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Policy Legacies from Early Australian Telecommunications

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A Private Sector Perspective

Abstract

The purpose of this article on the policy legacies from Australia's early telecommunications history is not to present a counterfactual to Australia's choice of public monopoly provision of early telecommunications services, but rather to indicate the extent that politics limited the private sector's role in deploying early telegraph and telephone infrastructure in Australia. The article begins by outlining a theoretical framework for analysing government's role in deploying new telecommunications technologies, before investigating some of the less familiar literature on the historical impact of government intervention on the private sector in the early Australian telegraph and telephone industries. It then discusses some of the political issues relating to the subsequent liberalisation of the telecommunications industry in Australia and concludes with a discussion of the historical legacies of government intervention on the private sector in the Australian telecommunications industry.

Introduction

In the earliest days of the telegraph and the telephone in Australia, these new inventions were first deployed by the private sector. It was the Canadian, Samuel McGowan, a student of Morse, who first brought the telegraph to Australia in 1853 with the hope of recreating the entrepreneurial successes he had witnessed in North America ([Moyal, 1984](#) ^[5], p. 16). However, Australia presented a remarkably different environment that favoured public provision of essential infrastructure. While McGowan went on to be the general superintendent for the telegraph in Victoria, the promise of official privilege and status ensured he and other would-be telecommunications entrepreneurs in Colonial Australia did not achieve the wealth of their North American commercial counterparts. Later, entrepreneurs of Australian telephone systems, including original inventions such as patented telephone and exchange equipment, were ignored by Australian governments in favour of imported overseas equipment.

The purpose of this article on Australia's early telecommunications history is not to present a counterfactual to Australia's choice of public monopoly provision of early telecommunications services, but rather to indicate the extent to which politics limited the private sector's role in deploying early telegraph and telephone infrastructure in Australia. First, the article begins by outlining a theoretical framework for analysing government's role in deploying new telecommunications technologies. Second, it investigates some of the less familiar literature on the historical impact of government intervention on the private sector in the early Australian telegraph and telephone industries. Third, it discusses some of the political issues relating to the liberalisation of the telecommunications market in Australia; and concludes with a discussion of the historical legacies of government intervention on the private sector in the Australian telecommunications industry.

Theorising the Historical Deployment of Infrastructure

Government intervention in the deployment and use of telecommunications technologies operates in three main ways. First, government *enables* the deployment of new telecommunications technology inventions by effectively giving permission or providing resources for telecommunications networks to be established. Second, government *coordinates* the deployment and use of communications networks by establishing institutions which attempt to bring order to the construction of the physical infrastructure and to determine who can access the infrastructure and associated services. Third, government *regulates* telecommunications networks to ensure that the behaviour of network actors and users conforms to laws or principles designed to operate in the public interest. The ways in which a particular government *enables*, *coordinates*, and *regulates* telecommunications networks, then, may be referred to as the jurisdiction's telecommunications policy.

While new inventions often occur independently of government institutions, governments can determine which technologies are enabled. For example, government may decide not to allow a particular technology to be deployed, or to delay its deployment. Government may also create barriers to entry to restrict or limit the industry players involved in a particular market. Indeed, government may decide to monopolise a particular technology in the interests of nation-building or other reasons in the national interest, such as national security. The ability of government to use its coercive powers to create such barriers to entry can have a major influence over the deployment, use, and pricing of communications services.

Once a decision to adopt a particular telecommunications technology is made, government typically takes on the role of coordinating the deployment of the technology, particularly the associated infrastructure, to ensure that rights of way and other property-related rights are protected. Government may also determine the way technologies are used, by either encouraging or discouraging particular uses through legislation. Typically, these rules are accompanied by a government agency which monitors and enforces the rules. In telecommunications industries, government may regulate, or monitor and enforce the rules, which have been established by law or other mechanisms such as 'self-regulation'. Nonetheless, once a new technology is adopted and deployed, government plays a major role in regulating the way the technology is owned or operated. This may include restrictions on ownership, mergers and acquisitions, consumer pricing, or rules enforcing competitive behaviour and consumer protection.

The concepts of enabling, coordinating, and regulating telecommunications technologies as key elements of telecommunications policy in Australia will now be examined in historical perspective.

