3 Anchoring Museum Objects in the Cold War

The Hidden Meanings of a Transatlantic Telephone Cable

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Introduction

This chapter is, fundamentally, about the relationship between artefacts or material objects, language and meaning – and what this relationship involves for a Cold War museology. It discusses an object from National Museums Scotland (NMS): a short (ca. 20 centimetre long) sample of the first transatlantic telephone cable (TAT-1).[1] National Museum Scotland internal curatorial classification lists the piece of cable as an artefact relating to "communication."[2] The piece of cable is on display in NMS's communications gallery, somewhat hidden close to the floor in a display cabinet showing different cables and linking these to what is shown as the progressive advancement of telecommunications. A Cold War context is not directly evident from the interpretation provided, although some visitors might expect that context, given that the cable was laid during the time of the Cold War.

I first encountered this object on a visit to NMS's collection centre in Granton, a suburb of Edinburgh, when the "Materialising the Cold War" project team visited the site in winter 2021 to gain a first impression of NMS collections related to the Cold War. The then curator for communications, Alison Taubman, had brought out another version of TAT-1 together with some other objects as she thought that it had potential of having meaning for our project. This sample was mounted on a shiny wooden pedestal with a bronze plaque. It was mainly the curator's creative choice on the day that turned these items from devices linked to the communications infrastructure to the Cold War, although we did not at the time discuss her reasons to include TAT-1 in her selection. Subsequent discussions also left the Cold War connections somewhat ambiguous, so I found myself wanting to know more about how these two artefacts were connected to the Cold War and how we might evidence this relationship in the context of a museological investigation.

But what does it mean to classify a museum artefact as a Cold War object? One way is to take an ontological position and simply designate objects as "Cold War" because of their provenance and use, or because of the structures within which they have emerged. The German cultural theorist Friedrich Kittler has championed such an approach in the longue durée. For him, all objects relating to communication and writing since around 1800 are objects forged by wars. Hence, computers as

well as other communication devices such as radios or undersea cables are artefacts made for war and produced during wars.[3]

While it is possible to tell the story of TAT-1 in this way, even a superficial enquiry shows that things are more complex with TAT-1: there is no obvious or explicit Cold War context of development, and it would stretch the imagination to link the laying of a transatlantic cable directly to the hidden hand of the military-industrial complex on both sides of the Atlantic. Ontologies require a firm structural foundation – but where would this foundation come from? Alison Taubman, when asked about how objects create meanings, referred to the stories people tell about them.[4] But in this case, the readily available stories more or less completely ignore the context of Cold War history.

This chapter therefore seeks to move beyond either ontological or narrative approaches by considering more closely the role of these objects in connecting the Cold War to Scotland and Scotland to the Cold War. For as philosopher Rom Harré observed, whether artefacts are seen "as active or passive in relation to people […] is [...] story-relative"; and there are multiple stories that can or cannot be told about an object. This means that "material things as potentially social objects […] have multiple context-bound affordances."[5] In line with this observation, I want to highlight some of the complexities of the ways in which these objects have generated and acquired meaning over time as well as at the same time. While object-biographical approaches emphasise the artefacts' movements and the social relationships through space and time,[6] they tend to be less attentive to the multiple meanings – and layers of meanings – that these objects have at the same time. One object might have multiple meanings for the same or different users of audiences – and these defy the simple binary classification of Cold War/not Cold War.

So, I propose to enrich an object-biographical approach with a recent concept developed in the context of the history of science and technology: the approach of "Technologies as Anchors for Societal Conflicts" (TASC) developed by Christian Götter. TASC is interested in highlighting how debates about developments in science and technology are "rather loosely anchored" to the actual developments as opposed to "being necessarily rooted within" them. The concept of anchoring is relevant for a Cold War museology as well since it allows us to discuss artefacts in the context of the Cold War without necessarily arguing that the Cold War is the predominant feature.[7]

This chapter is based on research in the collections and connected papers of National Museums Scotland, the British Telecom Archives in London and the British National Archives in Kew as well as the examination of some media reporting at the time. While TAT-1 has found scholarly attention before, it has not yet been interpreted systematically in the context of a Cold War museology.[8] When the first transatlantic cable was inaugurated, the Cold War remained absent – and, apart from a brief mention of the "hotline" between the White House and the Kremlin – the Cold War also remains absent in the current display in the Communications Gallery on level 3 of National Museums Scotland in Edinburgh's Chambers Street. Yet if we look more closely, Cold War meanings emerge that have been hidden.[9] This chapter tells the story of discovering these Cold War meanings through TAT-1.

