



# New Histories of British Imperial Communication and the 'Networked World' of the 19th and Early 20th Centuries

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## Abstract

A number of recent histories of Britain's late-19th century telegraph network have taken inspiration from many sources, not least historians' concern to test and delineate the contemporary and modern world of transnational policymaking, the return of maritime history to the forefront of historical studies, and the desire to understand the late 19th century empire that seemed to be drawing strength from technological progress. But another key reason for this new interest in the electric telegraph is clearly the communications revolution of the last 20 years, and the internet's development as the main means of dealing with information in the modern world. This article demonstrates just how important this present-mindedness has been, but it also shows just how unlike the internet was the Victorian telegraph system, for it was expensive, patchy and often unreliable, encouraging letter-writing and ship-borne commerce just as much as electronic communication. The telegraph's inauguration reinforced local and imperial nationalisms and rivalries, and arms races, whatever the liberal hopes invested in it; its arrival often led to the concentration of press ownership and a sense of intra-imperial, rather than global or trans-continental, links. The example of the telegraph, it is contended, should form a cautionary example of how problematical it is to take present-day developments and apply them – even as organising concepts – to the past.

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## *The Transatlantic Cable 'Revolutions' of 1858 and 1866*

On 5.15am on Thursday 5 August 1858, a shore detail from the 4582 ton USS *Niagara* – the largest steam frigate in the world – dragged a huge and heavy cable ashore at Trinity Bay, Newfoundland, and connected it to a covered cable on the land. By the end of the same day, HMS *Agamemnon* dropped another cable in Ireland, while her crew fired guns to wake Knightstown's sleepy villagers. At 2.45 am, the next morning, 6 August, the first human signal ever to pass electrically between continents was exchanged through those cables and between the two sides of the ocean.<sup>1</sup> The mood at the time can be captured by the first substantial message that was sent between the directors of the Atlantic Telegraph Company in Britain to their counterparts in the USA: 'Europe and America are united by telegraphic communication. "Glory to God in the highest, on Earth peace, goodwill towards men"''.<sup>2</sup>

*Niagara* and *Agamemnon's* success was a relief for its promoters, to say the least. As the *London Times* reflected at the time at Valentia Bay: 'never, probably, was the sight of land more welcome, as it brought to a successful conclusion one of the greatest, but at the same time most difficult, schemes which was ever undertaken'. The Atlantic Telegraph Company, formed in 1856, had already failed twice to bridge the Atlantic, once the previous year and then again in June 1858. That last attempt had seen *Agamemnon*, in particular, brave gales and huge waves in her efforts to get the job done. For a week

between 14 and 21 June, the men lay in their hammocks unable to sleep, as planks of the upper deck began to work loose; twice the ship nearly went over before her captain, George Preedy, could bring her about and run before the storm. Nicholas Wood, the *Times* of London's correspondent on board, described the scene on the second day of the storm: 'three or four gigantic waves were seen approaching the ship... rolling on like hills of green water, with a crown of foam that seemed to double their height... there was a fearful crashing as she [the ship] lay over... for everything broke adrift'. The ship was lucky to survive, let alone finish her cable-laying duties.<sup>3</sup>

Unfortunately for the Atlantic Telegraph Company, the transatlantic link broke down very quickly. It proved unreliable from the start, and many messages had to be repeated. During August, the cable became less and less reliable. By September, only a few words at a time could be carried; on 20 October, the line finally went dead. All attempts to revive it ended in failure – a disaster that, for a time, helped to bring the entire idea into disrepute. £300,000 had been sunk, with virtually no results, into the Atlantic. A Red Sea cable to India had also failed, at an even greater cost of £800,000. A total of 11,364 miles of telegraph cable had been laid across the globe, but only 3000 miles were operating.<sup>4</sup>

By the time Isambard Kingdom Brunel's enormous steamer the SS *Great Eastern* set out from Ireland on the same mission, on 13 July 1866, there had been yet another failure in 1865; the cable had snapped after becoming entangled in the laying-out machinery.<sup>5</sup> This time, the great ship sailed a little earlier in the year and at a point in the calendar when the sea was likely to be calmer. The decision was entirely justified by the flat calm that greeted most of its voyage that year. Only once did the cable become enmeshed in the machinery, and this time it luckily became tangled in other loops of the line rather than any sharp edges. Apart from this mishap, the ship reached Trinity Bay in Canada without much event on Friday, 27 July.<sup>6</sup> The idea's key American promoter, Cyrus Field, immediately sent the news by packet boat to New York. His message, which arrived in that city on 29 July, was an apt one for two decades of maritime engineering effort: 'I cannot find words suitable to convey my admiration for the men who have so ably conducted the nautical, engineering, and electrical departments of this enterprise, amidst difficulties'.<sup>7</sup>

All this was indeed an enormous achievement. But it was a success that had wider implications than any mere feat of ingenuity and endurance, however impressive. What these sailors and technicians had achieved would come to be seen as an Imperial and global communications revolution that historians have increasingly come to understand as a parallel and counterpoint to the internet revolution of the last 20 years. The 'new' imperial histories of the 1990s and 2000s have traced out many other themes: the nature of imperial knowledge production, including novel geographical and statistical imaginings; different methods of knowledge transfer, including the influence of cadres of experts and promoters; and the question of how the Victorians debated whether their Empire could ever become a coherent force in domestic or world affairs. But the cable network that *Niagara* and *Agamemnon* had helped to inaugurate created and constantly re-created all of those fresh bonds. The re-discovery of this 'Victorian internet' has therefore become a central and even unifying strand among these concerns – and one fostered by the 'networked society' that is the subject of so many hopes, claims and fears today.

