JEMIMAH WIDDICOMBE

Two cable samples, not obvious museum ‘heroes’, brownish

No more, as in the days of yore,
Shall mountains keep apart,
No longer oceans sunder wide
The human heart from heart,
For man hath grasped the thunderbolt,
And made of it a slave
To do its errands o’er the land,
And underneath the wave. [...]
Stretch on, still on, thou wondrous wire!
Defying space and time,
Of all the mighty works of man
Thou art the most sublime.

The British Workman, 1858[1]

Two cable samples, not obvious museum ‘heroes’, brownish

Identified as ST 28747.1 and ST 28747.2, these Museums Victoria objects are two of the countless telegraph cables preserved indefinitely in collection stores around the world. Throughout history, communication networks have evolved, leaving behind the physical remnants of once-cutting-edge infrastructure. The telegraph was no different, and today’s artificial intelligence (AI) systems follow a similar trajectory — built on layers of extraction, labour and mythmaking.

Artefacts or industrial waste? What can these pieces of submarine telegraph tell us about the cycles, materiality and rhetoric of technology today?

1 Bright, C. (1859). Submarine telegraphs: Their history, construction and working. Crosby, Lockwood and Son, p. 23.

Figure 1: Working photograph of ST 28747.1, Cable Sample – Submarine Telegraph, Newfoundland – Nova Scotia, 1856. Photographer: Jemimah Widdicombe.

Soft ooze and false starts

History inclines towards firsts, lasts, famous figures and the human-angle story. These two cables once formed part of Canada's Cabot Strait telegraph. This cable would go on to be the first link in the transatlantic submarine telegraph system that connected Europe and America in the mid-1800s. Eyewitness accounts describe how, on a summer's day in 1856, it took 15 hours[2] to haul this cable coil off a boat.[3] Submerged in a 'soft ooze'[4] for well over a decade, the Cabot Strait cable would go on to be decommissioned and replaced by the next 'latest' in technology.

There were many failed attempts at linking Europe and America.[5] Some may know of the message that the British Queen Victoria sent down the short-lived line in 1858 to US President James Buchanan. But few will have come across the conversations between the British government and their troops stationed in Canada days before the line failed. The following messages are snatches of a longer exchange sent from government officials to the Sixty-second and Thirty-ninth regiments:

> *[...] Are you ready?*
> *Can't read. Try 'Daniel's'.*
> *I will try. Slow.*[6]

2 History of the Atlantic Cable & Undersea Communications. (2011). *1856 Cabot Strait (Cape Breton-Newfoundland) Cable*. https://atlantic-cable.com/Cables/1856CabotStraitCable/index.htm, accessed 2 March 2025.

3 History of the Atlantic Cable & Undersea Communications. (2011). *Cabot Strait Cable and 1857-58 Atlantic Cables*. https://atlantic-cable.com/Cables/1857-58Atlantic/index.htm, accessed 2 March 2025.

4 Bright, C. (1859), p. 29.

5 Bright, C. (1859).

6 Great Britain. Privy Council. Committee for Trade (1861). *Report of the joint committee appointed by the Lords of the committee of Privy Council for Trade and the Atlantic Telegraph Company, to inquire into the construction of submarine telegraph cables: Together with the minutes of evidence and appendix*. George Edward Eyre and William Spottiswoode, pp. 236–237.