TAT-1 – Part of a "Coaxial Cold War"?[10]

On 25 September 1956, the chairman of the American telecommunications company AT&T called his counterpart, the United Kingdom's Postmaster General: "This is Cleo Craig in New York calling Dr. Hill."[11] These words were the beginning of the first transatlantic telephone call. The call passed through a cable that looked like this model (Figure 3.1), kept and displayed in National Museums Scotland. Some of the cable's layers have been peeled back to enable everyone to see the composition of the cable. Looking at the cable and its interpretation in National Museums Scotland on their own, it appears that Cold War meanings were not present at the creation of this artefact. In September 2006, the cable received recognition as a key milestone in twentieth-century engineering from the Institute of Electrical and Electronics Engineers.[12]

We have no evidence how and why NMS acquired TAT-1, though its importance for engineering as well as relevance for Scotland – because of is landing point near Oban on the Scottish west coast – seem clear. It is likely that it came to what was then the Royal Scottish Museum via the General Post Office (GPO, later British Telecom) as they regularly donated objects to the museum. There is also a history of collecting telecommunication artefacts in Edinburgh: George Wilson (1818–1859), the Regius Professor of Technology at the University of Edinburgh and the first director of what was then the Industrial Museum of Scotland, was especially interested in telegraphy.[13]

In NMS's exhibition, the cable forms part of the Communications Gallery. Surrounded by the sounds of telephones and telegraphs, visitors can explore the cable's role in connecting Scotland to the world. The interpretation embeds the cable in a progressive history of the growth of telecommunications in Scotland since the nineteenth century and in connecting Scotland to the world. Interactive screens allow users to explore the networking of the world at different stages, with maps showing the connections. The cable's connection to Scotland is shown as rooted in its location: it arrived in Oban in a specially constructed facility. Across from the case where TAT-1 is displayed, visitors can see a model of one of the GPO's cable-laying ships, the *CS Alert* (built in 1960), used for laying undersea cables, though not the *Monarch* that was used for laying TAT-1.[14] The Cold War connections remains in the background – the explanatory text on the interactive screen mentions briefly that TAT-1 carried the communications so-called hotline between the White House and the Kremlin that was established in 1963 following the Cuban Missile Crisis.

The story that NMS tells its users today tracks closely the account that the GPO and contemporary commentators told of the cable when it was first laid. It highlights how the "presentation of science was as important as the science itself in creating a narrative around British prestige."[15] This account has several elements: it emphasises British engineering prowess and "defiant modernism"[16]; it shows the cable as an example of technology and human bravery overcoming the challenges of the natural environment; and it stresses the importance of the transatlantic cable in connecting Britain to the world, with Britain as one of the leading powers in

Figure 3.1 Cable sample, TAT-1 deep sea type, 1955. Made by Submarine Cables Ltd (NMS
          T2003.269), National Museums Scotland

Alison Taubman, "Talking Technology," National Museums Scotland blog, accessed 27 May 2024,
https://blog.nms.ac.uk/2018/05/17/talking-technology-how-machines-learned-to-speak. See the equiv-
alent object in the Science Museum, London: https://collection.sciencemuseumgroup.org.uk/objects/
co33334/specimen-of-the-first-transatlantic-telephone-cable-1956-cable.

the global network of communications. TAT-1 emerges from this interpretation as an artefact that represented the high period of what David Edgerton has called "techno-nationalism" of British political culture: a political culture that emphasised engineering prowess and single invention as opposed to incremental progress and the labour of maintenance; and a political culture that hid the military components of its civilian innovations. At the same time, the placing and display of TAT-1 reproduces common "techno-globalist clichés about a shrinking interconnected world."[17]

