

## Review Article: Media Futures

---

---

MATTHEW RIMMER

### **The Future of Reputation: Gossip, Rumor, and Privacy on the Internet**

Daniel Solove

*New Haven and London, Yale University Press, 2008, 256 pp., US\$12.00, ISBN 978-0300144222 pbk*

### **TV Futures: Digital Television Policy in Australia**

Andrew Kenyon (Ed.)

*Melbourne, Melbourne University Press, 2007, 440 pp., AU\$49.95, ISBN 978-0-522-85440-4 ebook/Print On Demand*

### **The Future of the Internet and How to Stop It**

Jonathan Zittrain

*New Haven and London, Yale University Press and Penguin Books, 2008, 352 pp., US\$30.00, ISBN 978-0300124873 hbk*

### **Introduction**

In his 1987 book, *The Media Lab: Inventing the Future at MIT*, Stewart Brand provides an insight into the visions of the future of the media in the 1970s and 1980s.<sup>1</sup> He notes that Nicolas Negroponte made a compelling case for the foundation of a media laboratory at MIT with diagrams detailing the convergence of three sectors of the media—the broadcast and motion picture industry; the print and publishing industry; and the computer industry. Stewart Brand commented: ‘If Negroponte was right and communications technologies really are converging, you would look for signs that technological homogenisation was dissolving old boundaries out of existence, and you would expect an explosion of new media where those boundaries used to be’.<sup>2</sup>

Two decades later, technology developers, media analysts and lawyers have become excited about the latest phase of media convergence. In 2006, the faddish *Time Magazine* heralded the arrival of various Web 2.0 social networking services:

You can learn more about how Americans live just by looking at the backgrounds of YouTube videos—those rumpled bedrooms and toy-strewn basement rec rooms—than you could from 1,000 hours of network television.

And we didn't just watch, we also worked. Like crazy. We made Facebook profiles and Second Life avatars and reviewed books at Amazon and recorded podcasts. We blogged about our candidates losing and wrote songs about getting dumped. We camcordered bombing runs and built open-source software.

America loves its solitary geniuses—its Einsteins, its Edisons, its Jobses—but those lonely dreamers may have to learn to play with others. Car companies are running open design contests. Reuters is carrying blog postings alongside its regular news feed. Microsoft is working overtime to fend off user-created Linux. We're looking at an explosion of productivity and innovation, and it's just getting started, as millions of minds that would otherwise have drowned in obscurity get backhauled into the global intellectual economy.<sup>3</sup>

The magazine announced that *Time's* Person of the Year was 'You', the everyman and everywoman consumer 'for seizing the reins of the global media, for founding and framing the new digital democracy, for working for nothing and beating the pros at their own game'.<sup>4</sup>

This review essay considers three recent books, which have explored the legal dimensions of new media. In contrast to the unbridled exuberance of *Time Magazine*, this series of legal works displays an anxious trepidation about the legal ramifications associated with the rise of social networking services. In his *tour de force*, *The Future of Reputation: Gossip, Rumor, and Privacy on the Internet*, Daniel Solove considers the implications of social networking services, such as Facebook and YouTube, for the legal protection of reputation under privacy law and defamation law. Andrew Kenyon's edited collection, *TV Futures: Digital Television Policy in Australia*, explores the intersection between media law and copyright law in the regulation of digital television and Internet videos. In *The Future of the Internet and How to Stop It*, Jonathan Zittrain explores the impact of 'generative' technologies and 'tethered applications'—considering everything from the Apple Mac and the iPhone to the One Laptop per Child programme.

#### *The Future of Reputation: Gossip, Rumor and Privacy on the Internet*

Some commentators have downplayed and underplayed the threat posed by social networking sites to privacy. The Australian politician, Senator John Faulkner, suggests that there are more pressing threats and risks to privacy to worry about than social networking:

Often, our discussion of the danger to privacy of new technology concentrates on the dangers of people putting things on the internet that they might later regret. And indeed, especially for technology immigrants rather than technology natives, the fact that the internet is the *world wide web* and is also essentially a permanent record, can be a trap for the unwary. A Facebook posting or a YouTube video, like an ill-considered tattoo, can linger forever!