### *The 'Annihilation of Space': Contemporary Thought and Modern Historiography*

Many observers believed, even at the time, that the cable network had changed the world for good. The second Charles Bright, son of the Atlantic Telegraph's engineer Charles Tilston Bright who laboured for so long to build the original cables, might be taken as a

representative enthusiast. He thought the completion of the Pacific cable to Australia in 1902 meant that ‘at one stroke’ that ‘country was brought, telegraphically speaking, 10,000 miles nearer to the Dominion of Canada than before’. These cables, thought Bright, were ‘practically annihilating space’.<sup>8</sup> ‘The world’s system of electrical nerves’, he called them.<sup>9</sup> He was hardly alone in such thoughts. ‘There are no longer any far off lands’, *The Telegraph* declared in the 1860s: ‘time itself is telegraphed out of existence’. The *Times* imagined that ‘moderation and peace’ would be the inevitable consequence of the cross-Channel cable completed in 1851.<sup>10</sup>

The worldwide progress of the cable system, which reached for instance Alexandria in 1861, Suez in 1863, Bombay in 1865, Australia in 1871 and then New Zealand in 1876, lifted the hopes of many progressive social theorists and humanitarians. Liberal political and legal thinkers such as the Frenchman Charles Vergé argued that the telegraph and the railway line would lead human societies inevitably to progress towards an integrated and peaceful international community.<sup>11</sup> At a more popular level, the New York *Evening Post* thought that Field’s first cable attempt might ‘make the great heart of humanity beat with a single pulse’. A placard in the New York parade celebrating the 1858 achievement reported ‘married’ ‘In the Church of Progress,/ At the altar of Commerce,/ The Old to the New World./ May they never be divorced!’<sup>12</sup> Two journalists captured the mood of the first apparent success in 1858:

Of all the marvellous achievements of modern science, the Electric Telegraph is transcendently the greatest and most serviceable to mankind. It is a perpetual miracle, which no familiarity can render commonplace... To say that this achievement marks an era in social life is not to give it the proper characterization. It marks an era in the unfolding of the human mind. The Telegraph has more than a mechanical meaning; it has an ideal, a religious, and a prospective significance, far-reaching and incalculable in its influences.<sup>13</sup>

Liberals’ hopes were by no means all misplaced. The telegraph stimulated thinking about how oceanic space should be governed, leading to the creation of the world’s first multi-national body – the International Telegraph Union of 1865, itself taken as a model by the Universal Postal Union of 1874.<sup>14</sup> The management of the cables themselves were covered by the ‘International Convention for the Protection of Submarine Cables’, signed by forty nations in 1884.<sup>15</sup>

It is little wonder, then, that historians have been reassessing the importance of this ‘new era in the unfolding mind’. A number of new histories have issued from both academic and most popular presses. Gillian Cookson’s 2003 book *The Wire that Changed the World* told the story of the Atlantic Telegraph Company’s exploits; Chester Hearn’s *Circuits in the Sea*, published in 2004, lionised the engineers and financiers involved; economic historians such as Erik Baark have delineated how the cable system might have allowed developing nations such as China to leap forwards into the ‘second industrial revolution’ of the late 19th century.<sup>16</sup> Historians of science have imagined Britain’s dominance of the new cable technology as *the* exogenous variable required to explain the country’s hegemony in ‘peace keeping’ and ‘law and order’; recent treatments of the life of Lord Kelvin, who served on the 1865 and 1866 attempts to lay the transatlantic cable, have placed more weight than hitherto on his engineering work.<sup>17</sup>

There are many other reasons for this renewal of interest. Historians’ recent concern with transnational learning is highlighted yet again by the depth and breadth of the network’s international governance.<sup>18</sup> The recrudescence of maritime history, as much concerned with the effect of the ocean on land as on the ships that carried the cables, has been another factor.<sup>19</sup> But the cable system was full of ideological ramifications for

the Empire, too – the main thrust of serious historical writing on this subject. After at least one scholarly generation has endlessly unpackaged the ‘decline’, ‘destruction’ or ‘fall’ of the British Empire, new emergent literatures have been focusing on a period and a rhetoric that saw the Empire as *new*: as a dynamic, purposeful, regenerative set of possible futures, which might save the home islands from a spiral of economic, political and spiritual decline.<sup>20</sup> The work of the Cambridge academic Duncan Bell and his 2007 book *The Idea of Greater Britain* have been foremost in this re-assessment. *The Idea of Greater Britain* persuasively shows how by the 1890s, the struggle over Imperial federation was enacted against a background of perpetually alternating confidence and pessimism regarding the future of both nation and Empire. He has termed this ‘a constantly mutating blend of optimism and anxiety’ that filled the political sphere with recipes for Imperial and thus national renewal.<sup>21</sup>