Deploying the Telegraph in Australia

The arrival of telegraphic technology in Australia occurred in 1853^[6] when Samuel McGowan,^[7] an experienced entrepreneur who had witnessed the burgeoning private telegraph companies in North America, had plans for his own telegraph company in Victoria ([Moyal, 1984](#)^[5], pp. 16–17). When McGowan arrived in Victoria with several sets of telegraph equipment and a copy of the *Canadian Telegraph Act*, he set about demonstrating the new technology to find interested backers for his company. Despite an initial lack of interest, the Victorian Government soon called for tenders to establish an experimental telegraph line between Melbourne and Williamstown but insisted that ownership would remain with the government. McGowan had been warned that ‘any independent approach [to deploying the telegraph] would meet “the utmost resistance.”’ Technology transfer occurred, but not policy transfer ([Legrand, 2012](#)^[8]).

McGowan was awarded the construction contract with the understanding that he would become the ‘general superintendent of the new [public] electric telegraph of Victoria’ ([Moyal, 1984](#)^[5], pp. 17–18; [Demant, 2009](#)^[9]). Private businesses operated as construction contractors, but owning and operating telegraph lines was the sole domain of government ([Hunter & Australia Post, 2000](#)^[10], pp. 44–50).

The other Australian colonies, with the exception of Western Australia, opted for Victoria’s public ownership model: they, too, resisted private attempts to own and operate telegraph lines. For instance, Charles Todd, who would later lead the construction of the Overland Telegraph Line (OTL), was recommended by the London Colonial Office as the superintendent for South Australia’s telegraph system. On the same day that Todd arrived in Adelaide in 1855, a private telegraph line funded and constructed by James McGeorge ([Moyal, 1984](#)^[5]; [ABS, 1900](#)^[11]) commenced operations. McGeorge had been refused assistance by both the South Australian government and the local chamber of commerce but went ahead with his network anyway. This created problems for Todd as McGeorge’s line had captured the market, causing ‘the immediate revenue’ from the government’s duplicate line to be ‘infinitesimal’ ([ABS, 1900](#)^[11], p. 101). McGeorge’s line was subsequently purchased by the South Australian Government and dismantled in 1856 to prevent further competition ([ABS, 1900](#)^[11], p. 101; [Moyal, 1984](#)^[5], p. 20), effectively bringing to an end private sector ownership and operation of telegraph lines in South Australia.

Public ownership of telegraphic infrastructure was adopted by New South Wales, Queensland and Tasmania, with construction being undertaken by Canadianⁱⁱⁱ^[12] or local private companies under government contracts. Coupled with colonial hopes ‘of mutual goodwill and of rapidly increasing prosperity,’ a variety of American and British telegraphic devices were adopted to interlink the colonies in a relatively standardised fashion, with demand driven by the commercial benefits of faster communications encouraging continued government expenditure on the deployment of more telegraph lines ([Moyal, 1984](#)^[5], pp. 23–24). As with railways, only in Western Australia did the private sector play an early part in building, owning and operating the infrastructure until such time as the Western Australian government, under pressure from residents, saw the value in the new medium and the commercial operators were bought out. Like McGowan in Victoria, the entrepreneur who enabled the establishment of the privately-owned network in Western Australia became the first superintendent of telegraph in the colony ([Moyal, 1984](#)^[5], p. 28). In effect, colonial governments captured the expertise of the original telegraphic entrepreneurs who, possibly reluctantly, substituted the status of a government position for the potential profits of private enterprise ([Moyal, 1984](#)^[5], p. 28).

Colonial unanimity on the public ownership of telegraph networks had its advantages. In contrast with the development of the colonies' railway and electricity networks, colonial governments had, although with some rivalry, cooperated to enable interconnectivity of the separate colonial telegraph networks, and by 1857 postal and telegraph matters featured regularly in intercolonial consultations and appeared as news items in newspapers ([Livingston, 1996](#) ^[13], pp. 27–29). As competing shipping technologies and faster international shipping routes were adopted, the hubs for mail arriving in Australia shifted among the major cities and New Zealand, affecting the speed and priority of the transmission of news arriving from overseas to the regions ([Livingston, 1996](#) ^[13], pp. 31–33). As telegraph networks developed, so too did regional newspapers ([Morrison, 2005](#) ^[14], p. 141). The delivery of mail and news across colonial borders required greater cooperation, leading to increasing calls to establish a customs union, in the form of a federation, in the second half of the nineteenth century.^{iv} ^[15] Cooperation was necessary, as newspapers and businesses called for 'major reforms' in the intercolonial telegraph service: problems of delays, particularly at intercolonial connection points, led to the development of additional and more direct telegraph wires between major population centres ([Livingston, 1996](#) ^[13], p. 55).