While a transatlantic telegraph system had existed since the nineteenth century, there had not yet been a telephone connection between the American continent and the United Kingdom. A "radio-telephone service" had existed between the United States and the United Kingdom since 1927, but the GPO had predicted that it would run out of capacity by 1960.[18] At the opening ceremony in the autumn of 1956, stories about the triumph of engineering and collaboration dominated: the British Postmaster General Dr Charles Hill celebrated the "triumph of patient research and great engineering skill" and thanked his American counterparts for the good collaboration.[19] The US ambassador stressed the importance of the transatlantic relationship. And the High Commissioner for Canada highlights benefits for Commonwealth beyond United Kingdom and Canada.[20] The new transatlantic connection offered a significant increase in the capacity of information that could be transmitted. Whereas there had been no speech (that is, telephone) lines across the Atlantic and only three telegraph circuits, the new cable offered 36 speech circuits, each of which could be converted into eighteen telegraph circuits.[21]

Contemporary reporting in the United Kingdom stressed the technical difficulties of laying a cable under water and how they had been overcome by both engineering and the masculine courage of the sailors on the cable-laying shift, braving the high seas.[22] One report describes the positive contribution of the transatlantic cable with metaphors that equal the quality of sounds with the characteristics of the weather and the sea: the new cable would now be able to transmit the "high-frequency virtuosity of the human voice" with "pristine prescience and lucidity" as opposed to the "rather battered and baffling shape" it had with the previous connection.[23]

Engineers highlighted less the quality of the transmission but the technical properties of the cable that enabled it. The American Dr. O. E. Buckley, commenting on a presentation about the new cable at the Institute of Electrical Engineers called the TAT-1 cable the "most radical and important advance yet in the old and conservative art of transoceanic cables." The cable as a whole was itself a highly complex structure characterised by the "incorporation in the cable structure of a complicated assembly of electronic equipment precisely designed to compensate for the characteristics of the cable over a wide range of frequencies."[24]

But comparing these stories to the way in which NMS presents the TAT-1 – and the fact that this particular cable was specifically produced to be displayed – highlights how these stories already started the process of musealisation while the object was still in use: they were produced with an eye for the importance of the occasion and to be remembered. The Post Office and its research station at Dollis Hill used the occasion to advertise its work and show

its importance for the nation. While the cable was still being laid, the BBC approached the Post Office with an idea for a radio programme, stating the "world-wide importance and world-wide interest" in the project.[25] Such an interpretation is mirrored in the 27-minute promotional documentary "Voice beneath the Sea" (1964), to which the General Post Office contributed some material after the idea of an own promotional film did not materialise because of the costs involved compared to the expected benefits. The British government's Central Office of Information, part of the United Kingdom's Cold War state, was involved in these discussions and coordinate work with the Foreign Office and other government departments.[26] One idea was to restage the "English [sic!] signing ceremony" for the film as no appropriate footage of it existed.[27]

In light of the considerable research and engineering effort and the realisation that such a film could "maintain British prestige," the GPO's overall assessment of the importance of such a promotional film was, because of the costs involved, rather downbeat: the most significant elements were the more technical aspects which were of little interest to a general audience, while the "broad processes are familiar": "Posterity can hardly learn from it anything which cannot be equally, or better, learned otherwise."[28] Submarine Cables Limited, the company that had produced the cable, found it appropriate to send a TAT-1 ashtray to the Postmaster General "as a memento of the great project."[29]

Such contemporary perception in Britain was in remarkable contrast to discussions in the United States: although contemporary publications celebrated engineering prowess as well and especially emphasised how engineers had overcome the forces of nature when building the cable on land and on sea, traversing very rough terrain during inclement weather, adverts and assessments also emphasised the importance of the transatlantic cable for the national security of the United States.[30] These assessments came close to what Nicole Starosielski has called the "coaxial Cold War."[31]