The telegraph played a key role in this debate, for it altered how Britons perceived the vast distances that separated them from colonies and Dominions. As Bell puts it, ‘the history of globalisation is as much a history of the perception that the world is “shrinking” as it is a history of increasing economic interdependence’. The global imperial dreams of the late 19th century can at least partly be explained by reference to the worldwide communications network that was then emerging. British *information*, news, ‘facts’ and perceptions, rather than her armies and navies, might now encircle the globe. As Bell has further argued, therefore, ‘technological change was not important simply because it helped to meet imperial “goals”, but because it reshaped the very identity and direction of the goals themselves’.<sup>22</sup> Maps of the empire clearly marked the ‘all-red routes’ in just that colour. They were clearly being imagined as owned by Britain, and as both linking together and sealing off her scattered territories.<sup>23</sup> The telegraph allowed, for instance, the imposition of British time discipline throughout the world in the form of Greenwich Mean Time, promoted as it was by George Biddell Airy as Astronomer Royal in the 1850s.<sup>24</sup>

These ‘British’ identities did not all emerge at the metropole before passing ‘outwards’ to Imperial outposts. Alan Lester has recently noted that the areas switched ‘on’ by the arrival of the cable system became major metropolitan hubs in their own right, blotting out the non-Imperial areas without cables that were consequently switched ‘off’. The relatively noisy message-writing of the cities and townships in those dominions and colonies with a cable station tended to silence those without.<sup>25</sup> This new literature owes much, if often implicitly, to post-modern and post-structuralist ways of thinking: Bell is explicit about his debt to the radical geographer David Harvey, who has analysed new theories of time and space as integral to the creation of modernism itself; Lester, drawing more implicitly on post-colonial literary theory, argues that his focus is similarly on ‘a more differentiated and spatialised conception of British colonial discourses’.<sup>26</sup>

The new emphasis on such ‘discourses’ has permitted historians to analyse colonial reciprocity and the freely-floating ‘Britishness’ that emerged at the empire’s limits, relying not just on electric signals but reinforced by personal letters, increased trade and local and regional news outlets.<sup>27</sup> Carl Bridge and Kent Fedorowich have highlighted the growth and vitality of such imperial cities as Melbourne, Auckland and Toronto that were now linked directly to one another for the first time.<sup>28</sup> These were now linked not just to London but also directly to one another and to their own rural hinterlands; the great majority of traffic on the trans-Tasman line that linked Australia and New Zealand from 1876 passed between and within those two societies.<sup>29</sup> Those fast-growing new cities forged new identities in an entirely different manner to those of Britain’s African and Indian possessions, inevitable perhaps given their quite distinct racial characteristics,

history and geography; they were hardly on 'one great plane'. But their dynamism, and their connections to 'Britishness' and to each other on the eve of the First World War, were unimaginable without the electric telegraph spanning the oceans.

The ideology of a 'new' or even 'third' British Empire, so obvious in the late 19th century as the world seemed to shrink, is therefore at the heart of the recent histories of the telegraph network. But another key reason for the recent flurry of works in this area is connected with that sense of speed, namely the fact that the 'annihilation of space' resonates deeply at the start of the 21st century, a period when 'the annihilation of space' was once again a familiar topic of public discourse. In the hands of writers without the deep reserves of research and knowledge of context mobilised by authors such as Bell and Lester, this fascination with rapidity can seem disconcertingly crude. The journalist Tim Standage, in his lively and populist 1998 book *The Victorian Internet*, only made plain a comparison that is implicitly (and perhaps more sensitively) explored in more academic work:

Although it has now faded from view, the telegraph lives on within the communication technologies that have substantially built upon its foundations: the telephone, the fax machine, and more recently, the Internet. And it is the Internet – despite being regarded as a quintessentially modern means of communication – that has the most in common with its telegraphic predecessor. Like the telegraph network, the Internet allows people to communicate across greater distances using interconnected networks. Common rules and protocols enable any sort of computer to exchange message with any other – just as messages could easily be passed from one kind of telegraphic apparatus to another. The journey of an e-mail message, as it hops from mail server to mail server, towards its destination, mirrors the passage of a telegram from one telegraph office to another.<sup>30</sup>

Many authors, in a number of allied but sometimes ahistorical fields, have drawn on this 'first internet' to recommend lessons or policies for the World Wide Web. The parallel is sometimes taken for granted. Textual critics such as Elleke Boehmer have been explicit in analysing these new links as involving, 'like the Web today', 'intensely modern disintegrations' of time and place.<sup>31</sup> The criminologist Michael McGuire has argued that telegraph fraud and the misuse of financial information in the mid-19th century showed just how far 'the basic principles of telepresence were already in place'. 'More pervasive compressed social relations' were the result, with the telegraph delivering on its 'capacity to "accelerate" time'.<sup>32</sup> In *Digital Ego*, cyberspace expert Jacob Van Kokswijk's 2007 exploration of 'online' identity, Van Kokswijk has contended that the female telegraphers who took down and transmitted 19th century cable messages were akin to the 'webmasters' of today. 'Chat rooms and the online social life', he argues, 'arose in the 1860s', among bored telegraphers who 'chatted with each other, swapping stories, jokes, news, rumours, and played chess'.<sup>33</sup> Geographers' 'atlases of the Internet' contain maps of the worldwide telegraph as early chapters in a deterministic progress; some cultural studies academics tracking financial globalization find that 'it is not difficult to make a comparison between that web and the contemporary construction of global telecommunications networks by carrier operators'.<sup>34</sup>

Each of these disciplines and studies might benefit from a deeper familiarity with the new historiography of the British Empire and the telegraph that has been taking hold in the last 20 years – at a time when the Internet has infiltrated many elements of day-to-day life, in the developed world at least. For it is the ragged, multilinear, uncertain and unpredictable nature of change, rather than its smooth 'acceleration', which is most notable in (very different) work of Bell, Lester, Bridge and Fedorowich. It is an emphasis

increasingly familiar across the discipline – in, for instance, legal history, which increasingly emphasises the chaotic, multilinear but still symbolic nature of power in the developing international system and the constantly-emergent corpus of international law.<sup>35</sup> The present-mindedness of other and less historically minded authors objectifies and utilises the past rather than exploring and delineating its contingent nature. Historians themselves cannot but be affected by the fact that they are living through another communications revolution carried through to the sound of very similar claims, but this essay will argue that the parallels with, and thus the ‘lessons’ from, this imagined past can be deeply misleading.