But while a reckless embrace of the internet's potential for performativity may lead to lingering embarrassment, poor judgment and over-enthusiastic

exhibitionism is not the biggest challenge new technology poses to privacy policy.

Privacy is not about what we voluntarily—however unwisely, as others might see it—disclose of ourselves. Privacy is our right to make that decision for ourselves. And new developments in technology—whether that be the internet, the camera-phone, Radio Frequency ID tags, widespread use of CCTV in public space, or others—has made it easy—incredibly easy, to people of my generation—for others to make that decision for us.<sup>5</sup>

In this view, social networking services will only result in venial privacy violations and transgressions. Moreover, the suggestion in the statement by the eminent legislator is that there is no need for further external regulation of social networking services; users of the Internet need only show greater discretion, inhibition and modesty.

In his book, *The Future of Reputation: Gossip, Rumor and Privacy of the Internet*, Daniel Solove takes a less sanguine view of search blogging, and social networking services—such as Facebook, YouTube and Twitter. He displays a much more ambivalent attitude to such new technological developments:

We live in exciting and wondrous times. The Internet and Goggle bring a library of data into all of our homes. The blogosphere is profoundly democratizing, giving anybody with something interesting to say—or, for that matter, with *anything* to say—a global voice. Blogs and social network websites enable people to express themselves like they've never been able to before ...

As we charge headfast into the future, as more details about our lives are captured in data fragments, as the blogosphere expands and draws more attention, what are the implications for our privacy? As we move into the future, new technologies of recording sound, images, and tracking people's whereabouts will further enable even more fragments of data about our lives to be captured and potentially disseminated online (pp. 48–9).

Solove laments: 'We will be forced to live with a detailed record beginning with childhood that will stay with us for life wherever we go, searchable and accessible from anywhere in the world' (p. 17). He expresses further concern: 'This data can often be of dubious reliability; it can be false and defamatory; or it can be true but deeply humiliating or discrediting' (p. 17). Solove suggests: 'This record will affect our ability to define our identities, to obtain jobs, to participate in public life, and more' (p. 17).

Solove reflects upon the 'marriage of traditional gossip to the technology of the Internet' (p. 75). He comments:

The Internet is transforming the nature and effects of gossip. It is making gossip more permanent and widespread, but less discriminating in the appropriateness of audience ... The problem with Internet gossip is that it can so readily be untethered from its context (p. 74).

Solove reflects upon Nathaniel Hawthorne's 1850 novel, *The Scarlet Letter*, and considers the social power of shaming. He suggests that shaming is enjoying a new vogue, with the rise of the Internet. Solove recognises that the Internet has its virtues: 'In a world of increasingly rude and uncivil behaviour, shaming helps

society maintain its norms of civility and etiquette' (p. 92). He observes: 'Online shaming also gives people a chance to fight back, to voice their disapproval of inappropriate behaviour and even of poor customer service' (pp. 92–3).

However, Solove notes that shaming also has its vices: 'The primary trouble is that Internet shaming is hard to keep under control, and this fault can be particularly pernicious' (p. 94). He fears the permanence of the effects of Internet shaming:

Internet shaming creates an indelible blemish on a person's identity. Being shamed in cyberspace is akin to being marked for life. It's similar to being forced to wear a digital scarlet letter or being branded or tattooed. People acquire permanent digital baggage. They are unable to escape their past, which is forever etched into Google's memory (p. 94).

Solove is also concerned about the lack of proportionality in the punishment involved with Internet norm enforcement: 'Offenses that deserve a mild scolding are punished with the digital equivalent to branding' (p. 95). He also laments the lack of due process. Moreover, Solove suggests that Internet shaming can spiral into vengeance, bullying, vigilantism and violence.

Solove considers the role of legal disciplines, such as defamation law and privacy law, in defending personal reputation:

Although lawsuits based on defamation law and the privacy torts are key components of a middle-ground approach, we don't want to encourage a blizzard of lawsuits. Lawsuits are frightful monsters. They are expensive, imposing, and stressful. Merely being subjected to a lawsuit can be traumatic, let alone losing and having to pay damages. The threat of a lawsuit—even a lawsuit which a speaker or writer will ultimately win—can be damaging enough to make the potential defendant extra cautious (p. 120).

