capacity spend, on average, 134 minutes online per day (Arbitron and Coleman, in PC World.com).

One interpretation of these findings is that the Internet is too diverse to examine as a single phenomenon; like television — about which there are similar fears — there is no single link between Internet use and social isolation or connection (Raney 2). Media law, policy and research have long been both driven and debilitated by the nebulous concept of "influence": we think we know, and governments think they know, that television is a powerful shaper of society and culture, but we cannot say exactly how. The historian Anthony Smith writes: "many have tried but no-one has succeeded in distilling the essence of the nature of its influence, but much passes between us and television that shapes and alters us" (Smith). Policy coherence requires further study of everyday use of the new technologies in the home, especially if social policy continues to focus on the advantages that might be gained by giving low-income communities computers and connectivity.

Despite all the rhetoric about the new democratic calculus of the Information Age, the last decade of policy argument on access to information technology and connectivity has been framed in terms which recall older arguments. The existing research on everyday uses of new technologies shows the plasticity of the digital divide as a problem for contemporary political and policy debate. Is the divide between the "information rich and poor" about individuals and families, or about what is available in schools, libraries and workplaces? Is it about broader categories of race, class and gender, or primarily about the link between education, occupation, income and consumer preference? Or is it more properly seen as a division between those in the well-served cities and those in isolated and rural areas? How does the need for planning fit with the effort to devolve responsibility to citizens and local communities? Given how quickly consumer patterns are changing, it is hard to predict who will become the next target of information policy.

II Home on the dividing range

Some contemporary policy history might help us to see why the digital divide keeps fissuring and what we can expect as agencies and market research scabble to mark its striations. Like equivalent debates in education or health policy, it has been about how to work out the points at which it is appropriate for governments (especially those committed to market freedoms and consumer choice) to intervene in emerging patterns that pose social and economic risks. Since debate in the United States on the issue has been deeper and extended longer than in any other country, it may have sobering lessons for those aspiring to a politics of the digital divide in Australia and Europe, not least because it shows both the scope and limits of grand information policy plans.

Whatever the impact of globalisation may have been on patterns of communications and information exchange, governments' concerns about levels of information literacy are framed in terms of legitimate state interest in maintaining economic competitiveness and social stability (cf. Giddens *Third Way and its Critics*; Hutton and Giddens). This was quite clear in the discussions, within the Clinton Administration, on why large-scale public spending on digital divide programs in American schools was imperative, despite the resistance of Congress. As the 1997 President's Committee of Advisers on Science and Technology put it, increasing international economic competition meant that "the quality of America's elementary and secondary schools could determine whether our children hold highly compensated high-skill jobs that add significant value within the integrated global economy of the twenty-first century or compete with workers in developing countries for the provision of commodity products and low-value-added services at

wage rates comparable to those received by third world laborers" (PCAST 4). The other risk was that the impact of the digital divide on intergenerational poverty and marginalisation from skilled work would "not only affect aggregate national income but also generate 'unprecedented disparities in income and wealth, which will threaten political stability.'" What might prevent this, the president's advisers suggested, was "aggressive redistributive intervention": a massive public spending campaign on hardware, software and infrastructure in schools, combined with measures to secure subsidised connections for schools and libraries (PCAST 9). At that point, the prediction was that a moderate pattern of federal funding would entail increasing information technology as a proportion of the national education budget from about 1.3 per cent to at least 5 per cent: \$13 billion annually (PCAST 29).

The White House gave the digital divide debate a powerful rights spin. We must help America's children, Clinton said, to "harness the powerful forces of technology." Once America had met the challenge to connect every classroom and library to the Internet (the year set was 2000), then "for the first time in history, children in the most isolated rural towns, the most comfortable suburbs and the poorest inner-city schools will have the same access to the same universe of knowledge" (White House "Radio address").

This was a risky redistributive promise. For one thing, it is almost impossible for low-income and isolated school communities to sustain the same levels of computer-student ratios, connectivity and speed of connection as those schools which command high parental contributions and corporate sponsorship, and nor can they call on the same level of voluntarist enthusiasm and expertise from the local community. Furthermore, there is a strong cyclical connection between students' levels of computer skills and early access to computer resources in the home; this is something that spending on school-based resources cannot solve, even with lending programs and community technology centres (PCAST 50).