### *The Unwired World and the Uses of History*

Many of the more hopeful and confident claims for the telegraph that were made at the time had eventually to be qualified. The telegraph was *not* an instantaneous means of communication. Its similarity to the latter-day Internet is more notable for the technophilia and sometimes uncritical admiration which it garnered than for any objective comparison between the two technologies.<sup>36</sup> They tell us more about the manner in which we see the past than how the cable system was actually imagined and used in the 19th century. As Iwan Rhys Moruis has pointed out, the comparison is ‘deeply anachronistic. Victorian understandings of the telegraph were formed and informed by the tangle of assumptions and aspirations that made up their own daily culture’.<sup>37</sup> It is as important to be clear about how the telegraph system *differed* from our own world as we can be about the parallels between the two periods.

Telegrams sent through long submarine cables did arrive very quickly, but they might take some hours because the surrounding water absorbed electricity and blurred the signal. In any case, telegraphers at the other end of the wire had to operate at an average speed of no more than 30 words per minute as they listened to the often-faint impulses coming down the cable. It was a problem that was not solved until the 1920s and the laying of ‘loaded’ cables, which sustained a much sharper signal.<sup>38</sup> Recurrent failures on the line to South Africa, for instance, led to gaps appearing in cable messages. The first unbroken telegraph connection to India that opened in January 1865 took days, rather than hours, to carry messages to the subcontinent, and they frequently arrived in a garbled and unusable state.<sup>39</sup> They then had to be handled and rehandled by the ubiquitous ‘messenger boys’ who became a familiar trope of both late 19th-century fiction and attempts to understand and appeal to ‘the people’. It was and is a class that Gregory Downey has well evoked in an American context, and whose lives are obliterated in any simple-minded treatment of the ‘first internet’.<sup>40</sup> Given these links in the chain, and their attendant uncertainty, it was understandable – despite subsequent advances in the machinery used – that in 1893, the Colonial Office handled an average of six telegrams per office day, while it dealt with 138 letters and dispatches.<sup>41</sup>

The relative expense and difficulty of using the cable system meant that information certainly did not become universally available, or even accessible on a more liberal basis. High costs caused a concentration of colonial press ownership that became increasingly difficult to reverse, as Simon Potter has made clear.<sup>42</sup> The ownership of Australian newspapers became more concentrated, and their sources more one-dimensional, due to the cable. New Zealand’s single press association of 1878 had a monopoly of up-to-date news information until well after the First World War. This did tie the country more closely to Britain as the source of much of her news, but it also bound New Zealand itself more closely together as citizens became recipients of the same news stories wherever they

lived.<sup>43</sup> The press agency Reuters was able to take advantage of its existing market strength since, as the eastern cable had begun its slow progress towards the Antipodes, Reuters had maintained agencies at each telegraph station along the line. The agency was thus able to establish itself as the main purveyor of information on the mail ships that then sailed towards Australia and New Zealand, carrying the latest news, from the end of the line. Reuters' dreams of completely dominating the Australian market were only thwarted by the concerted action of the *Sydney Morning Herald's* rival papers.<sup>44</sup>

Nor did the cables eliminate the importance of letters carried by ship – a form of communication that has, quite rightly, been attracting nearly as much attention as the cable network in recent years. The work of Sarah Pearsall, Konstantin Dierks, Erika Rappaport and Elizabeth Buettner has shown just how important letter-writing was in the emotional support of Imperial families and the idea of 'British space' across colonial North America and India both before and after the cable revolution.<sup>45</sup> The faster steam ships of the late 19th century even offered much quicker shipborne transit for both letters and print journalism than had hitherto been possible, and might be a good deal more reliable than cables. The Peninsular Steam Navigation Company that gradually evolved into the conglomerate P&O, the 'Pacific and Orient' is the best example of this world-girdling network. Its first two lines to Alexandria in 1840, and its first link to India at Calcutta via Suez and then its initial Singapore-Sydney mail route established in 1852–53, opened a new and more reliable age of direct mail services.<sup>46</sup> Macgregor Laird's African Steamship Company, operating out of Liverpool from 1852, was another good example, running 1000 ton steamers to Lagos every week. Laird soon made the service even more regular, and the ships covered 4157 miles in 23 days, even allowing for stops on the way. The regularity and reliability of the service helps explain why there was no West African cable until 1886.<sup>47</sup> A monthly steamship ran on the route between Cape Town and Plymouth from 1851, cutting the journey time on that route to 43 days. Lester has shown, in his pathbreaking book on *Imperial Networks* and the formation of colonial identities in southern Africa, just how important the low cost of steam communication really was: for it 'allowed the Cape reading market to be flooded with more up-to-date metropolitan newspapers, magazines and books'.<sup>48</sup> It was not just the telegraph that was shrinking the world.