The capabilities of early telegraph technologies restricted the extent that interconnectivity could be achieved, especially across large expanses of ocean. With the successful deployment of the transatlantic cable in 1866, however, it was recognised that it would only be a matter of years before Australia would be connected with Britain. By 1869, Tasmania was connected to the mainland telegraph network via the first successful submarine cable in Australia, and in 1872 the construction of the OTL enabled communication between Adelaide and Darwin. Subsequently, the OTL linked to the Singapore-Java submarine cable,^v ^[16] connecting Australia to the existing international telegraph network ([ASTHC, 2000](#) ^[17], p. 529). Government (despite some intercolonial rivalry^{vi} ^[18]) had achieved what is considered to be one of the greatest engineering feats in Australian history, if not the nineteenth century, leaving little room for a commercial telecommunications industry to develop.

Government ownership of telegraph networks was the norm throughout Britain and Europe. In 1869, the government-owned British Post Office took ownership of the formerly private telegraph networks and amalgamated the telegraph and post offices in Britain, and, over time, the Australian colonies followed the British example. To a large extent, the co-location of telegraph offices with post offices facilitated greater intercolonial cooperation ([Livingston, 1996](#) ^[13], p. 5). In Australia, government ownership of both the telegraph and postal systems, and the move by the colonies to administer posts and telegraphs under individual departments of posts and telegraphs, made the transition of posts and telegraphs to the jurisdiction of the new federal government relatively easy. At the time of Federation, the new Commonwealth Government readily^{vii} ^[19] assumed the constitutional power to legislate in relation to telecommunications ([Putnis, 2002](#) ^[20]). The inclusion of '[p]ostal, telegraphic, telephonic, and other like services' in section 51 (v) of the *Australian Constitution* was significant for the future development of national policy and the assumption of legislative and regulatory functions relating to telecommunications and, later, broadcasting services.

The significance of the term ‘other like services’ in the Constitution would become apparent when Marconi’s invention of the wireless telegraph simultaneously enabled the development of radio broadcasting – an early indicator of the technological convergence which has continued into the present. Yet wireless telegraphy was not regarded with the same urgency as wired telegraphy, and the federal government wavered in its response to the new medium, before responsibility for wireless telegraph was transferred to the Department of the Navy in 1915.^{viii} [21] Nonetheless, there was little incentive for the private sector^{ix} [22] to compete with the government-owned monopoly on both the fixed-line and wireless telegraphic technologies. Indeed, these technologies would be treated very differently (in terms of their prescribed functions) until the advent of radio and hence the broadcasting industry. For the most part, federal telecommunications policy focused on setting rates and moving, gradually, towards standard fees and charges across the States. With very little private sector involvement in the industry (beyond construction contractors), federal telecommunications policy focused almost exclusively on delivering services to citizens while attempting to keep costs under control – the Postmaster-General’s Department would continue to operate in this manner until 1975.

One feature of government ownership was that telecommunications was a persistent political issue. Before Federation, it was accepted ‘by colonial Governments, [and] acknowledged at the Intercolonial Conference of 1873, that in a vast country, telecommunications was operating, and should, if necessary, be maintained in the Colonies “at some pecuniary loss”’ (Moyal, 1984 [5], pp. 33–34). Rather than being determined by market forces of supply and demand, telecommunications outcomes were most often determined by political, rather than economic, factors. Indeed, as Colonial Governments had monopolised the telegraph network, there was an expectation that these government-funded services would meet the demand, even if it meant running the services at a loss. After Federation, this trend continued. For example, in the lead-up to the 1910 Royal Commission into Postal, Telegraph and Telephone Services (AT&T, 1913 [23], p. 64), the Member for Maranoa (in Queensland), James Page, commented:

[N]ot a mile of new telegraph line, except in connexion with new rail ways, has been erected in that State since Federation was inaugurated... Notwithstanding the public complaints, and my efforts, I cannot get the Department to move, and so desperate are my constituents becoming that some of them talk of voting against me because nothing is done for them. I ask the Postmaster-General to give us fair treatment (Hansard, 1909 [24]).

