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ABSTRACT

The red telephone kiosk or box has become synonymous with Britain, standing as an icon of national identity. Yet, of all the versions of kiosk that have been introduced, only two have achieved this exalted status. This paper explores how the telephone box evolved within the UK, details the circumstances that led to an architect becoming involved in their development, and describes how Sir Giles Gilbert Scott's design was transformed into Britain's K2 kiosk, the first of the iconic red telephone boxes. Thereafter the paper considers issues of kiosk deployment, explains why few K2s can be found outside London and concludes with a description of the onward development of the K2 and its eventual replacement by a second Scott design, the K6. Sir Giles Gilbert Scott's K2 kiosk forms an important part of Industrial Heritage for it not only enabled the growth of public telephones in London but also established the humble telephone box as a thing of utility combined with beauty.

Introduction

The red telephone kiosk or box has become synonymous with Britain. Alongside the black taxicab and Routemaster bus, a red telephone box is a symbol of Britain recognised the world over. Perhaps with the exception of Ireland, no other country in the world has developed such an affinity with a telephone box and lauded it as an icon of national identity.[1] Souvenir shops are packed with a plethora of objects based on, or depicting, a red telephone box, which is quite remarkable given that usage has declined massively since the late 1990s. Today there is more likelihood of a telephone box being used as a backdrop for taking photographs than for actually making a telephone call.

What is also fascinating about our love affair with the telephone box is that it is highly selective. Of all the designs that have graced our streets since the early 1900s, it is specifically two models designed by the renowned architect Sir Giles Gilbert Scott that are celebrated. Designated respectively as the K2 and K6, these are Britain's iconic red telephone boxes but designs that both preceded or followed them find little or no place in the nation's psyche. For example, despite being manufactured in large numbers neither the Giles Gilbert Scott designed K3, nor the K8 Kiosk designed by Bruce Martin, and which is now hailed as a masterpiece of industrial design, are rarely given any recognition.[2] Proof, as is often the case, that heritage can be fickle. Equally, however, proof that Sir Giles Gilbert Scott truly produced a design classic that is worthy of celebration as it nears its centenary.

This paper explores how the telephone box evolved within the UK, details the circumstances that led to an architect becoming involved in the development of telephone boxes, and describes how Sir Giles Gilbert Scott's design was transformed into Britain's K2 kiosk, the first of the iconic red telephone boxes.

Origins of the Telephone Kiosk and a Move Towards Standardisation

When the telephone was introduced into the UK in 1878, it was done so primarily by private companies who deployed services within local areas using technology based on either the patents of Alexander Graham Bell or those of Thomas Edison.[3] For example, The Telephone Company Ltd (Bell's Patents) formed in 1878 and the Edison Telephone Company of London Ltd formed in 1879. In 1880 both of these companies merged to form the United Telephone Company (UTC) and in 1881 the UTC formed the Provincial Telephone Company Ltd to promote new telephone companies across the UK, leaving the UTC to concentrate on London. The Provincial Telephone Company set up a series of subsidiary companies subsequently to operate in specific regions over which the UTC exercised a large amount of control. The rise of the telephone was, however, seen as a threat by the Post Office (GPO) who controlled the national telegraph network. A court judgment in December 1880 ruled that the telephone was merely another form of telegraph as defined in the Telegraph Act of 1869, which meant that any private company wishing to offer telephone services must obtain a licence from the GPO.[4] These were duly issued in 1881 with a lifespan of 31 years. Ultimately, the myriad of telephone companies amalgamated into the National Telephone Company (NTC), which by 1894 became the only serious challenger to the GPO.[5] The telephone service was further expanded by the Telegraph Act of 1899, however, which allowed municipal authorities to setup their own telephone service but, as per the NTC, under licence from the GPO. The city of Hull is perhaps the most famous beneficiary of this Act.[6] The GPO, for their part, operated all of Britain's long-distance telephone network, a growing number of international connections and had their own, albeit smaller, network of local exchanges and customer lines.