As it turned out, it was the Federal Department of Commerce that made the more definitive move in identifying the movements in consumer choice that defined the digital divide. Mid-1990s research in the United States identified a number of households falling behind national averages – rural and central city minorities, young households (below 25) and female-headed households (US Dept. of Commerce; McConnaughey and Lader; Anderson et al). The terms of the problem were reformulated by the *Falling Through the Net* reports of 1999 and 2000, major points of reference for the policy debate (White House; Rhodes). These reports identified a widening divide in the access to personal computers and the Internet.

In 1997, there were computers in about half the homes of American

households with children (PCAST 31). At the end of 1998, according to *Falling through the Net*, over 40 per cent of American households owned computers and one-quarter of all households had Internet access. Those on an annual income of \$75,000 or more were 20 times more likely to have access to the Internet than those at the lowest income levels. (US Dept of Commerce xiii). Whites were more likely to have access (from any location) than blacks or Hispanics. The difference between white and black families could not be explained in terms of income alone. In families earning between \$15,000 and \$35,000, more than a third of whites owned computers, but less than a fifth of blacks did. There were also disparities between white and Hispanic families, although Asian families were the most likely to have Internet access. In high income brackets however there was almost no gap. Education was also a key factor; those with college degrees were more than eight times more likely to own a computer and nearly 16 times more likely to have access to the Internet than people with no qualifications beyond elementary school. There were also key differences between urban and rural households: the former were fifty per cent more likely to have internet access than rural families earning the same income. These figures were placed next to those on school connectivity; in 1998, as the early *Falling through the Net* data was being gathered, 62 per cent of wealthier schools had access to the Internet, while 39 per cent of poorer schools did so (White House "The Importance of Bridging the Digital Divide", cf. NCES).

The problem, as the *Falling through the Net* reports argued, was that these differences in access to new technologies were in part a matter of consumer choice and were not readily susceptible to government action. A significant proportion of households *chose* not to have computers or Internet connections. This was not a simple function of the price of computers: a large number of households which could afford a personal computer did not wish to purchase one. This digital divide — a divide in cultural, social and economic priorities — widened in the mid-1990s; the issue was the long-term effect on children and on intergenerational poverty.

In the wake of *Falling through the Net*, the "digital divide" was almost immediately re-characterised as a "racial ravine" in online access (Bridis); an image of technological segregation replaced the earlier image of the democratising machine. Even though computers were not as affordable as household utilities such as televisions, many families in disadvantaged areas did not have phone access. This seemed to be a pattern unlikely to be changed by market dynamics. Instead it became a matter of *convincing* communities to become familiar with information technology. Sectors of the population, it was said, would be left behind by the new information age. They would be unable to understand changes in working life and their children's prospects. They would

become part of a new pattern of poverty; a pattern of social exclusion from community networks, trust and mutuality (Bier and Gallo; Milward and Snyder; Rheingold). The question was, could this exclusion be overcome by providing people with the technical and generic skills necessary to navigate new institutional, industrial, commercial and civic uses of technologies?

By the late nineties, a new optimism about technology had found a place in national policy frameworks, under the Clinton and Blair administrations in particular. In Europe, North America and Australia, national governments committed themselves to bridging the digital divide, ensuring that all citizens have access to personal computers and to the Internet (See e.g. Kofler; White House "Clinton-Gore Administration," "The Importance of Bridging the Digital Divide," "A Strong Record of Working to Close the Digital Divide"). Information technology, it was argued, had the potential to drive a political disintermediation to match its disruption of the "old economy." If the disadvantaged were now "institution-free," then new communications systems might build new associational networks. In the place of a long dependence on government, the information age could foster social connection through mutual effort, mutual provision and mutual responsibility (Giddens *The Third Way*, Latham; cf. Rose). Access to information could disperse and equalise power. The key to information age politics was to cut out the middle agencies and interest groups, making information a public good, opening up public dialogue and enabling grassroots political organisation (Latham this issue). Public funding for research and development could support choice and diversity, while maintaining competition. Hence the emergence, in the US and the UK, of various funding schemes designed to encourage entrepreneurial partnerships between local communities, not-for-profit agencies and industry.