TAT-1's Multiple Cold War Meanings

And yet, the story of TAT-1 was a more complex one from the very beginning. From the archival record, we can see how a lot of work went into concealing the Cold War background of the cable by not discussing it in public. The media played a key role in hiding Cold War connections: When the BBC first approached the Post Office about producing a documentary about TAT-1 in 1955, it concedes that "quite a number of points may come under security," but still wishes to proceed, essentially leaving those aspects out altogether, "entirely guided" by the Post Office.[32]

Although the project for a transatlantic telephone cable was anchored in war and Cold War, public representations presented the cable as a civilian project. Since the invention of the telegraph and the construction of a national and international communications infrastructure in the nineteenth century, communications systems and telegraph lines have served military purposes and their construction, use and regulations were themselves part of great power competition.[33] The project of laying telegraph tables was integral to British imperialism and projection of power

more generally: "secure lines" were "needed to maintain…ties" across the Empire and project power globally.[34]

Plans for a transatlantic telephone cable stem from the 1930s, but the project could not be implemented because of technical issues, mainly to do with the question of how to maintain the signal strength under water over an extensive distance.[35] The Second World War slowed the project down, too, though it also created some of the conditions for later success. With new developments in the design of cables and new research into the transmission of information as part of the United Kingdom's and the United States' war effort, plans for such a cable now became more realistic. Planning for the project started in the early 1950s, and plans were announced to the public on both sides of the Atlantic in late 1953. AT&T had tested a line between Florida and Cuba; and in February 1951 the GPO trialled its own development in the Bay of Biscay.[36]

What came to be known as TAT-1 (and to be followed by TAT-2 and so on as well as a line called CANTAT that provided a telephone line to Canada) was part of an assembly of objects, both mobile and immobile, organisations and people – and actually consisted of two cables that ran between Oban on the West coast of Scotland to Newfoundland and from there via Canada to the United States. The connection across open water in the Atlantic was around 1,950 nautical miles (roughly 2,200 standard miles) in length. The cable was as low as 2.5 miles under the sea level at its deepest points. It is easy to be impressed by the feat of engineering that made it possible to build a telephone line that could provide a service under these conditions – until TAT-1 was constructed, the longest telephone line across open water had measured 300 miles.[37] The cable had been developed by a team engineers from the Post Office's Research Branch to be especially "lightweight," but still resilient.[38] It was the consistent use of polythene as one of the layers of insulation that made this possible.[39] The planning, production and laying of the table was the result of a matrix of organisations that was typical for the Cold War: there were the parastatal telephone companies of the three countries involved: the United Kingdom's GPO, the American Telephone & Telegraph Company (AT&T) and the Canadian Overseas Telecommunications Corporations (COTC); all these coordinated their work closely with various government agencies, also through their research arms; and they subcontracted production to an archipelago of private companies.[40]

The approach to work on a transatlantic cable had come in the early 1950s from Cleo Craig, the President of AT&T, to Postmaster General Herbrand Sackville, Earl de la Warr.[41] The United Kingdom wanted to take longer to develop the project, whereas AT&T wanted to move forward more swiftly. This had implications for the cable design since the United Kingdom feared that they would lose out to another partner if they did not agree to AT&T's proposals. As one person involved with planning the project remarked at the time: "political rather than technical consideration might well be the deciding factor on which system was agreed."[42] The GPO and AT&T involved the Foreign Office and the State Department from the early discussions about cable routing and requirements.[43] During the discussions, Canada raised concerns with its counterparts in the United Kingdom about the impact of this new telecommunications infrastructure on the integrity of its domestic lines

and proposed a bilateral Canadian-UK initiative instead – Canada feared that the United States' involvement in maintain the links and repeaters on the stretch from Newfoundland to the US-Canadian border could be used to "penetrate into the Canadian Communications domestic network."[44]