Private companies were not licensed to provide a service to non-subscribers and whilst some telephones were housed in 'silence cabinets' these could only be used by subscribers. This changed in 1884 when the Postmaster General, Henry Fawcett, granted permission to place telephones in public spaces and for the payment of a few pennies offered service to non-subscribers.[7] This resulted in 'call offices' being introduced, but they were steadfastly indoors and only available during the business hours of the host premises (Figure 1). It was to be another 20 or so years before unattended telephone pay stations or 'Public Telephone Call Offices' appeared on the streets. Only then could the telephone box truly be said to have been born.

Then, as ever, it was essential that public telephones provided a reliable and affordable service that was accessible to existing, regular, and new users alike. And, to put it bluntly, before 1905, doing anything of the sort in standalone street kiosks, open

Figure 1. An NTC call office, *c.* 1900, in a north-east London gentlemen's barber shop (courtesy of the National Collection of Telephone Kiosks Archives).

24 hours a day, was simply not realistic. The practicalities of making a call continued to be something of a hit and miss process, and the support of a nearby human could make the difference between a successful first telephone experience and a bitterly disappointed caller. Collecting the fees for the calls was also beyond the abilities of the very basic 'single penny' coinboxes that were then all that were available, and especially so given most existing subscribers were on a tariff that included all local calls. The Leclanché batteries, which were still required at all telephone installations, were also wholly unsuited to intensive round-the-clock use and, on an entirely different front, the NTC relations with many local councils was, at best, fraught. As the 1800s drew to a close, it was little wonder that the NTC continued to choose not to embark on the business of erecting and operating street telephone kiosks.

Meanwhile, in Holborn

Although this paper is focussed on telephone kiosks, it is of course true to say that not all street kiosks are telephone boxes. Over the years, different nations and cultures have taken to street kiosks very differently. In the later 19th century, in cities such as Paris, with their wide boulevards and pavements, newspaper kiosks were often to be seen. In the UK, however, such things were not welcome. Britain's city and town centres were laid out very differently and local councils proved reluctant to any suggestion that such retail structures might be established. The pavements were far too narrow for such things, and, in any case, they might impact existing street traders and hawkers whose income could disappear. That many of the councillors involved were themselves shopkeepers whose businesses would also be affected was, perhaps, a contributing factor. But one way and another, the end result was that by the time the NTC started to show an interest

in erecting street telephone kiosks, it was not just their poor relations with local councils that went against them. Those same local councils had well-entrenched policies that went against there being any street kiosks at all, and especially so in the boroughs of central London.

A notable exception to this almost blanket objection occurred in the Holborn area of London in 1898, in which a start-up company by the name of the Street Syndicate Ltd (SSL) persuaded the local council to permit the erection of three street kiosks along New Oxford Street, High Holborn and Holborn.[8] Their objective, which had been to 'erect illuminated kiosks for the sale of newspapers, flowers, etc.' had been put to the local vestries across London and to councils elsewhere, but Holborn appears to have been the only place that agreed to the idea. The nearby St Pancras Vestry was reported as being

> strongly of the opinion that it is not advisable to entertain the application, because it is considered inexpedient to allow the syndicate to have possession of any portion of the public way, and, moreover, the development of the scheme would probably interfere with the industry of many poor itinerant vendors and shopkeepers.[9]

The kiosks that opened in Holborn, on 14 January 1898, also turned out rather differently to what the SSL had been offering. Newspaper reports described them as experiments, that would be

> brilliantly illuminated at night, the lights only being put out at the same time as the streetlamps. The name of the street in which it is situated has been put on each kiosque, and will show up in luminous letters after dark.[10]

More significantly, they did not sell newspapers or flowers. Occupied by an attendant during opening hours, they provided general information, a shop-style call office telephone and access to a District Messenger Service call point (Figure 2).

Figure 2. The westernmost of the three former Street Syndicate Ltd kiosks in High Holborn, *c.* 1903.

Although not strictly speaking public telephones, those three kiosks may perhaps be considered to have been Britain's first telephone kiosks, but the venture was only short-lived. Over the following two years, the SSL and its sister company, the Provincial Street Syndicate, made no further progress, and the business was formally wound up in February 1900. The sites continued to be operated by the NTC as attended call offices and, once again, Britain continued to wait for the real dawning of the telephone box era.[11]

The First NTC Telephone Kiosks

Telephone kiosks continued to be very low on the NTC's list of challenges, but the early 1900s saw dramatic improvements to their viability. Major simplifications and changes to tariffs, combined with a new form of coinbox, changed the economics entirely and a new type of telephone exchange also made for a much simpler and more reliable user experience.[12] Those new exchanges also did away with the need for local batteries at the telephone end of the line.[13]

Additionally, there were fundamental changes to the relationship between the GPO and NTC. In 1905 the GPO began to share with the NTC powers to carry out street works, completely changing the possibility of the NTC placing telephone boxes on the street. From then, the NTC really could begin to erect their own telephone kiosks, even if only in very small numbers, and even then, by no means everywhere. London in particular remained very much a no-go area for such things.