There are some consistent dilemmas associated with digital divide policy initiatives. The immediate one is how to fund these programs; how to meet the imperative for national investment in the information society, given the problem of second-guessing the market. Picking winners among rapidly moving new technologies looks a lot like the "old economy" of corporate subsidies and protection, as students of digital television policies have noticed. To put it another way, the problem is how to move beyond ideas of equality and redistribution and switch to the vocabulary of choice and freedoms, without defaulting to a simplistic market model. More generally, though, it is difficult to sustain the emphasis on community decision-making and direct democracy, given the wonkish elements of digital divide entrepreneurialism. As it turns out, the policy industry devoted to the digital divide has been a haven for consultants, think tanks, hierarchical

NGOs and outcomes-focused bureaucracies. Increasingly, public funding is being devolved to collaborations between governments, community agencies, universities, schools and businesses. Instead of building programs from scratch, initiatives can work from the resources that not-for-profit groups or local businesses have already built up (see e.g. IBM, Day and Harris). The most important of these is the social trust and credibility that they have established with local communities. The new world of social partnerships is replete with brokers, working parties, "gatekeepers," task forces and umbrella organisations (Peizer). It is beginning to look a lot less like a flotilla of citizens' associations and more like the old pattern where interest groups and advocates are the intermediaries between research-targeted welfare communities, corporations and big bureaucratic initiatives.

The policy debate has moved rapidly over the last few years, struggling to keep up with markets and consumer choices. But it has also been pushed to stay ahead of changing claims about rights to technology and rights to information (New York Times Online; Reason Online; Powell). From an initial focus on low-income groups in general, the debate on connectivity soon turned to identified racial and ethnic patterns of disadvantage. But as more groups made use of these resources, other priorities emerged: those with disabilities, for instance, could validly claim to be the group most at risk of being left behind by commercially-driven technological expansion ("Initiatives for disabled"; cf. CC&FCDA). More recently, "under-served" communities have been in the spotlight; those who live in regions that are unattractive markets for telecommunications companies. Some investment by government, it has been speculated could change the pattern of diffusion, for instance by encouraging the market to go with options that promote greater public access. Options include public-private partnerships and tax incentives offered to companies that invest in research and development on disability, or that offer broadband networks in underserved areas (Taglang).

Other fissures are opening elsewhere though. The real access and equity issues are not hardware, and not just technology skills; they are a matter of what is available to people, once they are on line. Minority and low-income communities, it has been argued, are unlikely to find much that connects with their cultural experience; what they want is information on affordable housing, health and entertainment, preferably in their native languages, not the middle-class consumer paradises offered by current content providers (Digital Divide Network; cf. Hampton and Wellman). The answer, it is argued, is to offer ways for communities to generate their own on-line content (Children's Partnership; Bernal and Le Blanc; Aspen Institute). This still leaves, though, the endemic problem of illiteracy (Leu and Kinzer). Much of the fabled

world of information available on the Web is provided for readers of average or advanced proficiency; how much appeal does this have to those with low functional literacy? Furthermore, about 87 per cent of material on the Internet is in English; in the US, this leaves behind at least 32 million people who are native speakers of other languages (Digital Divide Network).

Some predict that new educational software will help to promote literacy, and that broadband networks and video streaming will provide image-based materials that could help teach language skills more quickly. They could also provide effective translation services, although existing Web-based services are rudimentary at best. At the moment, developing such resources depends on the availability of high-speed connections and high levels of training (Digital Divide Network). Advocates argue that if digital divide "remedies" are to be effective, then they need to stimulate the development of material in multiple languages, with online translation available. If targeted communities are to be persuaded to use the resources provided online, they will need to be able to find content that is directly relevant to their needs. This includes local information on health services, entry-level employment, low-rent housing, affordable cultural activities and local places of worship (Kling; Twist "Addressing the Demand for an Information Age Workforce"; Tardieu; Virnoche; Stowers).

The cultural dimensions of the digital divide also take in wider issues about the definition and scope of the public domain of information. But these issues seem to have been confined to a separate, and apparently more technical debate, over how intellectual property and other regulatory systems can be modified for digital environments. Public institutions which depend upon the circulation of information, such as libraries and universities, have rarely been able to present copyright matters as public interest issues of the same order of importance as putting computers in classrooms. But if there is a public benefit in enhancing people's capacity to use and distribute information, then there must also be a benefit in ensuring that information is made available to the public as freely as possible. The connections between the two sides of this policy equation have been made surprisingly rarely.