In his view, 'the law should expand its protection against irresponsible Internet postings, but only after disputes have been proven insoluble via informal means or alternative dispute resolution' (p. 124). Solove is also conscious of the tensions which exist between the protection of personal reputation, and freedom of speech.

The book is particularly perspicacious about the challenges posed to privacy by the social networking site, Facebook, which has millions of users. Solove discusses the controversy, which erupted over the News Feed feature on Facebook. The feature would immediately notify all of a person's friends about every new change in a person's profile. Solove notes: 'The Facebook privacy debacle is especially interesting because it had nothing to do with the exposure of new information' (p. 169). He observes: 'What many of the Facebook users objected to was the increased accessibility of their personal data—the fact that others would be alerted to every new update to their profile immediately' (p. 170). Solove suggests: 'Privacy can be violated not just by revealing previously concealed secrets, but by increasing the accessibility to information already available' (p. 170). He concludes from the incident that 'privacy involves degrees, not absolutes' and 'involves establishing control over personal information, not merely keeping it completely secret' (p. 170).

In light of such technological developments, Solove contends that there is a need to reconceptualise privacy:

In our overexposed world, is anything private anymore? Currently, the law recognizes as private only information that is completely secret. Information exposed to others is public. Privacy, however, is far more complicated, as it involves a cluster of nuanced expectations of accessibility, confidentiality, and control. If we are to protect privacy today, we need to rethink our understandings of privacy (p. 161).

Solove contends that American 'privacy law should recognize privacy in public and it should better protect confidentiality' (p. 187). He suggests, somewhat contentiously and unconvincingly, that copyright law provides a good model of a system that robustly controls information.

In the conclusion, Daniel Solove considers the question, 'What will the future hold for our reputation?' (p. 189). He sums up his argument:

We love to talk about each other, and the information we circulate has profound consequences for how people are judged. In many instances, revealing another's personal information can be beneficial to society. It enables communities to enforce norms. It educates us about the lives of others. It allows us to better assess others' reputations. But it also can be problematic. Gossip can unfairly stain a person's reputation; it often exists as a bundle of half-truths and incomplete tales. False rumors can wreak havoc on reputations. And shaming can spin out of control. We cling to only a limited degree of control over our reputation, but this control can make a world of difference. By concealing information about our private lives and our violations of social taboos, and by preventing damaging falsehoods about us from circulating, we can make ourselves less vulnerable to misunderstanding, misjudgement, or unfair condemnation. The problems escalate when anybody can spread information far and wide over the Internet (p. 189).

Solove contends:

Although the Internet poses new and difficult issues, they are variations on some timeless problems: the tension between privacy and free speech, the nature of privacy, the virtues and vices of gossip and shaming, the effect of new technologies on the spread of information, and the ways in which law, technology, and norms interact (p. 205).

*The Future of Reputation: Gossip, Rumor and Privacy of the Internet* is a modern day successor to Nathaniel Hawthorne's novel, *The Scarlet Letter*. It is the finest of a trilogy of works by Daniel Solove on privacy and information technology.<sup>6</sup> *The Future of Reputation: Gossip, Rumor and Privacy of the Internet* is an engaging, witty, epigrammatic and occasionally profound meditation upon the impact of new social networking technologies upon personal privacy and reputation.

#### *TV Futures: Digital Television Policy in Australia*

The lively collection, *TV Futures: Digital Television Policy in Australia* considers the possible regulatory futures of digital television law. The editor, Andrew Kenyon, comments that the collection considers two distinctive modes of regulation of broadcasting—'one involving challenges facing communications policy and analysis,

and another that reflects the growing recognition of copyright's significance for audiovisual content' (p. 4). The volume draws together a range of disciplinary methodologies—including 'interdisciplinary material from law and media studies around a range of policy issues, and more detailed examination of issues of copyright law as it exists nationally and as influenced by international copyright treaties' (p. 4). The collection is particularly focused upon Australian media and intellectual property laws—although it does draw comparisons to comparative and international material.

The first part of the collection looks at platforms and audiences.