The general public learned little about the military implications and uses of the proposed telephone cable, and the specific relationship between civilian and military aspects of the cable was not settled among those involved in planning the cable either. And even the Post Office was "disturbed" and taken by surprise by initial plans for a transatlantic telephone that the private Telegraph Construction and Maintenance Company, the American State Department and the British Joint Staff Mission in Washington knew about but no one at GPO appeared to have been aware of.[45] When planning was further advanced, the Post Office set up a study group on the project and, in light of the "strategic and security value of such a cable," kept the Ministry of Defence informed of developments.[46]

Nonetheless, the British Embassy in Washington, DC, which had picked up rumours on plans for a new transatlantic telephone cable, was, in February 1953, still unclear about this aspect of plans, musing that a "Stewart of B.J.C.E.B. [British Joint Communication-Electronics Board] may have heard something through his U.S. military confreres."[47] In May, a GPO employee enquired again with the Telecommunications attaché at the British Embassy in Washington, DC citing "hints" that a "coaxial cable" was going to be laid "for the U.S. Air Force from Greenland to Iceland, and possibly from there to Europe, under what is described as 'Operation Eskimo'."[48] Yet the Chiefs of Staff Committee and the British Joint Communication-Electronics Board (JCEB), an organisation that connected the British intelligence services and the GPO,[49] were closely involved in tracking progress in the plans for such a cable from the beginning, even before the cable plans received Cabinet approval in November 1953.[50] The chair of the JCEB had stressed the "real importance" of the new telephone cable "from a defence point of view" early on.[51]

In the United Kingdom, the Chiefs of Staff were the first in the government to be consulted on the plans, and a Ministry of Defence official noted that such a telephone cable was a "most valuable asset in war, and no doubt some military advantage from time to time in the present troubled peace."[52] The existing telegraph lines and radio circuits were liable to interruption from bad weather or sun activity – and hence also far less secure than a telephone cable would be. In a paper from September 1954, discussed at the Chiefs of Staff Committee on 11 September 1954, the JCEB proposed a division between the military and civilian uses of the new telegraph line in the context of the international haggling about who should be able to have exclusive use of how many of the new circuits. The regulations for underwater cables stipulated giving a preference for "the common user," but such common use worked against the secrecy requirements of various official agencies.[53]

This anchoring of civilian uses in military and defence interests came to matter when TAT-1 broke down because of trawlers hitting the cable or other technical issues.[54] Internal discussions at the GPO then highlighted how the US Air Force insisted on keeping all lines of the reserve capacity – and how AT&T's was driven by that line. At the same time, staff at the GPO suspected that AT&T had strong commercial interests in the distribution of line capacity when things broke down.[55]

TAT-1 as a Product of Cold War Research and Development

The cable was not only connected to US and UK command and control systems, but it also highlights the nature of the research and development in the Cold War. The GPO Research Station in Dollis Hill that led on the development of the cable was an "important node in the 'secret state.'"[56] The Joint Speech Research Unit at GCHQ, the United Kingdom's signals intelligence agency, was led by a GPO engineer and worked on scrambling systems, vocoders and other related technologies.[57]

There were also close links between Dollis Hill and the US military-civilian research and development at Bell Labs, essentially AT&T's research arm.[58] The funds made available for this project also sustained a network of highly private companies that were involved in making different components of the cable and the overall cable system. Most of the cable was manufactured by Submarine Cables Limited, a company owned by Siemens Brothers and Co. and Telegraph Construction and Maintenance Co. Ltd., at a new factory in Erith, Kent.[59] The cable on the whole used "2700 tons of copper, 1400 tons of polythene, 11000 tons of steel wire, 1800 tons of jute yarn and 2400000 yard of cotton cloth."[60] Another factory, run by the Telegraph Construction and Maintenance Company in Greenwich, was responsible for production of the conductor.[61] Yet another site produced some of the repeaters (most were produced in the United States), a complex construction that was necessary to maintain signal strength across such a long distance. Media reporting at the time stressed the modernity of the factories and the laboratory-like cleanliness and precision – and skill of the technicians – that produced the components.[62] It was "such a precise piece of construction," *Reader's Digest* reported at the time, "that communications engineers speak of it almost with awe."[63]