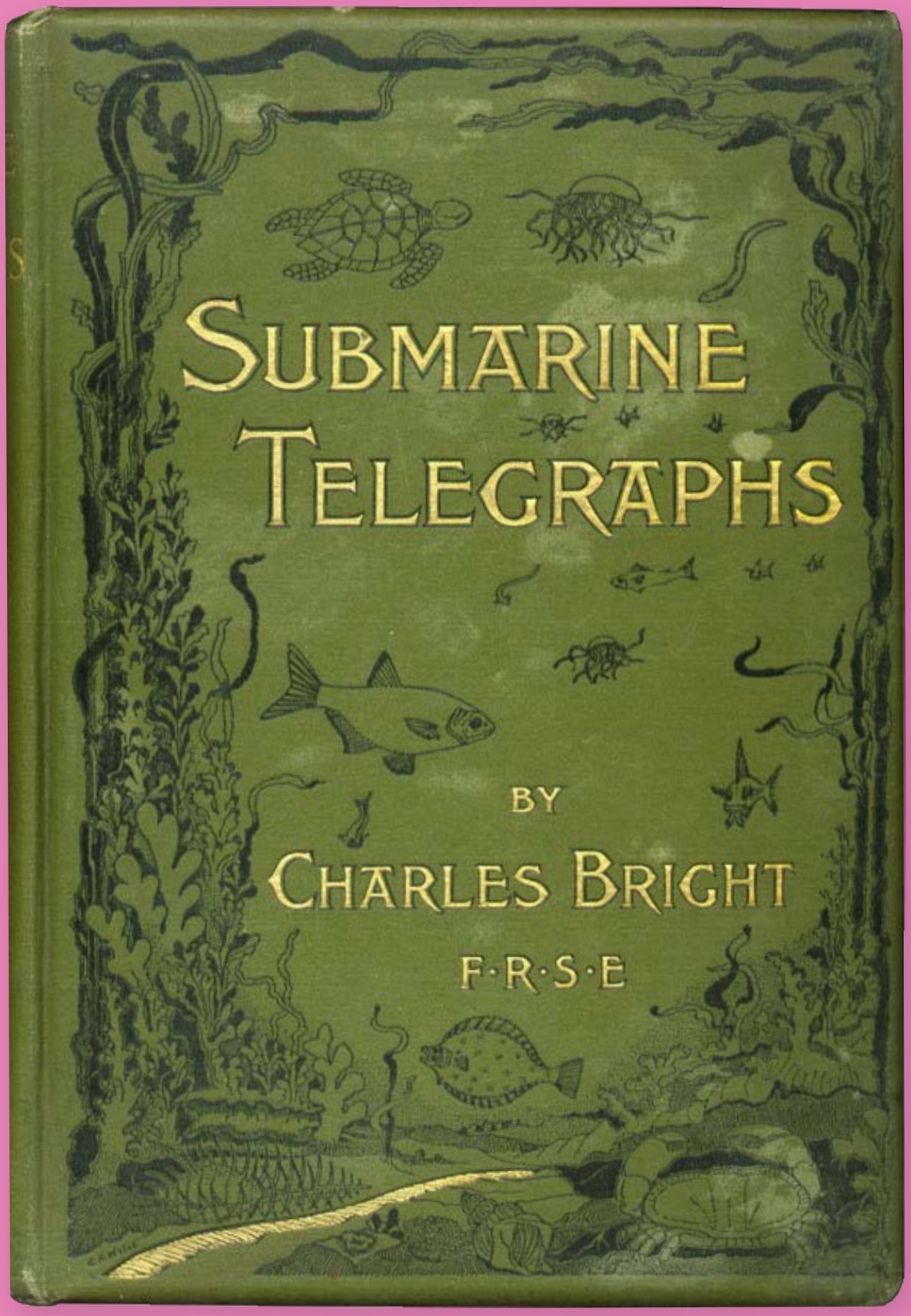

Figure 2: Front cover of Charles Bright's *Submarine Telegraphs*, 1896. Creative Commons.

These messages still resonate today. From dial-up internet to telephony, they recall the challenges of trying to get a message across a slow, faulty connection. In context, they illustrate how the telegraph enabled colonial rule. After the Government of India Act of 1858 transferred control of India from the East India Company to the Crown, the British government no longer required these troops to return to England.[7] Excerpts from Charles Bright's *Submarine Telegraphs* describe the transatlantic cable both as a *'line of love'* and a technical triumph, using data to unite the *'human heart to heart'*.[8] It was also an instrument of power — an expression and tool of exploitative relationships, building empire on the backs of 'others'.

Another cable in a sea of many

ST 28747.1 and ST 28747.2 are not trophy cables. These aren't the kind of immaculate samples people would once mount in velvet boxes and gift to those of importance. Luxury cable boxes, skyscrapers, bridges and space travel testify to the monumental myths of technological progress, but the power of telegraphy and these mundane cables lies in their invisibility. In the 1800s, they formed part of a growing network hidden in the deep ocean. Today, submarine cables span over 1.48 million kilometres and transport over 95% of the world's communications data.[9] Simply put, each Google search or question to an artificially intelligent platform such as ChatGPT pulses through terrestrial and deep-sea networks of fibre-optic cables through to data centres and back again.