In 'Traditional Media Buys Online', Tim Dwyer explores the 'constant, and at times rapid, transformations in media industries brought about by digitisation, convergence, interactivity and the general business operations of global media corporations' (p. 82). He is particularly interested in the reconfiguration of media spaces and consumer audiences (p. 82). Dwyer considers the emergence of 'internet-based global consumerist alternatives, virtual communities and social networks, often linked to services, brands and product flows' (p. 83). He charts the shifting marketplace:

The prospect of bringing audiovisual material and targeted advertising together with social networking is undoubtedly an area that is being pursued by Google and other corporations. Evidence of this trend can be seen in the announcement of a billion dollar alliance between News Corporation and Google in 2006 ... Similarly, the acquisition of YouTube by Google in 2006 for \$A2.2 billion (US 1.65 billion) in stock positioned the search leader for further advances into the emerging market for video advertising, a market dominated to this point by Yahoo! Inc. As a consequence of the rise of 'search' businesses like Google, EBay, MSN, Yahoo! and Amazon, the advertising industry has been forced to respond to these altered practices by more strategically matching fragmenting audience consumers to goods and services through specific media providers. Existing computer giants such as Microsoft, Intel, Cisco, IBM and Apple are an important part of the mosaic of change too. Their vast investment strategies have an impact on the direction and shape of new media developments as social shaping of technology theorists have argued (p. 83).

Dwyer worries about the impact of such developments in media ownership upon journalist freedom and independence:

In the Australian context, as traditional media corporations reconfigure themselves as digital and convergent business operations, and build their online consumer malls, the bottom-line demands of global private-equity capital are unlikely to allow much scope for thoughtful news journalism, or other forms of more questioning information programming (p. 103).

In a delightful piece entitled, 'Programming Your Own Channel: An Archaeology of the Playlist', Teresa Rizzo considers the evolution and development of the personal playlist:

Personal Digital Recorders (PDRs) such as the Foxtel iQ and TiVo, portable viewing devices such as iPods and do-it-yourself online TV channels such as

YouTube: Broadcast Yourself all enable viewers to download, upload, program, schedule and create their own personal channels using playlist applications (p. 109).

She provides case studies in respect of the consumer use of Foxtel iQ, iPods, and YouTube:

Each of the above case studies is exemplary of a particular kind of shift from broadcast television to new forms of digital television through the democratisation of the playlist. The PDR is exemplary of the way programming and scheduling enters the domain of the user rather than being something that belongs exclusively to television institutions. The ability to time-shift and reorder a program is central to this shift. YouTube takes this kind of co-participation further as the playlist enables users to create their personalised channels. It also enables users to connect with other users with similar interests and share files by sharing playlists. The iPod is exemplary of a kind of customisation that revolves around mobility and media-rich content ... The playlist is used to create the ultimate personal viewing experience as it allows users not only to be highly selective with the media they import but also to carry that media with them in their pocket or handbag (p. 117).

Rizzo concludes: 'Coming to terms with these new forms of flow represents a new challenge for television studies and television institutions, including the legal discourses surrounding them' (p. 129).

The second part of the collection considers copyright law and digital television.

In her article, 'What are You Missing Out On?', Kathy Bowrey argues that copyright law has played a spoiler role, in frustrating the development and application of new innovative media services and experiences:

Copyright law, in alliance with Big Media, frustrates access to IceTV, TiVo and the next generation of personal video recorders (PVRs) and ad-skipping tools. Copyright systematically removes timely access to hotly anticipated new-release television programs via YouTube and MySpace, making us wait for them to re-emerge much later, in a controlled time slot, on free-to-air television. Copyright also frustrates those who are happy to pay, right now, for downloads of these shows from an Australian iTunes store. Some of these TV shows have been available for purchase by US consumers from their iTunes store for some time. We have learnt to fear the next generation of unwelcome technological protection measures, restrictive high-definition formats like Blu-Ray, and pushes to legislate for broadcast flags and like initiatives (pp. 135–6).

The author contends that 'what copyright needs to do ... is begin to offer something relevant to contemporary audiences to support the future of innovation' (pp. 158–9). Bowrey laments that 'the alternative is that copyright remains the master of old media aspirations, but it ceases to have any relevance to the future of cultural production' (pp. 158–9).