Unintended Meanings

The "perceived security" of coaxial cables such as TAT-1 was not complete, however.[64] The cable, closely anchored to the American, Canadian and British Cold War states, could also be used to subvert the stated interests of these states. On 26 May 1957, the American civil rights activist and singer Paul Robeson, since the 1930s under scrutiny by the authorities for his links to Communism, performed in St Pancras Town Hall in London. But he did not do this in person because the State Department had cancelled his passport. Rather, he did this through transmission of his concert via TAT-1[65]:

> American Telephone and Telegraph, in New York, and the General Post Office, in London, last night between them helped to make the United States Department of State look rather silly... Last night some of [Robeson's] words and music escaped, alive, through the new high-fidelity transatlantic telephone cable.[66]

Around six years later, TAT-1 became one of the key facilitators for Cold War détente. From 1963, it carried the line that connected the White House in the United States with the Kremlin in Moscow. Symbolised by another artefact, a red telephone, this "hot line" was not a telephone line at all, but a telex line that sent messages, most of them senseless, to constantly test the line for the rare cases

for which it was needed. Nanz has called the "red telephone," although a fiction, "perhaps the bipolar medium par excellence."[67] TAT-1 ceased operations in 1978 because more recent technology had made it obsolescent. The building, on top of a beach on a private beach, is now derelict.[68]

TAT-1's end of service encourages us to reflect on the cable's location in the landscape and in the environment – unlike the piece of cable on display to the public, that location is now a derelict building on private land.[69] Oban's War and Peace Museum, run by volunteers, incorporates the story of the cable in the context of its location, though the main focus of the museum is commemorating the town's role during the Second World War.[70] Plans by the owners of the land to create a museum on site have not, at the time of writing this chapter, materialised.[71]

Connecting the cable to its original location leads us to another series of connections that highlight how the cable was physically anchored in the Cold War through that location and its relationship to the landscape.[72] In the process of anchoring, the Cold War was not merely an "external force" – the anchoring created local meanings of the Cold War through the infrastructure, the objects and the landscape.[73] Planners in the British War Office were at first rather sceptical about landing the cable in Oban: the cable would have to pass through landlines via Glasgow on its way to London, making the connection less secure; and the "remoteness" of the location meant "its possible vulnerability to attack by parachute." The War Office ultimately withdrew its objection when it was persuaded that the other options would compromise the overall reliability of the cable.[74] When the project came to working on the landing site, engineers at the General Post Office argued that the building that housed the cable infrastructure requires "'strategic' protection to be arranged by the Ministry of Works" and claimed a parallel to "inland defence works."[75] While this was surely also for financial reasons, the structure that survives looks like a bunker, complete with blast doors. It was, therefore, "shaped by […] the determination of a radically bounded area, a unified place defined by a central struggle."[76]

It was in the run-up to the London Olympic Games in 2012, another event that was characterised by an overlap between British nationalism and global interests, that the Scottish folk musician and songwriter Aidan O'Rourke rediscovered the Cold War in the cable and the surrounding landscape when he was commissioned to write a song for it:

> I remembered a building built during the Cold War on Gallanach Bay just outside Oban and the stories about the TAT-1 project from my Dad and we decided it was a strong idea that through modern telecommunications, the London Olympics you could experience from anywhere in the world.

Each of the songs touches on one of the layers of meaning the cable carried, in each original sounds provide the background for some of the music:

> The first on *TAT-1* is Mrs MacDougall on Gallanach speaking down the cable to a gentleman in Canada. On *Hotline* it's Khrushchev's speak to the [United Nations] intertwined with a JFK speech about the Soviet nuclear armoury.

> On *Monarch* you can hear excerpts from an interview on the laying of the cable. On *Clarenville* you can hear the water dripping in the chamber and also the crunch of my Dad's footsteps on the rotted vinyl flooring.[77]

The album cover, with its faux cyrillic script in white against a red background, shows a muscular statue, flag in hand, lurching forward from right to left. It mirrors Gustav Klutsis and Sergei Sankin's poster "1 May Solidarity," a photomontage from 1930. It thus evokes positively one ideological component of the Cold War and its social anchoring in the building up of communism in the Soviet Union of the 1930s.[78] TAT-1's heritage, through commodification as a record, contains echoes of the ideological elements of the Cold War.