III Peripheral vision

The digital divide is still a useful political term, though it is sounding a bit tired. New technologies and their effects were key issues in the 2000 US elections — not surprisingly, given the economic impact of communications and electronic commerce, or expectations about them (Carvin). It was in the Democrats' interests to claim a stake in promoting new technology expansion and skills, and in Republicans' interests to

stress entrepreneurialism and market mechanisms that would function better without government interference. In either case, of course, governments keen to be seen to promote markets and a healthy industry cannot afford to claim too much for government intervention in the area (Kopp, Taglang). Both parties had to be seen to promote a booming electronic commerce sector without imposing barriers to trade; they needed a position on the gaps in high-technology skills for workers, promoting the importation of skills while protecting the domestic workforce. Both parties offered tax incentives to promote industry research and development. The similarities extended to trade and export issues. Each side emphasised the protection of national industries by opening global markets to US companies; setting up international ecommerce standards (meaning support for self-regulation) and enforcing intellectual property provisions (Kopp).

Gore's election platform featured techno-boosterism; the issues were access, basic skills and high-quality content for all. He promoted his record of responsible government intervention; rather than top-down government initiatives, the Democrats claimed to have facilitated leadership by the private sector, entrepreneurs and workers. The Democrats drew mythically on their history of heavy public investment in technology, while backing away from big-spending options. In fact more modest, co-operative models of public-private funding were heavily used by the Clinton government, since it enabled change with little budgetary input (PCAST 49). The common pattern has been to devolve federal or regional funds to local authorities on a competitive basis.

Accordingly, under the Clinton Administration, the Federal government dedicated much of its funding to the Technology Opportunity Grants scheme, a program that requires co-operation between local communities, private enterprise and the not-for profit sector. The most recent round of the grants, fourteen million dollars in all, with eighteen million donated by sponsors, went in part to state-based schemes. The Suquamish Indians in Washington state were funded for a mobile technology vehicle to visit school children, while the South Carolina Department of Education was to provide used computers and Internet training to low-income families. Other schemes focused on e-government initiatives; the Pueblo of Santa Ana, for instance, was given Federal funding to build a new government intranet ("Communities split millions").

In its 2001 budget, the Administration promised \$380 million in new, expanded initiatives to bridge the digital divide by providing catalysts for public-private partnerships. This included \$100 million to create 1,000 Community Technology Centers in low-income urban and rural neighbourhoods; \$50 million for public/private partnerships to

expand home access to computers and the Internet for low-income families; \$45 million to "promote innovative applications of ICT for under-served communities"; and \$25 million to speed up private sector use of broadband networks in underserved urban and rural communities (White House "A Strong Record of Working to Close the Digital Divide"). Ten million dollars was dedicated to collaborative schemes for promoting connectivity amongst Native Americans (White House "Clinton-Gore Administration," "The Importance of Bridging the Digital Divide," "A Strong Record of Working to Close the Digital Divide"; Twist "Four Directions to Making the Internet Indian"). The Regional Skills Alliances was to connect employers to schools, higher education and labour unions. Employers were given tax credits for expenses in high technology training, especially in economically depressed and rural areas. They were also encouraged to establish retirement accounts that give employees the incentive to save tax free for lifelong learning for their families (Taglang). The Department of Housing and Urban Development was funded to establish fifty neighbourhood Network Learning Centres designed to give people in low-income housing access to technology skills and employment. The scheme used a partnership model, between local school districts working with parents, libraries that provide training, high-tech companies offering discounts on computer deals, or employers seeking to upgrade the skills of their staff or government (cf. Carvin).

The political right were quick to object. Given how quickly the market for computers and connectivity was changing, it was argued, why spend public funds on remedying a problem that may no longer exist? *Reason*, the periodical for fundamentalist market liberalism, treated the funding campaign as an exercise in vote-winning extravagance, portraying it as a beat-up based on outdated data, backed up by media enthusiasm for a crisis. The *Falling through the Net* methodology had failed to ask questions about out of home access, despite evidence that Americans use the Net more at work and school than at home. It also ignored the rapidity of the market, and of technological change including WebTV; it had underestimated the differences within and between groups — the wired profile of Asian Americans, the rapid acceleration of Hispanics and Blacks. The main group shown to be lagging behind, native Americans, was one not studied in the initial report (*Reason Online*). Other researchers argued that racial differences disappeared if the focus was shifted to access and use, rather than possession, of modems or computers in the home. Rates of adoption of new technologies should be the issue, it was argued, not rates of use.