In her piece, 'So You Want to Tape Off TV?', Robin Wright considers how Australian copyright laws have lagged behind the enthusiasm of Australian consumers to engage in the time-honoured practice of 'time-shifting': 'Leaving the machine set to tape your favourite show on the night you're out is a ubiquitous part



of everyday Australian life' (p. 196). She comments that the new 2006 exceptions for format-shifting do not extend to digital television content:

The Australian law has now changed, but the private broadcast recording provisions remain narrower, with many common uses of recorded audiovisual material still falling outside what is permitted ... Much personal use of digital television content will still not come within any copyright exception, and viewers' ability to make use of statutory exceptions for television content may also be limited in the future by technological controls (p. 197).

Wright argues that 'the availability of digital technologies which enable the manipulation of digital media, whatever its form, is likely to lead to continuing pressure from users for access to television content for more than time-shifting' (p. 208). She concludes:

The restricted, purpose-based fair dealing provisions in Australian copyright legislation and the lack of any exception allowing for personal transformative use of copyright material—except for the new fair dealing provision for parody and satire—have the potential to restrict the creative activities of Australian citizens if market mechanisms are not developed which enable the re-use of, and interaction with, television material (p. 209).

In other pieces on copyright law and related rights, Melissa de Zwart revisits the controversies over the 'Panel' case; David Brennan describes and explains the development of the 'broadcast flag' in the United States and the 'content protection and copyright management' system in the European Union; and Kim Weatherall examines the impact of copyright treaties on broadcast policy, looking at the proposed *World Intellectual Property Organization Treaty on the Protection of Broadcasting Organizations* and the *Australia–United States Free Trade Agreement* 2004.

The third and final part of the collection examines media and communications regulation.

A number of contributors to the volume consider various aspects of the 2006 reforms to Australian media and communications law. In 2006, while introducing a package of amendments to media regulation, Senator Helen Coonan emphasised that such reforms were demanded by the emergence of new media technologies:

For 20 years, Australia has had a set of media control rules that imposed a significant restriction on how media markets and companies operate. This is based on an outdated containment philosophy which does not recognise the realities and pressures on the operations of modern media companies and how technology has transformed the way in which news, opinion and entertainment is delivered and consumed. The current set of media laws are based on a 20th century model of radio, free-to-air television and daily newspapers. Even in the late 1980s, it was clear the media landscape was accelerating towards the explosive changes that we have witnessed in the last decade. The consequences of these revolutionary changes are clear to the government, to consumers and to the media industry.<sup>7</sup>

Critics lamented, though, that the new regime still relied upon traditional models of the media when accounting for media diversity. For instance, APN News &



Media submitted: 'It seems unusual that legislation prompted by the arrival of "new" forms of media should rely entirely on utilising "old" forms of media in determining diversity by number of "voices"'.<sup>8</sup> For her part, Lesley Hitchens<sup>9</sup> maintained that the 2006 digital reform legislation suffered from an 'inward focus—that is, a focus on traditional media, traditionally delivered, albeit with the prospect of some new digital channels, potentially over different platforms' (Kenyon, p. 343).

In 'An Analogue "House of Cards" in the Digital Era', Jason Bosland observes:

The Federal Government's 2006 suite of reforms received mixed reactions: for example, the relaxation of foreign and cross-media ownership restrictions was heavily criticised by public interest advocates and academics on the grounds that it would further consolidate incumbent media interests; at the same time, the commercial free-to-air networks launched a very public campaign against threats posed by the government's reform of the anti-siphoning regime (p. 316).

He contends that the 'impact of new technology is likely to diminish the influence of traditional media moguls, and lead to a gradual rethink of the protectionist regime that has characterised broadcasting policy in Australia' (p. 333).

In his piece, 'Switching Off Analogue TV', Jock Given<sup>10</sup> charts changes in the positioning of media entities:

In 1998 and 2000, Australian TV broadcasters argued their medium had to go digital because all other media were about to. In 2007, the medium's former king has decided that, digital or not, it is no longer the place to be—at least for the time being (Kenyon, p. 307).