Submarine cable researcher and academic Nicole Starosielski aptly points out that while some assume satellites now transmit our everyday data, the ephemeral cloud of contemporary communication is underwater. These modern lines of connection share the seabed with creatures of the deep, retracing paths of now obsolete telegraph lines. Governments and private companies own and control them.[10]

Magic cycles

Early descriptions speak of the telegraph as a form of collective human-made intelligence. The poetry and pictures that punctuate Bright's technical recount of *Submarine Telegraphs* illustrate this. Writing two years after the Cabot Strait cable was installed, The British Workman describes the telegraph as both a triumph of man (not women, who were still of 'nature' at the time) and an act of God.[11]

Unique in its ability to inspire awe and terror, and to transcend time and space, some described the global web of telegraph cables as a central nervous system uniting the world and creating a single kind of intelligence. Samuel Morse, credited as being one of the pioneers of the telegraph, writes in his notes:

7 History of the Atlantic Cable & Undersea Communications. (2011). *Messages carried by the 1858 Atlantic Telegraph Cable.* https://atlantic-cable.com/Article/1858Messages/index.htm, accessed 2 March 2025.

8 Bright, C. (1859), p. 23.

9 TeleGeography. (2025). *Submarine Cable Frequently Asked Questions*. https://www2.telegeography.com/submarine-cable-faqs-frequently-asked-questions#:~:text=As%20of%20early%202025%2C%20we%20believe%20there%20are%20over%201.48,kilometer%20Asia%20America%20Gateway%20cable, accessed 20 February 2025.

10 Starosielski, N. (2015). *The Undersea Network*. Duke University Press.

11 Bright, C. (1859), pp. 22–23.

> *[It would not be long] ere the whole surface of this country would be channelled for those nerves which are to diffuse, with the speed of thought, a knowledge of all that is occurring throughout the land, making, in fact, one neighbourhood of the whole country.*[12]

Metaphors for technology's mysticism and ability to inspire awe constantly morph, adapting to each new wave of innovation and hype. The telegraph became obsolete, but its spiritual and mystical metaphors — connecting continents like thought, defying physical limits — were soon repurposed.[13] This cyclic mysticism is particularly pronounced in popular discourse about artificial intelligence. Just as the telegraph was once seen as a divine force linking minds undersea and overland, AI today is often framed as an almost supernatural intelligence — one that poses as both a threat and saviour to humankind. One of the leading figures in the race to create an artificial general intelligence, Open AI CEO Sam Altman says that his company's products serve one specific goal:

> *Which is intelligence, magic intelligence in the sky.*[14]

