Estelle Derclaye concludes by proposing that more consideration needs to be given to the possibility of a global online database of cultural works as suggested by Steven Hetcher, but warns that the jurisdictional issues, the appropriate ownership structure, and the regulatory framework for such a database will require more work.

So, is the book useful and informative? Indubitably – although its appeal will be mainly to those who are already active in the field or researching in the area. I suspect the depth and technicality of the subject matter will not tempt the casual reader, but I still believe the collection will be a valuable addition to academic and law libraries.

Notes

1. It should be noted that, conversely to Aplin's claim (p.15), the legal deposit law in New Zealand (contained in the National Library Act 2003, as amended by the National Library Requirement (Electronic Documents) Notice 2006) now includes a specific copyright exemption (s 34) intended to facilitate the preservation of copies of digital publications, including websites, by the National Library, the authorised legal deposit library (see Corbett, 2007, p.64) Nevertheless, the exemption may be insufficient for the multiple copying that is required for best practice digital archiving.

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The master switch: the rise and fall of information empires, by Tim Wu, London, Atlantic Books, 2010, 366 pp., UK£19.99, ISBN 9781848879843

The net delusion: how not to liberate the world, by Evgeny Morozov, London, Allen Lane, London, 2011, xvii + 408 pp., UK£14.99, ISBN 9781846143533

Wu's philosophy is that, in order to understand how the use of current information technologies is likely to develop – in particular, the internet – it is necessary to understand the historical patterns of development of previous technologies, and the reasons behind such patterns. We need to understand the past if we are to anticipate what may happen in the future.

At the centre of his analysis is what he calls the 'Cycle' – and how it has developed, mainly in the United States. At the early stages, when inventors begin

to realise that there is a need for a new class of product – telephones, films, radio, television, microcomputers, the internet – there is widespread experimentation, largely by hobbyists fascinated by the possibilities of the new technology. Wu was by no means the first to write about this phenomenon. For example, Mosco (2004) devotes a very interesting chapter to the subject, observing that, in their early stages, semi-magical powers leading humankind towards utopia were also attributed to technologies other than communication – in particular to electrification.

It is normal for numerous inventors to see the potential of a new technology at more or less the same time. However, its exploitation requires much more than invention. It needs the creation of a new industry, and this depends on bringing together large and diverse resources, including, of course, finance. Inventors themselves fail to anticipate the ultimate full significance of their own inventions, for which millions of users develop new applications over time.

Wu calls the first stage of the cycle 'open' systems. Information systems develop from freely accessible open systems towards 'closed' systems controlled by centralizers – a single corporation or cartel. Those who aspire to monopoly or industry domination by cartels – such as AT&T in relation to the telephone system, and Hollywood in relation to film – have often become very powerful. Eventually, the dominance of the closed system is ended, either by competition from the gale of creative destruction resulting from a growing new industry, or by regulation. Wu traces this process in considerable detail in relation to the information technologies considered in his book. While the future is, of course, uncertain, recently, Google has been a leader in relation to openness. We are left with preliminary consideration of whether the internet will remain relatively open, or will it, too, be monopolized?

In the 1920s, radio in the United States was a two-way medium accessible to any hobbyist, who could start broadcasting as well as receiving broadcasts from numerous other (local) hobbyists. In such early open stages of the diffusion of a new information technology, idealistic, even utopian, dreams of the benefits to humankind are pervasive. (This stage of the cycle has already been discussed extensively by Mosco (2004).) Radio was going to unify communities, and the President of the United States was going to be transformed 'into a kindly father, talking to his children'. The UK did not experience the radio free-for-all to the same extent as the United States. However, idealism was just as pervasive: Lord Reith dreamed of radio 'lifting up the masses'.

In the United States, television sets were made mainly by the previously established radio manufacturers. Moreover, television broadcasting was created in the image of radio – heavily dependent on advertising revenue: it was operated wholly for private profit and became 'the creature, the servant, and indeed the prostitute of merchandising'. This aspect of most current information technologies merits far more consideration than Wu devotes to it in *The Master Switch*.