Digital divide advocacy in the United States was then vulnerable to the accusation that it was searching for victims; from the early concern about women and their under-representation; to black and "minority"

users; and more recently to native Americans. The focus was also seen to shift in non-racial categories; from the deprived inner city to underserved rural communities to those with disabilities. Equally, the protean debate moved from possession of computers to online access and high-speed connectivity, with content and representation recurring. Like all debates about access and equity, the argument can rapidly shift from resources to the capacity to use them — literacy will be a standard point of concern, but so too will the question of whether there are sufficient cultural resources for users of different kinds to become confident and capable in the virtual world.

From this perspective, the market itself should be left to generate new users. After all, no-one worries now about how rare and expensive televisions sets are, though as an electronic medium it was initially available only to an elite; and personal computers are now less expensive than some television receivers (Powell). A Democratic Administration could never understand this because "It would never occur to them that technology and markets alone could help low-income and disadvantaged people. In their minds, only a government-led initiative can remedy such injustices" (Powell). As Glassman puts it:

the politicians have things exactly backwards. The Internet is not the cause of an opportunity gap between blacks and whites, rich and poor. The Internet is the solution. Poor black kids in areas with lousy schools now have access to just as much information as rich white kids in fancy prep schools... Now it's true that the Internet can't yet match the impact of a great teacher in the classroom, but you just wait. There are no limits to the educational possibilities if Washington will allow the Internet economy to grow. And even now, what's standing in the way of people's access to the Net? ... Consider all the opportunities to get free access through schools, libraries and even new commercial services and you have to wonder who's being shut out of this tech revolution. Instead of creating new programs, Washington should focus on allowing the market to continue to do what it's already doing — offering faster and better services at lower and lower prices. This means the politicians should forget about regulating new broadband providers, forget about new subsidies that distort the market, and keep the pressure on local telephone companies to allow competition in their markets. (2)

The Republicans have turned attention towards a *potentiality* in the uneven diffusion of information technology. This is not the digital divide but the "digital opportunity." Governor Bush's campaign has emphasised education reform, especially standards testing and professional development; education technology is treated as a side issue and a distraction from skill levels as shown by standardised testing. Con-

trusting his position to Vice President Gore's, Bush argued that wiring schools was not an end in itself: educational failure and accountability was the issue. Gore was thus made to seem, once again, too clever by half: he was so distracted by technology that he missed the important thing. The Republican focus was on treating technology as a means of promoting standard schooling outcomes, rather than transforming them. At this point technology becomes a reward for success, not a remedy for its absence.

Enthusiasm for the market can all too easily become a recipe for complacency and inaction. A nebulous vision of the promise of technology costs nothing, whether it is a vision of market dynamism or a vision of social participation. What progressives have to offer, as an alternative, is the slow-moving process of gathering data in everyday uses of technology, across local and regional jurisdictions and between education, housing, health and information policy portfolios. These are creaky technologies, easily outpaced by market movements and patterns of consumer preference.

Are we doing better in Australia? Despite continuing debate, promising initiatives and progress in many areas, information policy here is still some distance from coherence. The capacity of the recent US Federal Administration to work across a complex set of agencies, historical interests, and institutions has only occasionally been matched here. Information policy is fragmented across diverse bodies, and is artificially separated from policy agendas in cognate fields such as media policy. We recognise the public interest in access to information technology, but have made little progress in defining the public domain in information itself. We have scarcely begun the task of understanding what contemporary technological literacy might involve, and how skills in using technology, seeking information, communicating, creating or solving problems should be benchmarked. Co-ordinated studies of the links between social chances, learning environments and uses of new information technology resources are still remote. Yet all this work is essential if we are to understand what the digital divide is, why it should matter, and what should be done about it.

*University of the West of England
RMIT University*

Denise Meredith
Julian Thomas

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