Conclusion

TAT-1 is not only an artefact in the history of communications. It has also enabled communication about the Cold War in museums, just as the TAT-1 cable system enabled communications during the Cold War.[79] Anchoring a telecommunications object such as TAT-1 in its Cold War history highlights a key conundrum of communications more generally: the objects cannot create meaning without their materiality, but their materiality alone cannot create information or communication by itself.[80]

This chapter has unpacked the different layers of this historical conjuncture by highlighting the many different stories that attached to objects like TAT-1. Anchoring TAT-1 in the Cold War connects these artefacts across traditional collection divides: from film footage, sounds, cables, computers, electricity, ships (and ship models) to concerns about the placing of objects in environment and landscape. This, in turn, has implications for how we write the history of these objects.

Museums act as "spaces for research" that provoke historians to ask questions that would otherwise not readily emerge.[81] The historian of telecommunications and radio Wolfgang Hagen observed that telecommunications do not connect places, but that connections create places.[82] This means that the place of the Cold War in the museum is where we establish these connections through the interpretation of artefacts – it is there that the anchoring of objects in a specific context of interpretation happens. Seen from this perspective, the Cold War becomes less of an abstract category for a period of history and less of an analytical device that comes with certain core of assumptions. Instead, we can treat "Cold War" as an organising device, but one that is less rigid and more capacious than a search term in a collections database. This means treating the artefacts as "boundary objects": their status is not fixed but a result of discussions and negotiations between their properties, on the one hand, and the stories that museum visitors, historians and curators tell about them, on the other hand. Treating artefacts like TAT-1 as boundary objects means focusing on the process of production of Cold War objects through anchoring them in their political, social, cultural and organisational surroundings.[83]

Through anchoring, museums under Cold War aspects bring hidden or secret aspects into the public domain. They highlight aspects of the history of

telecommunications during the Cold War that the "process of virtualisation" that accompanied Cold War developments pushed into the background.[84] By bringing the hardware of communication back into focus, museum collections remake a key aspect of Cold War history – the collecting of communication objects thus becomes the beginning rather than the end of history writing.[85]

These findings have three implications for a Cold War museology. First, this chapter has made the case for seeing the Cold War not as a category of classification in the museum context, one that can be applied to objects from a certain period of history without further interrogation. Instead, this chapter has highlighted how it is more rewarding to think about this in terms of a process of production (or co-production) of an object as a specifically Cold War object – where one object can simultaneously be Cold War and not Cold War, depending on the context in which we interpret it – and also on the context in which it is kept and preserved. Cables like TAT-1 can also serve as metaphors for a key insight that such an approach to Cold War museology brings: "With its intertwined strands, the cable gains its strength not by having a single golden thread that winds its way through the whole. No one strand defines the whole."[86]

Second, this approach that emphasises multiplicity raises issues about how museums display artefacts from the period of the Cold War. The challenge here is less the issue of pluralism of moral interpretations or value judgements in the way that museologists working on the First World War have highlighted in the context of commemorating the violence of war.[87] Rather, the issue is the plurality of chronological contexts in which these objects can have meaning.[88] There has been some discussion about whether object biographies are an appropriate analytical tool – and some scholars have proposed object itineraries as an alternative.[89] I would like to take this one step further and argue that the biography and the path an object has travelled matter less than the multiple stories and paths that lead us to its meanings. In other words, we need to explore not how places were connected, but how the connections created the places.[90]

Third, this is why I suggest that a Cold War museology might benefit from is a "mobile museum" in which "materiality emerges through interaction."[91] We might harness the institution of the museum which places an object completely outside the context in which it was created to think about how meanings and stories have moved around with it – and how they can be produced and re-produced, made and re-made. A cable anchored in the Cold War thus turn museums into spaces where knowledge from different fields and eras is synthesised when general knowledge of that synthesis has been lost.[92]

Acknowledgements

Notes

1 The objects are classified under T2003.269. Related objects are also available in the Science Museum in London. See for example, David Hay, "Global Telephone Calls for

All," 25 September 2014, accessed 21 May 2024, https://blog.sciencemuseum.org.uk/global-telephone-calls-for-all.