Letters carried by ship cost a great deal less than cables, partly because they were so heavily subsidised by the state. The British government was spending no less than £1m a year annually on mail contracts by 1860.<sup>49</sup> The West African cable of 1886 cost eight shillings and ten pence per word for transmitting messages to Lagos: Macgregor Laird's steamships were much cheaper.<sup>50</sup> The original transatlantic cable of 1858 charged \$100 or £22 for a minimum of 20 words.<sup>51</sup> It was only when tariffs on cable communication were lowered, as they were for instance to India in 1885 and Australia in 1890, that the number of messages sent really began to take off; Indian traffic increased tenfold in 20 years, while Australian demand increased from about 800,000 to around 2.3 million words between 1890 and 1897.<sup>52</sup> The number of physical letters carried on board ships grew, rather than falling under competitive challenge by the telegraph; this phenomenon was especially marked after the first postcards were introduced in Austria in 1869, and Germany and Britain in 1870.<sup>53</sup>

The cable network remained similarly 'grounded' in pre-existing technological and political reality on land as well as at sea. For many decades, the telegraph was linked to the railways on which the cables were fixed. Much more was spent on railways inside Britain itself than on submarine cables, and it had been the Great Western Railway's use of the technique on their line from Paddington to Slough that had first shown how

useful the technology could be.<sup>54</sup> The initial cables between Australia's major cities were carried by railways, aspiring as they did to spread the latest news that had arrived in any one port.<sup>55</sup> The cable network could, for many decades, get no message through to the borders of the Empire without a long train journey involved at the end of the line.

As for reducing 'conflict and misunderstandings', by the early 21st century, these electric lines resembled the tentacles of an imperial octopus; they were increasingly managed, protected and defended as strategic assets. In common with international law and transnational economic links more generally, its influence was more difficult and halting than many contemporaries, and many present commentators, have supposed. Governments in London remained unworried for many years as to the security of their long-distance cables. The lack of an oceanic naval challenge and the losses that the Treasury had made backing the trans-Atlantic schemes of the 1850s and 1860s combined to explain this lack of interest. As late as 1893, the Postmaster-General circulated an Admiralty memorandum casting doubt on any Pacific cable scheme in order to head off Canadian pressure for just such an innovation.<sup>56</sup> But increasingly, cables were seen as national and not international property; as state property and strategic assets to be prized and protected, rather than shared. The nationalisation of Britain's domestic telegraph companies under the Post Office in 1869 was in this sense a harbinger of the future.<sup>57</sup> The expansion of the Indian land telegraph network under Governor-General Dalhousie in the 1850s had helped defeat the Great Rebellion or 'Indian Mutiny' of 1857. When the Chinese government resisted the penetration of western telegraphs in the late 1860s, the Great Northern Telegraph Company was encouraged simply to ignore their objections. In 1870–1871, the Great Northern's cable ship connected Shanghai to Hong Kong via a submarine cable that blatantly ignored Chinese sovereignty. When the China Submarine Company's cable ship connected Hong Kong to Europe in 1871, this southern route was complete.<sup>58</sup>

Contemporaries *thought* that the cable was opening up frictionless and open communications, a universalism to which many political radicals had looked forwards since the Revolutionary and Napoleonic Wars.<sup>59</sup> But the new technology was effecting changes that were often quite the opposite of liberals' hopes, and which remained very different from the multi-lateral internet of today. Britain was now at the heart of a world-wide web of communications that often had to pass through London, the city at its heart. As the French writer Maxime de Margerie argued in 1909, 'if, despite the prodigious development of Antwerp and Hamburg, London remains the great world marketplace, it is because news from overseas arrives there first'.<sup>60</sup> In 1913, Britain owned 281,828 km of sea cable; the USA only 100,831; the French 43,680; and Germany 43,294. Britain owned more of the telecommunications infrastructure than the other great powers put together.<sup>61</sup> Gradually, British officials became convinced that cables could not be 'neutralised' during any major armed conflict, partly because they believed that France and Russia would never sign such an agreement.<sup>62</sup>

'Security' eventually became as all-pervasive a concern and goal as 'peace' and 'commerce' had been in the 1850s and 1860s. Cables were sent through friendly or neutral powers, such as Denmark instead of Prussia – the work of the Great Northern Telegraph Company forging a close relationship between the UK and Denmark from its 1869 inception.<sup>63</sup> The second Charles Bright complained in an essay of 1903 that the existing Pacific cable passed through the USA, and that its Atlantic counterpart was laid 'dangerously near' to St Pierre – a French possession off Newfoundland.<sup>64</sup> An official inter-department committee of 1902 remarked that 'the greater the number of states through which a land telegraph passes, the greater is the probability that one or more of them, at some supreme and critical moment... may exercise its power of interrupting

communication'.<sup>65</sup> Safety from enemy action was a key reason Sir Sandford Fleming, the Canadian Pacific railway's engineer-in-chief, started to advocate a Pacific cable from British Columbia to Australia in the 1880s. He used the Egyptian crisis of 1882 to put his case to the imperial government in London. If the existing cable to the east that passed through Suez could be so easily threatened, his argument ran, it would be better to have another line that reached around the world in the other direction.<sup>66</sup>