Wu regards Government's proper role as to check private power, not to collaborate with it. The central concern of the United States political system is to prevent abuses of concentrated public (federal and state) power. The United States economy is based mainly on freewheeling capitalism. Adam Smith's vision – the benevolent operation of the invisible hand – is regarded as sacrosanct in the United States. If it becomes regarded as essential that the services provided by a particular industry should be available to every citizen on reasonable terms, then there are alternative solutions. The state can either take over the running of such services, or impose common carrier obligations on the private providers of them. For example, it may

be difficult and expensive to ensure that all citizens, especially those who live in remote or sparsely populated areas, have access to vital services, such as water supply, post and communications, banking, energy, transportation and also health services (interestingly, not mentioned by Wu in this context).

Wu's views are typical of American analysts: the state should support and stimulate the Schumpeterian dynamic of creative destruction. Impeding this dynamic is never in the public interest. The American Government has always been relatively indifferent to the dangers of abuse of private power. Nevertheless, Wu considers that the concentration of power in relation to the creation, transmission and exhibition of information constitutes a special case: 'a song, a film, a political speech or a private conversation' can change lives. Joseph Goebbels described radio as 'the spiritual weapon of the totalitarian state': political revolution or genocide may be facilitated by the mass media. Control of mass media works to decide who gets heard and who does not. This puts regulation of information and communications in a category where common carrier type obligations may apply: such services are fundamentally different from products such as orange juice, electric toasters or running shoes.

Indeed, analysis of information and communications technologies and their implications for economic, social and cultural aspects of society is very important. Nevertheless, no single book could conceivably meet this need by itself. For example, the author concentrates on the United States, although there is some mention of the UK – of Baird's television inventions and Reith's influence on broadcasting. The profound influence of advertising on radio and television broadcasting in the United States is not discussed at all fully. In addition, it might have been desirable to include newspapers and journals in this study, even though they were invented centuries before the first technology considered in this book – the electric telegraph.

At all levels – from the family to the affairs of nations – human difficulties and disasters are often attributed to failures of communication. It is widely believed that better communications can lead to better mutual understanding, and even to the prevention of disasters. Such beliefs rise to the surface every time a radically new communications technology arrives, such as the telegraph, phones, films or the internet. So, *The Digital Sublime* (Mosco, 2004) as well as *The Master Switch* help to put *The Net Delusion* into historical perspective. In some respects, *The Net Delusion* discusses a well-known phenomenon: the belief that the internet will liberate the world. This myth is typical of the dreams of utopia that have accompanied the initial diffusion of many radical technologies over the past 150 years or more.

The use of the internet developed rapidly during a period of United States euphoria following the collapse of the Soviet Union and the end of the Cold War. In the popular imagination, the role of the policies of the United States Government in bringing this about was overestimated in comparison with the role of growing internal weaknesses in the Soviet Union. In some respects, this was analogous to the exaggeration of the role of the Bolshevik Revolution in bringing about the collapse of the already very weak Tsarist regime in 1917.

As the internet grew in importance, metaphors that related the destruction of the Berlin Wall to the internet began to spread – in Europe as well as the United States – cyber walls had to be destroyed, just as the Berlin wall had been torn down. Morozov observes that media and technology pundits in the United States wrote

numerous stories about how social networks – in particular Twitter – were the dominant means of organising resistance to what the resistors regarded as a fraudulent election in Iran. 'Twitter seemed omnipotent', more powerful 'than the Iranian police, the United Nations, the United States Government, and the European Union'. However, after the uprising, the Government hunted down dissidents online, tracking them through their emails and using face-recognition technology to identify people from pictures taken on mobile phones. The Chinese authorities have also been very adept in using the internet against the opposition.

Generally, revolutionaries learn to use new media before established authoritarian powers. New social media provide powerful weapons to the critics and opponents of economic and political powers for just as long as the opposition exploits these new media better than the authorities. However, authoritarian governments are not generally slow to see possibilities for turning the new technologies against the opposition, and of course, have access to far greater resources. Many people suppose that the internet will help to free oppressed people, but *The Net Delusion* shows that it has become a tool for control. Moreover, oppressed people often look to the internet for entertainment rather than liberation.

The Net Delusion discusses the relationship between a crucially important technology and political power during a specific period of time. It provides extensive evidence to refute the myth of technological determinism – specifically the myth that technology can solve enormous political problems. In contrast, the principal strength of *The Master Switch* lies in the assembly of detailed historical data into a logical, coherent framework of analysis. This is an excellent way of constructing a book to encourage people to think about implications of technology for the future of society. *The Master Switch* is as significant as a stimulus to future research as it is worth reading for the knowledge and insights it contains.

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