Ellie Rennie and Julian Thomas consider the plight of community television, despairing: 'Community television has not been given a home on the digital platform because, like multi-channelling, additional channels and interactive television, it is a second- or third-order service in the analogue model' (p. 381).

Elizabeth Handsley explores the development of dedicated channels for children. This is a timely piece—given the announcement by the Australian Broadcasting Corporation that a digital children's channel, ABC3, will be in operation by Christmas 2009. The managing director, Mark Scott, has proclaimed:

This exciting initiative will be welcomed by parents and children in homes across the nation. For the past 50 years, Australian parents have trusted ABC Television to inform, educate and entertain their children. It is wonderful that in this new era of digital television, the ABC will deliver a dedicated channel for children, available free of charge and without advertising, in every Australian home. Parents will be delighted that the Government has decided to back the recommendation developed by the ABC for a children's channel that was so strongly endorsed by the 2020 Summit.<sup>11</sup>

In this context, Handsley's provisional conclusion is pertinent—'the existence of dedicated channels should not be seen as a reason to relieve the commercial broadcasters of their obligation to show material during prime time that is suitable for all ages' (Kenyon, p. 401).

*The Future of the Internet and How to Stop It*

In *The Future of the Internet and How to Stop It*, Jonathan Zittrain meditates upon the possible alternative futures facing the Internet. In a striking, dramatic opening, the book begins with the launch of the iPhone by Apple head, Steve Jobs:

On January 9, 2007, Steve Jobs introduced the iPhone to an eager audience crammed into San Francisco's Moscone Center. A beautiful and brilliantly engineered device, the iPhone blended three products into one: an iPod, with the highest-quality screen Apple had ever produced; a phone, with cleverly integrated functionality, such as voicemail that came wrapped as separately accessible messages; and a device to access the Internet, with a smart and elegant browser, and with built-in map, weather, stock, and e-mail capabilities. It was a technical and design triumph for Jobs, bringing the company into a market with an extraordinary potential for growth, and pushing the industry to a new level of competition in ways to connect us to each other and to the Web (p. 1).

Zittrain suggests: 'The iPhone is a product of both fashion and fear' (p. 5). He admits: 'It boasts an undeniably attractive aesthetic, and it bottles some of the best innovations from the PC and Internet in a stable, controlled form' (p. 5). Zittrain laments, though, that the iPhone was locked down in its initial incarnation: 'Rather than a platform that invites innovation, the iPhone comes preprogrammed' (p. 2). He observed that Apple frustrated the freedom to tinker: 'Indeed, to those who managed to tinker with the code to enable the iPhone to support more or different applications, Apple threatened (and then delivered on the threat) to transform the iPhone into an iBrick' (p. 2). Zittrain complained: 'Whereas the world would innovate for the Apple II, only Apple would innovate for the iPhone' (p. 2). Since its launch, Apple has become more accommodating of applications developed by third parties.

In the course of the book, Zittrain expands upon his thesis about the 'generative Internet' first developed in an article for the *Harvard Law Review*.<sup>12</sup> In this extended discussion of the idea, Zittrain is a great supporter of 'generative' technology, such as the personal computer. He suggests that such systems have five key characteristics—leverage; adaptability; ease of mastery; accessibility; and transferability. Zittrain argues:

Generativity's benefits can be grouped more formally as at least two distinct goods, one deriving from unanticipated change, and the other from inclusion of large and varied audiences. The first good is its innovative output: new things that improve people's lives. The second good is its participatory input, based on a belief that a life well lived is one in which there is opportunity to connect to other people, to work with them, and to express one's own individuality through creative endeavours (p. 80).

Zittrain suggests that 'generative technologies' foment change: 'They solicit the distributed intellectual power of humanity to harness the leveraging power of the product or system for new applications, and, if they are adaptable enough, such applications may be quite unexpected' (pp. 96–7). Zittrain acknowledges that 'generative' technologies can also be quite disruptive to the economy and society:

‘The paradox of generativity is that with an openness to unanticipated change, we can end up in bad—and non-generative—waters’ (p. 99). To illustrate, he notes: ‘Perhaps the forces of spam and malware, of phishing and fraud and exploitation of others’, are indeed ‘too much ahead of the power which society then possessed of disciplining and controlling them’ (p. 99).