These developments really speeded up when Joseph Chamberlain, immense enthusiast for empire that he was, entered the Colonial Office in 1895. Chamberlain quickly assembled a Pacific cable committee, containing representatives of all the colonies and dominions involved; he took the issue to Cabinet, and won, in February 1899.<sup>67</sup> The Colonial Office also came round to the idea once it became clear that a French Company, the Société Française des Télégraphes Sous-Marins, had secured a contract from Queensland and New South Wales to lay a cable to the French colony of New Caledonia. This raised the particularly unappealing prospect for Lord Ripon, the colonial secretary, that the first trans-Pacific cable might be owned by the French.<sup>68</sup> 'The risk of war incident to the present route', Chamberlain told the Cabinet, 'would be avoided by a cable in the opposite direction. It would be throughout at a comparatively remote distance from any foreign naval stronghold; whereas all the present cables to Africa and the East and Australasia pass close to the naval fortresses of Cherbourg, Brest and in the Mediterranean to Bizerta'. And so the line was laid from Vancouver, first to Fanning Island 3450 miles to the south-west, before passing on to Fiji, Norfolk Island and then in two spurs to New Zealand and Queensland in Australia.<sup>69</sup>

### *Conclusions: Information Technology and its Limits*

'Of all our modern wonders the most wonderful': Charles Dickens' judgement on the electric cable was hardly a singular one, as we have seen.<sup>70</sup> The American pioneer Samuel Morse thought that the cable might abolish war, for 'the chances of conflict and misunderstanding must be diminished in an incalculable degree'.<sup>71</sup> We have seen that the worldwide cable network of the late 19th century may have been 'wonderful', but also that it represented rather less of a break with the past than Morse supposed. This realisation should have contemporary consequences, for it is as important now as then to guard against technological determinism as the main variable that explains social change. The limits of the Victorian telegraph system should hardly surprise us in an Internet age whose scholars talk increasingly about multifarious 'digital divides' rather than a single scale or variant of 'information poverty'.<sup>72</sup> Tracing out the social, cultural, geographical, age- and gendered-related *limits* to universal online access becomes a more ubiquitous, and more urgent, task by the day.<sup>73</sup> A history which lacked a similar sense of differential access, of the barriers to technology's adoption and effects – in short, of the 'weighty' as well as the 'weightless' world – would be poverty-stricken indeed.<sup>74</sup>

Even so, something fundamental about perceptions of distance *had* changed, as historians of British Imperial ideologies such as Potter have shown. It is an obvious conclusion if we stretch the time-period out a little, and look at the situation in the 1840s and in 1914. The *Times* had hitherto spent £10,000 a year maintaining a rapid 'extraordinary express' service from India, with special agents, couriers, channel steamers and trains all pressed into service. On the eve of the First World War that gap of many weeks had closed to almost nothing.<sup>75</sup> For the first time in human history, communications had been separated from transportation over vast distances, a major cultural, economic and social upheaval.<sup>76</sup> The idea of 'virtual space', and of the different 'modes' of time

experienced by individuals communicating in different ways, was opened up.<sup>77</sup> Rudyard Kipling's famous poem, 'The deep-sea cables', captured this epochal change: for Kipling, men 'have killed their father time;/ Joining hands in the gloom, a league from the last of the sun./ Hush! Men talk to-day o'er the waste of the ultimate slime,/ And a new Word runs between: whispering, "Let us be one!"'<sup>78</sup>

National and colonial self-images, as well as warlike physical resources, were forged and reformed by these changes. The governor of the Australian colony of Victoria called the telegraph 'a great Imperial binding force' during the South African War of 1899–1902. It took only a few hours for the Colonial Office's pro-war telegrams to reach Australia during this conflict, something which encouraged volunteering and general war fervour across the continent. It took five to seven weeks for the opposite points to be put, since the anti-war *Manchester Guardian* had to be shipped to Australia.<sup>79</sup> Even in Canada, where the US conglomerate Associated had cornered the market, a quarter of reports during the South African War either directly or indirectly cited British newspapers or War Office reports.<sup>80</sup> During the late 19th century, the colonies became less 'national', and more 'British', for just this reason. This was exactly what Fleming had intended in his ceaseless campaigns for more cables, 'bringing the several governmental units, not separated by great oceans, into one friendly neighbourhood... commerce will be quickened, the ties of sympathy... made more effective, the bonds of sentiment... more enduring'.<sup>81</sup>

This is not to engage in any crude hagiography of the British Empire and its technology in the 'seeding' of new nations – though the world was often imagined in such terms at the time. Nor is to engage in those crude parallels with the World Wide Web that most perceptive writers, such as the sociologist Manuel Castells, understand must be used with care, if at all.<sup>82</sup> On the contrary: students of world communications have begun to perceive the true nature of the deeply variegated, uneven and kaleidoscopic nature of the Victorian 'net', and have replaced some of the 19th century's more centralising rhetoric. Officials and politicians then thought that they had 'a universal vision and god's-eye – or ear – perspective on the peoples of the world'.<sup>83</sup> Lord Salisbury thought that the telegraph had 'assembled all mankind upon one great plane, where they can see everything that is done... and judge of every policy that is pursued at the very moment those events take place'.<sup>84</sup>

Historians of 'networks', recently so prolific and so influential, understand why Salisbury's intoxication should not be taken at face value; the very nature of a network must mean that it has empty spaces, gaps and holes. It is in this mould that we might better understand Bell and Lester's new works showing how late 19th-century policymakers and propagandists insisted on the Empire's importance and potential strength; they had to lay constant stress on its durability because it was a continuous building site of international power and influence. Zoe Laidlaw has shown how the Imperial government's collection of statistics, maps and personal accounts from the 1830s onwards should be understood as an attempt to construct 'order' and 'reason' in a world in which information was scarce, inconsistent and expensive; Kerry Ward has recently made a very similar point about the Dutch East India Company in the 18th century.<sup>85</sup> Historians influenced by postcolonial literary criticism, such as Ann Stoler and Frederick Cooper, have demonstrated how 'imperial knowledge' was constantly being transferred and transformed between native peoples, colonisers and other imperial peoples, quite separately from any communication with the 'centre' of Europe's empires. This process was hardly ever stable, and it was never reliant on a single source or route.<sup>86</sup>