After two years of investigation, the Royal Commission found that sufficient funding to maintain the telecommunications network was often curtailed by the Treasurer to achieve other political aims in federal-state relations. According to the Royal Commission, ‘the system of management [was] faulty, in that it permitted the Treasurer to assume financial control of services for whose efficiency he was not responsible’ (AT&T, 1913 [23], pp. 44–45). Federation added another layer of control by bringing together the Colonial telegraph networks under the control of the Postmaster General’s Department. This, in turn, brought together the various interests at play in telecommunications, leading to a large number of complaints about telecommunications services. The Royal Commission (Cook et al., 1910 [25], p. 187, para 1071) reported:

[T]hat the number and magnitude of the complaints received indicate the existence of strong dissatisfaction among the public with the Postal, Telephone and Telegraph services. Your Commissioners are of the opinion that the bulk of complaints were entirely justifiable, and are convinced that to obtain an efficient service it is essential that improved methods of Management, Finance, and Organization be promptly adopted.

Meanwhile, ‘official jealousy’ concerning appointments, political pressure undermining the authority of the Deputy Postmasters General, the unwillingness of the Permanent Head of the Department to leave the central headquarters, and a culture of reporting rather than taking action created a ‘distinct weakness in the system of control’. Given that the Minister ‘permit[ted] political pressure to influence him in reviewing actions’ taken by his deputies, the apparent attempt at avoiding ‘over-centralization’ was thwarted by politics (ABS, 1910 [26]: Vol. IV, p. 17). A decade earlier, the NSW Statistician Coghlan, 1900 [27], p. 713) had claimed enthusiastically:

In no country in the world has the development of telegraphic communication been so rapid as in Australasia, and in none has it been taken advantage of by the public to anything like the same extent.

Yet, at the height of the telegraph era, Australia's enthusiastic response to telecommunications technologies was not reflected in the outcomes achieved by the centrally-controlled monolith.

Telephonic Innovation versus 'Picking Winners'

The first telephone system in Australia commenced operations in 1878^x [28] just two years after the telephone was patented by Alexander Graham Bell. However, the first system was restricted to point-to-point communication until the first telephone exchange commenced operations in Melbourne in 1880. American businessmen Masters and Draper (Moyal, 1984 [5], p. 75) established the exchange as a private firm, the Melbourne Telephone Exchange Company Limited, and patented their own design. At first, the Victorian Government seems to have displayed very little interest in the new technology, even though the Melbourne exchange began operations some two years before London opened its own exchange (Mellor, 1974 [29]). Indeed, a culture of opposition to private-sector interests in telecommunications is apparent at the time, especially from the Chamber of Commerce in Melbourne, which led to the Victorian Government forcibly taking over the Masters and Draper exchange. Davison (1978 [30], p. 26) claims that the government takeover was largely a result of pressure from the Chamber of Commerce due to subscriber complaints about the exchange's efficiency. While the number of subscribers almost doubled following the takeover (Hunter & Australia Post, 2000 [10], p. 8), consumer charges for telephone services were cheaper under government ownership (Davison, 1978 [30], p. 26). Regardless, at that time in the colonies, government policy was clearly focused on protecting existing domestic primary industries (Sala, 1885 [31], p. 10; Davison, 1978 [30], p. 24), not enabling new tertiary industries.