In his book, Zittrain suggests that the generative Internet is being threatened by the rise of ‘tethered appliances’—such as iPods, iPhones, BlackBerries, Xboxes, and TiVos—Internet-centred products, which do not allow for changes, without the assistance of the technology developer or the vendor. He contends:

In the arc from the Apple II to the iPhone, we learn something important about where the Internet has been, and something more important about where it is going. The PC revolution was launched with PCs that invited innovation by others. So too with the Internet. Both were generative: they were designed to accept any contribution that followed a basic set of rules (either coded for a particular operating system, or respecting the protocols of the Internet). Both overwhelmed their respective proprietary, non-generative competitors, such as the makers of stand-alone word processors and proprietary online services like CompuServe and AOL. But the future unfolding right now is very different from this past. The future is not one of generative PCs attached to a generative network. It is instead one of sterile *appliances* tethered to a network of control (p. 3).

Zittrain argues: ‘A lockdown on PCs and a corresponding rise of tethered appliances will eliminate what today we take for granted: a world where mainstream technology can be influenced, even revolutionized, out of left field’ (p. 5). He maintains:

Stopping this future depends on some wisely developed and implemented locks, along with new technologies and a community ethos that secures the keys to those locks among groups with shared norms and a sense of public purpose, rather than in the hands of a single gatekeeping entity, whether public or private (p. 5).

There has been some debate as to whether the central thesis of the Zittrain book is overstated. Adam Thierer has objected to stark division between ‘generative’ technologies and ‘tethered appliances’.<sup>13</sup> He observes: ‘Social networking sites, for example, allow a great deal of generative activity, but they also impose some limitations on what can be posted, or limit the porting of profiles/information over to other sites’.<sup>14</sup> Moreover, he notes: ‘Similarly, the iPhone—which Jonathan calls a “sterile” technology—was completely closed at first, but is now growing more open to tinkering with the SDK rollout’. Thierer admits, though: ‘But it’s unlikely it will ever be *perfectly* open’.<sup>15</sup>

Zittrain pursues his central thesis across a wide-ranging and sweeping frame of reference. Amongst other things, Zittrain considers cyber-security (in Chapter 3); intellectual property law (Chapter 5); the lessons that can be drawn from Wikipedia (Chapter 6); network neutrality (Chapter 8); and privacy law in a Web 2.0 world (Chapter 9).

In a superlative conclusion, Jonathan Zittrain considers the prospects of the remarkable One Laptop per Child project developed by the redoubtable MIT Media Lab. He observes:

Nicholas Negroponte, former director of the MIT Media Lab, announced the One Laptop Per Child (OLPC) project at the beginning of 2005. The project aims to give one hundred million hardy, portable computers to children in the developing world. The laptops, called XO's, are priced around \$100, and they are to be purchased by governments and given to children through their schools. As of this writing Brazil, Libya, Mexico, Nigeria, Peru, Rwanda, and Uruguay have committed to a pilot run that will have the XO's assembly lines ramping up to five million machines per month and totaling approximately 20 percent of all laptop manufacturing in the world. The pitch to governments footing the bill emphasizes alignment with existing schoolhouse curricula and practices. A laptop can be a cost-effective way to distribute textbooks, because it can contain so much data in a small space and can be updated after it has been distributed. Says Negroponte: 'The hundred-dollar laptop is an education project. It's not a laptop project' (p. 235).

Zittrain contends that the 'OLPC is about revolution rather than evolution, and it embodies both the promise and challenge of generativity' (p. 235). He argues that 'the project's intellectual pedigree and structure reveal an enterprise of breathtaking theoretical and logistical ambition' (p. 236). Indeed, 'the XO envisions students who are able to hack their own machines: to reprogram them even as they are learning to read and write—and to do so largely on their own initiative' (p. 236).