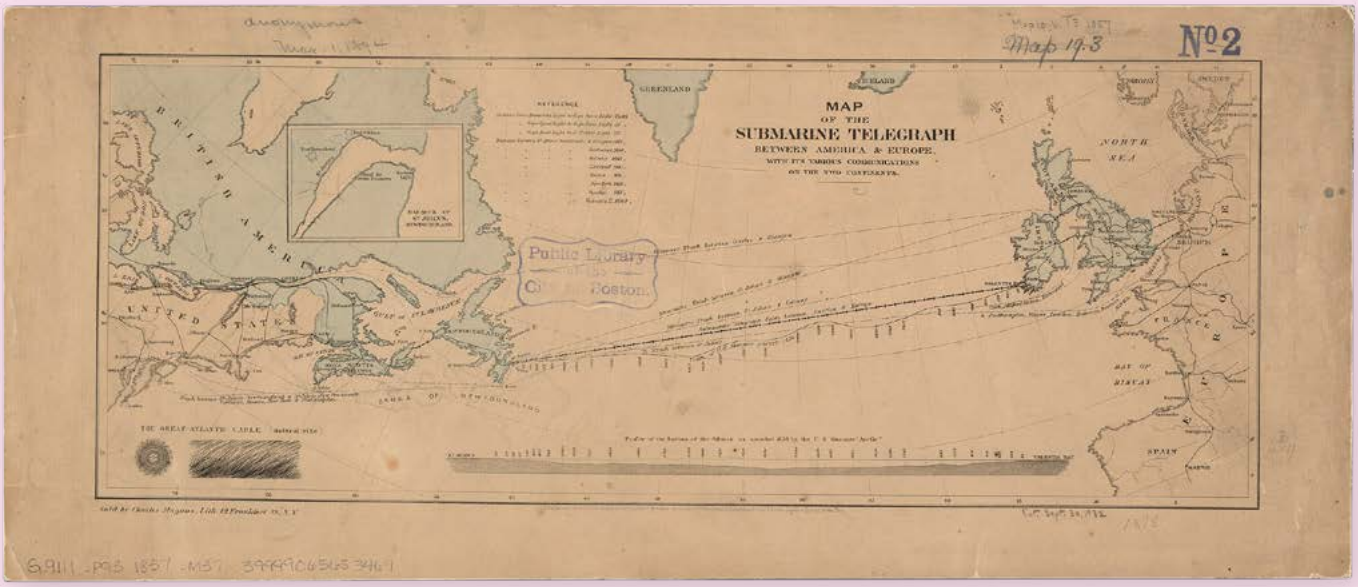

Figure 3: Map of the submarine telegraph between America and Europe, with its various communications on the two continents, Korff Brothers, 1857. Creative Commons.

12 Morse, S. (2014). *Samuel F. B. Morse: His letters and journals.* Cambridge University Press.

13 Telecommunications and the occult. (2022). https://www.scienceandmediamuseum.org.uk/objects-and-stories/telecommunications-and-occult, accessed 20 February 2022.

14 Murgia, M. (2023). Financial Times. https://www.ft.com/content/dd9ba2f6-f509-42f0-8e97-4271c7b84ded, accessed 10 February 2025.

Material realities

Mysticism, magic and slick consumer-facing gadgets deflect from the material realities that underpin telegraph and artificial intelligence systems. ST 28747.1 and ST 28747.2 both feature a central wire conductor, insulated by layers of gutta-percha, encased in galvanised iron wires and bound with tarred yarn. Beyond the technical detail, examining each layer of its form exposes deeper complex realities.

Gutta-percha, for example, was a vital insulating material that ensured the functionality of submarine cables, but its popularity wreaked havoc on both the environment and the lives of those forced to harvest it. As Western nations rushed to expand their telegraph networks, they accelerated the extraction of this naturally occurring latex across South-East Asia. This practice relied on exploitative and often brutal human labour practices. The sap from gutta-percha trees flowed slowly and coagulated upon exposure to air. So, to meet demand, entire trees were felled rather than tapped, devastating forests and ecosystems. Once extracted, the raw material was shipped to Western countries for processing and integration into telegraph cables.

Just as the demand for telegraph cables drove destructive practices, the race to develop AI depends on vast environmental and human resources — often hidden from view. As Kate Crawford maps out in *Anatomy of an AI System*, today's race to develop artificial intelligence relies on a similarly extractive logic, depending on fraught supply chains to mine, transport and transform materials like silicon, copper and aluminium into hardware:

> *AI is neither artificial nor intelligent. Rather, artificial intelligence is both embodied and material, made from natural resources, fuel, human labour, infrastructures, logistics, histories, and classifications.*[15]

New cycles?

The rhetoric surrounding telegraph and AI systems reminds us that a cable is never just a cable. ST 28747.1 and ST 28747.2 are significant antiheroes. Unremarkable artefacts of industrial waste, they speak to the complex, challenging cycles of human-made technology as the sum of the conversations and the cultural imaginations that frame them.

Many promised that the telegraph would rewire diplomacy, rewrite how wars were fought and bring peace. And it did — but over a century since the transatlantic cable first connected Europe and America, we also have the gift of hindsight. Facing the fraught, intertwined sociopolitical and technological realities of today, how can looking back prompt us to reimagine the cycles of the future?

15 Crawford, K. (2021). *Atlas of AI: Power, politics, and the planetary costs of artificial intelligence.* Yale University Press, p. 8.