Moyal (1984 [5], pp. 71–78) points out that, unlike earlier problems associated with the lack of local manufacturing capabilities for telegraphic equipment, local invention and innovation was 'most fertile' in the early days of the telephone in Australia. Effectively, the new technology energised various Australians who were interested in experimenting with the new communications devices (Telecom Australia, 1980 [32]). Henry Sutton (McCallum, 1976 [33]), for example, invented 20 different telephones but failed to take out patents on his designs, and some 16 of his designs were later patented overseas. Moyal (1984 [5], p. 78) suggests that a 'contemporary tendency to ignore indigenous inventiveness' existed during this period. The proprietors of the Melbourne Telephone Exchange, Masters and Draper, used their own patented design to establish their business in Melbourne. Despite Master's and Draper's success, other Australian inventors, such as J. E. Edwards (see Moyal, 1984 [5], pp. 72–73, for example), had patented several designs and later operated a 'flourishing' Melbourne telephone business until 1885. Edwards was mentioned by the Victorian Postmaster-General during the proposed government takeover of the Melbourne Telephone Exchange Company as:

...the first; but he seems to have been more of a practical electrician than a commercial man. He was not so active as the company have been in pressing this – as it was then – new invention on the public notice, and he did not increase the business to any large extent, while they have gone ahead. I have no doubt beyond their expectations (The Argus [34], 1887 [34], p. 9).

It is interesting that the Masters and Draper design, the first telephone exchange in the country, was not adopted elsewhere. Similarly, Edwards' achievements as the original pioneer of telephone exchanges did not go unnoticed by Derham, then Postmaster-General of Victoria. However, when it came to establishing exchanges in Brisbane and later Sydney (Telstra, 2021 [35]), overseas equipment was adopted with no consideration for what had been established locally. Further, E. C. Cracknell (Rutledge & Affleck, 1969 [36]), superintendent of telegraphs in NSW, prevented a telephone line being connected between the General Post Office in Sydney with the Royal Exchange. Businessmen at the Royal Exchange decided to build their own telephone exchange to connect to Sydney's docks and this proved to be successful until the exchange burnt down. By this time, Cracknell had decided to open an exchange at the Sydney Post Office, so the private venture, along with Australia's local telephone manufacturing industry, ended abruptly.

According to McLean (1984^[37], pp. 1–2), by 1901 ‘there were fewer than 33,000 telephone instruments in use among a population of 3.8 million – less than one for each 100 people’. At Federation, the *Post and Telegraph Act* of 1901 gave the Postmaster General the power to regulate the cost of telephone calls, and there were various attempts to standardise fees across the country. Annual fees or ‘flat rates’ soon gave way to a ‘toll’ or ‘measured rate’ system to remove discrimination ‘against subscribers who made little use of the phone’ and, allegedly, to discourage ‘the practice of subscribers granting non-subscribers use of their telephones without payment’ (McLean, 1984^[37], p. 4). According to McLean (1984^[37], p. 18), to change post and telegraph charges required a change in legislation, whereas telephone charges could be changed by the department. This meant that ‘telephone charges rarely featured in parliamentary discussion’.

The convergence of posts, telegraphs and telephones in the colonies established a precedent that was readily incorporated into the Australian constitution at Federation in 1901. Moreover, almost fifty years of colonial cooperation in posts and telegraphs enabled the telecommunications industry to be assumed by the federal government under its constitutional responsibilities for ‘postal, telegraphic, telephonic, and other like services’ (Livingston, 1996^[13], p. 4–5). Further, both world wars served to increase the preponderance of government monopoly provision as defence powers and telecommunications powers reinforced each other. As such, it would be unreasonable to expect that the amalgamation of the various services would be a seamless process. Nevertheless, the government monolith continued to have problems well into the 1920s, where periods ‘of unsatisfied demand for telephones’ existed. McLean (1984^[37], p. 2) suggests that this was either because of ‘shortages of materials, or government directives’ or simply because ‘the spread of telephones [w]as a process of diffusion towards some level of market saturation’. Regardless, persistent issues such as the Postmaster-General’s pricing policies and conditions ‘clearly reflect[ed] government policy and were intended to favour particular groups – and not just farmers’ (McLean, 1984^[37], p. 42). By this time, telecommunications was firmly entrenched as a political tool – or a ‘policy lever’ – to be ‘pulled’ whenever government needed to secure votes.