In summary, the mid-Victorian cable revolution did indeed reorder the way in which political space was perceived. It brought some of the distant spaces of the British Empire

within mere minutes of one another, and aligned them more closely with both the metropole and with each other. It broke the link between transport and communications. The cable demonstrated Britain's imperial reach, her industrial might and her position at the heart of the worldwide trading network that could assemble the steel, steam, copper and rubber that these new electric lines required. But steam technology and government subsidies were in action too, fundamentally altering ship-borne transport and communications, and bringing most of the world within a few weeks' travel where once distant lands had been months away. The telegraph itself made passenger and business shipping faster, more rational, and more profitable. The flow of paper letters increased just as fast, if not faster, than the passage of the Telegraph Company's electric pulses. And so-called Imperial peripheries were drawn together just as powerfully as they were drawn towards London, while much of the empire and the rest of the world remained unwired. Taken together, this is a salutary tale of how technology might *not* transform the world.

### Short Biography

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### Notes

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<sup>1</sup> First-hand and contemporary accounts of this first wave of expeditions can be found in e.g. J. Mullaly, *The Laying of the Cable, or the Ocean Telegraph* (New York: D. Appleton and Company, 1858); and G. Seward, *The Trans-Atlantic Submarine Telegraph: A Brief Narrative of the Principal Incidents in the History of the Atlantic Telegraph Company* (London: Seward, privately printed, 1878).

<sup>2</sup> R. M. Black, *The History of Electric Wires and Cables* (London: Peregrinus, 1983), 26.

<sup>3</sup> H. Clayton, *Atlantic Bridgehead: The Story of Transatlantic Communications* (London: Garnstone, 1968), 39–47.

<sup>4</sup> A. C. Clarke, *Voice Across the Sea*, 2nd edn. (London: Luscombe, 1974), 65, 67.

<sup>5</sup> The 1865 expedition can be followed in detail in W. H. Russell, *The Atlantic Telegraph, 1865* (London: Day and Son, 1866); and Anglo-American Telegraph Company, *The Atlantic Telegraph: Its History From the Commencement of the Undertaking* (London: Anglo-American Telegraph Company, 1865).

<sup>6</sup> Another contemporary account can be found in H. M. Field, *The Story of the Atlantic Telegraph* (London: Gay and Bird, 1867), e.g. pp. 306–46 on the 1866 expedition.

<sup>7</sup> B. Dibner, *The Atlantic Cable*, 2nd edn. (New York: Blaisdell, 1964), 135.

<sup>8</sup> C. Bright, *Imperial Telegraphic Communication* (London: P.S. King, 1911), 76, 82.

<sup>9</sup> R. V. Kubicek, *The Administration of Imperialism: Joseph Chamberlain and the Colonial Office* (Durham, NC: Duke University Press, 1969), 31.

<sup>10</sup> D. P. Nickles, *Under the Wire: How the Telegraph Changed Diplomacy* (Cambridge, Mass.: Harvard University Press, 2003), 80, 93.

<sup>11</sup> M. Koskenniemi, *The Gentle Civilizer of Nations: The Rise and Fall of International Law, 1870–1960* (Cambridge: Cambridge University Press, 2002), 27.

<sup>12</sup> J. S. Gordon, *A Thread across the Ocean: The Heroic Story of the Transatlantic Cable* (London: Simon and Schuster, 2003), 75.

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<sup>14</sup> D. Vincent, 'The Progress of Literacy', *Victorian Studies*, 45 (2003): 405–7.

<sup>15</sup> E. Wagner, 'Submarine Cables and Protections Provided by the Law of the Sea', *Marine Policy*, 19 (1995): 135.