Zittrain recognises that the One Laptop Per Child project is but 'the most prominent and well-funded of a series of enterprises to attempt to bridge the digital divide' (p. 239). He acknowledges: 'Other efforts, such as the Volkscomputer in Brazil, the VillagePDA, and the Ink have fared poorly, stuck at some phase of development or production' (p. 239). Zittrain notes that there are some sceptics who believe that the One Lap Top Per Child will fail like previous development projects: 'Development experts view it as skeptically as education experts do, seeing XO as yet another risky heaving of hardware at problems that are actually political, social, and economic in nature' (p. 239). He notes: 'Debates on the XO wiki wonder whether teching-up an entire generation of millions of children will be good or bad for those already online' (p. 239).

The discussion of the One Laptop per Child project is particularly helpful in thinking about practical projects and outcomes flowing from the larger hopes and aspirations of the Access to Knowledge (A2K) movement. Ideally, the Development Agenda for the World Intellectual Property Organization will be informed by the progress made by such technology development projects.

In the conclusion, Jonathan Franzen comments upon the possible futures of the Internet:

Our fortuitous starting point is a generative device in tens of millions of hands on a neutral Net. To maintain it, the users of those devices must experience the Net as something with which they identify and belong. We must use the generativity of the Net to engage a constituency that will protect and nurture it. That constituency may be drawn from the ranks of a new generation able to see that technology is not simply a video game designed by someone else, and that content is not simply what is provided through a TiVo or iPhone (p. 246).

*The Future of the Internet and How to Stop It* is an intellectually rich and theoretically deep discussion of the destiny of the Internet, the promise of 'generative' technologies and the dangers of 'tethered appliances'.

## Notes and References

1. Stewart Brand, *The Media Lab: Inventing the Future at MIT*, Penguin Books, New York, 1987.
2. *Ibid.*, p. 17.
3. Lev Grossman, 'Time's person of the year: you', *Time Magazine*, 13 December 2006, available at: <http://www.time.com/time/magazine/article/0,9171,1569514,00.html>.
4. *Ibid.*
5. John Faulkner, 'Speech to the Cyberspace Law and Policy Centre Symposium on *Meeting Privacy Challenges—the ALRC and NSWLRC Reviews*', The University of New South Wales, 2 October 2008, available at: [http://www.smos.gov.au/speeches/2008/sp\\_20081002.html](http://www.smos.gov.au/speeches/2008/sp_20081002.html).
6. See also Daniel Solove, *The Digital Person: Technology and Privacy in the Information*, New York University Press, New York and London, 2004; and Daniel Solove, *Understanding Privacy*, Harvard University Press, Cambridge, MA and London, 2008.
7. Helen Coonan, 'Speech on the *Broadcasting Services Amendment (Media Ownership) Bill* 2006', 11 October 2006, available at: <http://www.openaustralia.org/senate/?id=2006-10-11.84.2>.
8. 'Submission by APN News & Media to the Senate Committee Inquiry into Broadcasting Services Amendment (Media Ownership) Bill 2006 and related bills', 25 September 2006, available at: [http://www.aph.gov.au/SENATE/committee/ecita\\_ctte/completed\\_inquiries/2004-07/cross\\_media/submissions/sub36.pdf](http://www.aph.gov.au/SENATE/committee/ecita_ctte/completed_inquiries/2004-07/cross_media/submissions/sub36.pdf).
9. See also Lesley Hitchens, *Broadcasting Pluralism and Diversity: A Comparative Study of Policy and Regulation*, Hart Publishing, Oxford, 2006.
10. See also Jock Given, *The Death of Broadcasting: Media's Digital Future*, The University of New South Wales Press, Sydney, 1998; and Jock Given, *Turning Off Television: Broadcasting's Uncertain Future*, The University of New South Wales Press, Sydney, 2003.
11. Australian Broadcasting Corporation, 'ABC children's channel', (Press Release) 22 April 2009.
12. Jonathan Zittrain, 'The Generative Internet', *Harvard Law Review*, 119, 2006, p. 1974.
13. Adam Thierer, 'Review of Zittrain's *Future of the Internet*', *The Technology Liberation Front*, 23 March 2008, available at: <http://techliberation.com/2008/03/23/review-of-zittrains-future-of-the-internet/>.
14. *Ibid.*
15. *Ibid.*