Liberalising the Telecommunications Market

The global economic crises of the 1970s triggered significant social policy changes under the Whitlam Government.^{xi}^[38] Responsibility for postal and telecommunications services, which had been amalgamated under the control of the PMG from 1901 until 1975, was separated into two statutory monopolies: the Australian Postal Commission (trading as Australia Post) and the Australian Telecommunications Commission (trading as Telecom Australia).^{xii}^[39] Domestic telecommunications remained under the regulation of Telecom Australia, which retained responsibility for equipment, infrastructure and administration of telecommunications services. Telecommunications policy focused on the concept of the ‘universal service obligation’ which was a key component of the Australian telecommunications framework for many years (DCITA, 1997^[40]). Nonetheless, the new governance arrangements for telecommunications provided a more ‘business-like’ approach to service delivery and somewhat shielded Telecom from the political concerns that often plagued the PMG (Moyal, 1984^[5], pp. 299, 312). By 1980, Telecom had a teledensity in Australia at a level of almost one telephone for every two Australians (McLean, 1984^[37], pp. 1–2). However, Telecom was plagued by ‘a distinctly unfavourable image compounded by extravagance, inefficiency and high cost to the consumer coupled with large profits for itself’ (Moyal, 1984^[5], p. 309).

During the 1980s, global trends precipitated a move away from public ownership of telecommunications infrastructure in most of the highly industrialised countries toward market-based solutions designed to reduce the cost of providing government services (Martyn, 2003 ^[41], p. 327).^{xiii} ^[42] Up until this time, monopoly provision of telecommunications services had been supported by assumptions pertaining to ‘natural monopolies’. In 1981, a Committee of Inquiry into Telecommunications Services in Australia was appointed to investigate, among other things, ‘the extent to which the private sector could be more widely involved ... in the provision of telecommunications services’ and the relevant issues surrounding a move to a competitive market system (Commonwealth of Australia, 1982 ^[43], p. 1). Early moves towards a market-based telecommunications sector began with Telecom’s successful \$200 million ‘keeping you in touch with tomorrow’ borrowing campaign in 1976 with both the public and financial institutions as a way to fund capital expenditure (Moyal, 1984 ^[5], pp. 309–311). Politics, however, was never far away and a dispute with trade unions in 1978, initially over new equipment^{xiv} ^[44] that resulted in job losses, caused political problems for the government.

Bob Hawke (cited in Moyal (1984 ^[5]), p. 323), then President of the Australian Council of Trade Unions (ACTU), claimed that the government, in refusing to let Telecom management negotiate with the unions, ‘was facing a Luddite position, that if it went ahead and introduced the new equipment in disregard of the wishes of its employees the danger of sabotage was real’. According to Moyal (1984 ^[5], pp. 315–335), much of the debate over the introduction of new telecommunications technologies was linked to issues about the responsibility for public entities to provide employment. With rising unemployment coinciding with Telecom’s increasing profits, social justice issues affected by technological change outweighed consumer demands for the provision of improved telecommunications technologies. Disputes with unions about wages and the introduction of new technologies did not go away, and the politics of telecommunications soon became more intense as Telecom attempted to capture new technologies such as cable television and videotex (Moyal, 1984 ^[5], p. 379). As the capabilities of telecommunications technologies extended beyond the telephone, Telecom increasingly encroached on the private sector, in particular Kerry Packer’s Publishing and Broadcasting Ltd, and political pressure to move to a market-based telecommunications sector increased (Barry, 2008 ^[45]).

The Davidson report^{xv} ^[46] recommended the introduction of a competitive telecommunications market, with Telecom Australia reconfigured as a government-owned incorporated company, with responsibility for equipment regulation and manufacture transferred to separate entities. In effect, Davidson was introducing a ‘user-pays’ principle into the provision of telecommunications services that did not fit comfortably with the ideas of universal service established years before. While the Fraser Government set about implementing Davidson’s recommendation, but in ‘measured stages’, the embeddedness of telecommunications in the Australian political psyche enabled the Hawke Government to go to the polls in 1983 with a commitment to retain the ATC (Telecom) as the national carrier (Moyal, 1984 ^[5], p. 383). This decision was short-lived, however, and the Hawke Government enacted the *Telecommunications Act 1989* and corporatised the ATC as part of a series of Australian telecommunications reforms. Competition in value-added services was introduced, and the Australian Telecommunications Authority (AUSTEL) was established as a regulatory agency designed to ‘protect consumers and ensure fair competition’ (Martyn, 2003 ^[41], p. 325).