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- <sup>17</sup> L. Solymar, 'The Effect of the Telegraph on Law and Order, War, Diplomacy, and Power Politics', *Interdisciplinary Science Reviews*, 25 (2000): 203–210; B. Crossland, 'Kelvin and Engineering', in R. Flood, M. McCartney and A. Whitaker (eds.), *Kelvin: Life, Labours and Legacy* (Oxford: Oxford University Press, 2008), 140–59. See also N. Ferguson, *Empire: How Britain Made the Modern World* (London: Penguin Allen Lane, 2003), 169–71.
- <sup>18</sup> As evident for this period, for instance, in the work of Wolfram Kaiser: W. Kaiser, 'Cultural Transfer of Free Trade at the World Exhibitions, 1851–1862', *Journal of Modern History*, 77 (2005): 563–90; and *idem.*, 'Transnational Mobilization and Cultural Representation: Political Transfer in an Age of Proto-Globalization, Democratization and Nationalism 1848–1914', *European Review of History*, 12 (2005): 403–24. The link between faster communications and transnational networks is made explicit, vis-à-vis labour unions, in N. Kirk, D. M. MacRae and M. Nolan, 'Transnational Ideas, Activities and Organisations in Labour History, 1860s–1920s', *Labour History Review*, 74 (2009): esp. 227.
- <sup>19</sup> On these new views of the ocean's importance, see I. Land, 'Tidal Waves: The New Coastal History', *Journal of Social History*, 40 (2007): 731–43, and most recently the present author's "'The Sea is Swinging into View": Modern British Maritime History in a Globalised World', *English Historical Review*, 114 (2009): 1109–34. For examples of this fusion in action as regards the cable system in the fields of economics, the media and warfare see M. Stopford, *Maritime Economics*, 3rd edn. (London: Routledge, 2009), 23–37; D. Winseck and R. M. Pike, 'The Global Media and the Empire of Global Internationalism, c.1910–1930', *Media History*, 15 (2009): 31–54; J. R. Winkler, 'Information Warfare in World War I', *Journal of Military History*, 73 (2009): 845–67; and P. McMahon, *British Spies and Irish Rebels: British Intelligence and Ireland, 1916–1945* (Woodbridge: Boydell Press, 2009), 84–6.
- <sup>20</sup> The emphasis on 'decline' is evident, albeit in dramatically different ways, in C. Cross, *The Fall of the British Empire 1918–1968* (London: Hodder and Stoughton, 1968); C. Barnett, *The Collapse of British Power* (London: Methuen, 1972); L. James, *The Rise and Fall of the British Empire* (London: Little, Brown, 1994); and G. Korzewski, *Money and the End of Empire: British International Economic Policy and the Colonies, 1947–58* (Basingstoke: Palgrave, 2001).
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- <sup>23</sup> B. J. Hunt, 'Doing Science in a Global Empire: Cable Telegraphy and Electrical Physics in Victorian Britain', in B. Lightman (ed.), *Victorian Science in Context* (Chicago: Chicago University Press, 1997), 320. See also P. M. Smith, 'Mapping Australasia', *History Compass*, 7 (2009): 1114–5, figs. 8–9.
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- <sup>26</sup> Bell, *Greater Britain*, 85–6; A. Lester, *Imperial Networks: Creating Identities in Nineteenth-Century South Africa* (London: Routledge, 2001), 191. See D. Harvey, *The Condition of Post-Modernity* (Oxford: Blackwell, 1989), esp. 265–70.
- <sup>27</sup> Potter, 'British and Dominions Press', 191.
- <sup>28</sup> C. Bridge and K. Fedorovich, 'Mapping the British World', in C. Bridge and K. Fedorovich (eds.), *The British World: Diaspora, Culture and Identity* (London: Frank Cass, 2003), esp. 7–8.
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- <sup>30</sup> T. Standage, *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's Online Pioneers* (London: Weidenfeld and Nicolson, 1998), 205–6.
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- <sup>46</sup> F. Harcourt, *Flagships of Imperialism: The P&O Company and the Politics of Empire from its Origins to 1867* (Manchester: Manchester University Press, 2006), 3, 6, 10.
- <sup>47</sup> P. Davies, 'The Impact of Improving Communications on Commercial Transactions: Nineteenth-Century Case Studies from British West Africa and Japan', *International Journal of Maritime History*, 14 (2002): 227–8.
- <sup>48</sup> Lester, *Imperial Networks*, 178–9.
- <sup>49</sup> P. Putnis, 'The British Transoceanic Steamship press in Nineteenth Century India and Australia: An Overview', *Journal of Australian Studies*, 91 (2007): 73.
- <sup>50</sup> Davies, 'Impact', 228.
- <sup>51</sup> Clayton, *Atlantic Bridgehead*, 53.
- <sup>52</sup> D. K. Lahiri Choudhury, 'Sinews of Panic and the Nerves of Empire: The Imagined State's Entanglement with Information Panic, India c.1880–1912', *Modern Asian Studies*, 38 (2004): 970–2; M. R. Frost, 'Asia's Maritime Networks and the Colonial Public Sphere, 1840–1920', *New Zealand Journal of Asian Studies*, 6 (2004): 79.
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- <sup>54</sup> T. Weller and D. Bawden, 'The Social and Technological Origins of the Information Society', *Journal of Documentation*, 61 (2005): 779–83.
- <sup>55</sup> Briggs and Burke, *Social History of the Media*, 134.
- <sup>56</sup> R. W. D. Boyce, 'Imperial Dreams and National Realities: Britain, Canada and the Struggle for a Pacific Telegraph Cable, 1879–1902', *English Historical Review*, 115 (2000): 56.
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- <sup>60</sup> Headrick, *Invisible Weapon*, 75.
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- <sup>66</sup> Boyce, 'Imperial Dreams', 41, 44.
- <sup>67</sup> Headrick, *Invisible Weapon*, 97.
- <sup>68</sup> *ibid.*, 94.
- <sup>69</sup> Kennedy, 'Strategy', 735–6.

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- <sup>71</sup> Cookson, *Cable*, 80.
- <sup>72</sup> N. Selwyn, 'E-establishing an Inclusive Society? Technology, Social Exclusion and UK Government Policy Making', *Journal of Social Policy*, 31 (2002): 1–20; *idem.*, *Telling Tales on Technology: Qualitative Studies of Technology and Education* (Aldershot: Ashgate, 2002), esp. e.g. 160–1.
- <sup>73</sup> See the figures on this in W. H. Dutton, E. J. Helsper and M. M. Gerber, *Oxford Internet Surveys: The Internet in Britain 2009* (Oxford: Oxford Internet Institute, 2009), 13–18. I am grateful to Lyndsay Grant of Futurelab for providing a guide to references 71 and 72.
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