2 See "Export for HN," 23 December 2022, extract from collections database provided by Samuel J. M. M. Alberti, Director of Collections, National Museums Scotland, Edinburgh.

3 See, for example, Friedrich A. Kittler, "Signal-Rausch-Abstand [1988]," in *Die Wahrheit der technischen Welt. Essays zur Genealogie der Gegenwart*, ed. Friedrich Kittler (Berlin: Suhrkamp, 2013), 217; Friedrich A. Kittler, *Grammophon, Film, Typewritrer* (Berlin: Brinkmann & Bose, 1986), 352. See also Wolfgang Hagen, *Das Radio. Zur Geschichte und Theorie des Hörfunks – Deutschland/USA* (Munich: Wilhelm Fink, 2005), 83.

4 Interview with Alison Taubman, online via MS Teams, 17 January 2023.

5 Rom Harré, "Material Objects in Social Worlds," *Theory, Culture & Society* 19, no. 5/6 (2002): 23 and 27.

6 See, for example, Igor Kopytoff, "The Cultural Biography of Things. Commoditization as Process," in *The Social Life of Things. Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 64–92; Chris Gosden and Yvonne Marshall, "The Cultural Biography of Objects," *World Archaeology* 31, no. 2 (1999): 169–78; Alexander A. Bauer, "Itinerant Objects," *Annual Review of Anthropology* 48 (2019): 335–52.

7 Christian Götter, "Technologies as Anchors for Societal Conflicts. An Outline of the Concept," *Technikgeschichte* 89, no. 1 (2022): 26.

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18   Rachel Boon, "'Research Is the Door to Tomorrow': The Post Office Engineering Research Station, Dollis Hill, 1933–1958" (PhD thesis, University of Manchester, 2020), 214.

19   BT Archives [BTA] Reading Room Reference Material Network/Cable/Submarine Cables/Transatlantic, W04/03: "Notes for P.M.G.'s speech leading up to inaugural conversations," n.d.; Rachel Boon, "'Research Is the Door to Tomorrow': The Post Office Engineering Research Station, Dollis Hill, 1933–1958" (PhD thesis, University of Manchester, 2020), 225; British Telecom Archives [BTA] BTA Ref Material Box in Searchroom W04/03, Network/Cable/Submarine Cables/Transatlantic: "Ceremonies Marking the Opening of Service Over the Transatlantic Telephone Cable System," New York, NY, September 25, 1956.

20   BTA Reading Room Reference Material Network/Cable/Submarine Cables/Transatlantic, W04/03: "Speeches at the Opening of the Transatlantic Telephone Cable. To be checked against delivery," n.d.

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26   "Building the First Transatlantic Telephone Cable: 'Voice Beneath the Sea'," available at https://youtu.be/OILtQ_Szvt8?feature=shared, accessed 21 May 2024; Rachel Boon, "'Research Is the Door to Tomorrow': The Post Office Engineering Research Station, Dollis Hill, 1933–1958" (PhD thesis, University of Manchester, 2020), 227. See BTA TCB176/33/1: C. C. Duncan to R. J. Halsey, 9 August 1954; Memo to D.D.G., November 1954, highlighting that Submarine Cables Ltd. had already done some filming; Raylton Fleming to Frank Shelton, 2 November 1955.

27   BTA TCB 176/33/1: Transatlantic Telephone Cable Film, 26 June 1956.

28   BTA TCB 176/33/1: K. Anderson to Sir Ben. L. Barnett, 5 January 1954.

29   BTA TCB 2/433: John Dean, Chairman and Managing Director, Submarine Cables Limited to Dr. Hill, Postmaster General, 26 September 1956.

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