The next two stages of telecommunications reform occurred with the introduction of the *Telecommunications Act 1991* by the Hawke Government, followed by the Howard Government's *Telecommunications Act 1997*. The first act saw the introduction of Optus and Vodaphone^{xvi} [47] as major competitors to the newly formed, 100% government-owned Telstra Corporation Limited. Under the supervision of AUSTEL, Telstra was to provide access rights to retail competitors who resold basic carriage services provided by Telstra (Martyn, 2003 [41], p. 325). Coinciding with the introduction of competition was the establishment of the Telecommunications Industry Ombudsman as a self-regulatory body designed to resolve consumer complaints (Stuhmcke, 1998 [48], p. 808). The second act amended the *Trade Practices Act 1974* to reduce the barriers for new industry entrants and, by 2003, 'more than 60 holders of carrier licences in Australia and around 130 providers of telephony carriage services' were competing with Telstra. Further, the Australian Government had commenced a phased privatisation of Telstra by selling its shares via the Australian Stock Exchange (Taylor, 2003 [49], p. 325; O'Leary, 2003 [50]).

In 2006, the Howard Government completed the privatisation of Telstra, thus ending over 150 years of government control of telecommunications services. Nonetheless, the government's refusal to reduce Telstra's market dominance before the sale had numerous implications (Koutsoukis, 2005 [51]). The telecommunications market was far from mature and, even then, it was considered unlikely that competition would thrive while Telstra remained unchanged. However, some semblance of competition existed in the mobile telephony sector, as the new technology was initially seen as complementary and therefore largely ignored by government. Yet Telstra still controlled the backhaul infrastructure and the landline market, even though the ageing copper network was fast approaching the end of its useful life. In attempting to extend its return on investment, Telstra was regularly accused of engaging in anti-competitive behaviour (Bustos, 1999 [52]). Legislation crafted in 2005 to prevent Telstra from engaging in anti-competitive behaviour did not produce the desired effect, and by 2008 the chairman of the ACCC admitted that the legislation had proven to be ineffective (Hendry, 2008 [53]). The politics of the Australian telecommunications industry did not end with privatisation, and consumers continued to expect government to influence the price and quality of telecommunications services. While the structure and the major players had changed, federal politics, empowered by section 51(v) of the *Australian Constitution*, projected the industry along the same trajectory it had been launched upon more than 150 years beforehand.

The implementation of the National Broadband Network (NBN) in 2009 signalled the apparent end of Australia's experiment with a competitive telecommunications market. However, the NBN became embroiled in further politics as costs mounted, delays ensued, and governments changed, resulting in controversial changes to the infrastructural design of the NBN. Since 2019, private sector investment in fixed-line infrastructure has been overshadowed by advances in 4G (LTE) and 5G mobile broadband technologies that appear to be outperforming the download speeds envisaged by the Coalition Government's Fibre-to-the-Node NBN introduced in 2013. But that story is beyond the scope of this article.

Conclusion

In examining the early history of Australia's telecommunications industry, the private sector's role has been relatively minor, with a clear policy preference for government ownership of its dominant infrastructure from the beginnings of the telegraph to the present day. However, the long history of public sector ownership overshadows the innovative capacity of Australia's private sector involvement in the industry. To be sure, it is unlikely that Australia's private sector could have achieved what public ownership did for connecting Australians to each other and the rest of the world, but old habits appear hard to break. The tyranny of distance, a small population, the established primary industries, what Kelly (2004 [54]) famously referred to as 'the Australian Settlement' argument, and a lack of private sector investment funds all necessitated government action to deploy an effective telecommunications network.

Nevertheless, the failure of the market to adequately address Australia's communications technology needs (the Howard government's failure to structurally separate Telstra notwithstanding) and the subsequent return to a government-dominated telecommunications network via NBN Co. demonstrates the powerful hold historical legacies have over policymaking in the present. Again, the point of this article is not to suggest that the private sector could have produced a better outcome over time. But the historical record has privileged stories of public sector success over the private sector in the Australian telecommunications industry, despite some early innovations by Australian inventors and entrepreneurs. This article has not attempted to set the record straight, as it were, but to point out an important yet otherwise forgotten history of Australia's pioneering telecommunications industry.

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i ^[73] Coghlan (1900 ^[27], p. 711) claimed that the first telegraph in Australia appeared in NSW in 1851. This is disputed and there is no historical evidence other than this claim.

ii ^[74] McGowan was born in Ireland and was educated in Kingston, Ontario. He studied under Morse but also worked with the earliest telegraph companies in Canada, including the Toronto and Buffalo Electro-Magnetic Telegraph Company, the Montreal Telegraph Company, and the New York, Albany and Buffalo Telegraph Company (Gittens, 1974 ^[75]; Demant, 2009 ^[9]). McGowan was a competent telegrapher and had worked on the construction and operation of telegraph lines in North America.

iii ^[76] W. H. Butcher, one of the Canadian contractors, would later accept the position of superintendent of telegraph with the Tasmanian Government.

iv ^[77] See Livingston (1996 ^[13]) for further details. Although cooperation was an important feature of intercolonial telegraphic communications, intercolonial competition ensured that 'cooperation' was achieved only through vigorous debate and politicking.

v ^[78] The Singapore-Java cable was established by the British Australian Telegraph Company, an early predecessor to the British Cable & Wireless Group. The Cable & Wireless Group was predominantly owned and controlled by Sir John Pender and the Pender family until the Group was nationalised by the British Government in 1947, despite Cable & Wireless' petitions. The assets of the Company were subsequently integrated with those of the British Post Office (Livingston, 1996 ^[13], pp. 27-29).

vi ^[79] For example, the Overland Telegraph Line (OTL) was not the only attempt to connect to Darwin in preparation for the international link. The Queensland Government had attempted to secure the connection to the overseas link with their own telegraph line around the Gulf of Carpentaria, but this venture failed when the South Australian Government agreed to cover some of the costs of construction for the British Australian Telegraph Company (Livingston, 1996 ^[13], pp. 27-29).

vii ^[80] Although Moyal (1984 ^[5], p. 88–89) outlines the reluctance of some of the Colonial Postmasters General to lose their positions of power, and some of the political difficulties associated with filling the position of Federal Postmaster General, there was no significant challenge to the federal government's power to manage the national telecommunications network.

viii ^[81] See the *Year Book* series by the Australian Bureau of Statistics from 1907 up until 1917, when the section on wireless telegraphy was discontinued due to the First World War. For many years, wireless telegraphy was regarded as primarily a matter for shipping, in particular the Navy, and not as an alternative means for general communication. The *Wireless Telegraphy Act* came into effect in 1905 but the significance of wireless technology beyond telegraphy would not be fully realised until radio launched the broadcasting industry in the 1920s.

ix ^[82] That is, beyond the monopoly position in wireless technology that was eventually negotiated with Amalgamated Wireless (Australasia) Ltd.

- x ^[83] There is some disagreement over which telephone line was first: on 2 January 1878, McLean Bros & Rigg ([Demant, 2009](#) ^[9]) in Elizabeth St in Melbourne connecting with their Spencer Street Depot; or the system established by Robison Brothers, connecting their Flinders Street Office to their South Melbourne works in 1879 ([Moyal, 1984](#) ^[5], p. 73).
- xi ^[84] The Whitlam Government was the first federal Labor government since 1949.
- xii ^[85] International telecommunications services were provided by the Overseas Telecommunications Commission (OTC), which was also a statutory monopoly ([Martyn, 2003](#) ^[41], p. 328).
- xiii ^[86] See Raiche ([1997](#) ^[87]): 'The Uruguay Round of the General Agreement on Trade and Tariffs (GATT) negotiations, which included trade in services, meant liberalisation of telecommunications regimes was truly on the international agenda'.
- xiv ^[88] In particular, the Ericsson ARE 11 local switching system ([Moyal, 1984](#) ^[5], p. 323).
- xv ^[89] Formally the Report of the Committee of Inquiry into Telecommunications Services in Australia ([Commonwealth of Australia, 1982](#) ^[43]).
- xvi ^[90] Vodaphone competed in the provision of mobile telephone services only ([O'Leary, 2003](#) ^[50]).

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