This led to a variety of kiosk designs, most of which were little more than customised sentry boxes. Some were one-off local productions, some very rustic in form, although by the end of the decade a form made by the Wilson Company (of Southsea) had become fairly widely used. Payment of the call was often made by using a coin-operated door lock and 'trunk calls' were not available. The GPO, which was by then more directly involved in the provision of local telephone services, appears not to have followed suit with their increasing number of call offices tending to be placed inside post offices.

The telephone licences issued by the GPO expired at the end of 1911 and the Telephone Transfer Act 1911 formally transferred to the Postmaster General (GPO) the plant, property, assets and staff of the NTC, thereby in effect nationalising the UK's telephone service. Consequently, the GPO also inherited a piecemeal estate of several dozen telephone kiosks comprising a diversity of different designs.

Nationalising the NTC occupied considerable time with little spare capacity left to devote to the possibility of rationalising their kiosk estate. Some thought was given to adopting red as a standard colour, and also to perhaps creating a single unified GPO design for which the underlying principles were stipulated as to combine the aesthetic quality with economy of design and should be produced at no increase in cost over the existing types.[14] Two preliminary designs had been produced from within the GPO by 1914, but inevitably the First World War delayed matters even further. Over the next few years, the requirement to supply a kiosk for any additional site was met using an existing wooden silence cabinet topped with a weather-proof pyramid roof (Figure 3).[15]

The Government had plans to expand the telephone service, and growing the extent and number of telephone kiosks was to play a part in this. In 1921 the GPO launched a new standard design of telephone box, known as Kiosk number 1, or simply K1. It was little more than a reworking of its pyramid-roofed wooden predecessor, but in a different material.

The K1 Kiosk

Given a severe shortage of quality seasoned wood after the First World War, the K1 kiosk was made of pre-cast sectional concrete with a teak door. With a 3ft (900mm) square footprint, the K1 was tall enough to allow an average person to stand up in it and was topped off with a smooth pyramidal roof and orb finial (Figure 4). The door and two sides were half glazed with either two large equal-sized windows or, more commonly, three rows of smaller windows with two equal-sized ones at the top and bottom and a single double-width pane of glass in the middle. This larger pane carried the words 'Public Telephone', and the smaller ones at the bottom the words 'Open Always'. A slight modification was made in 1922, creating the Mk235, in which wooden window frames were replaced with metal ones. Interestingly, there was no requirement to paint it red. Undoubtably functional, the GPO was happy with it, but this was not a universally held view.
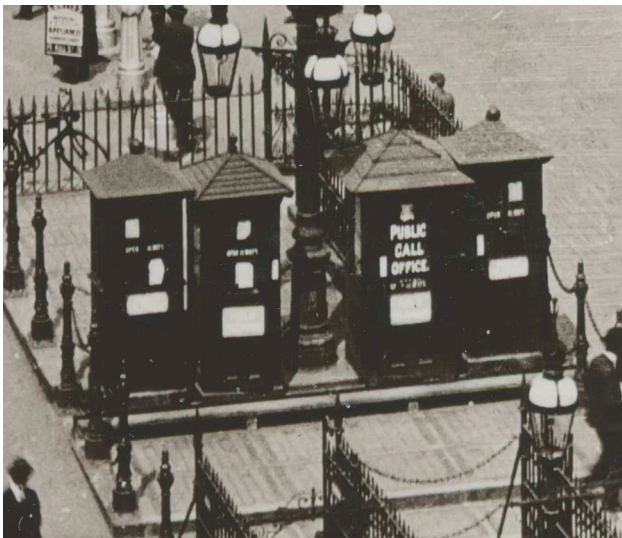
Figure 3. Four kiosks in the early 1920s comprising, left to right, a GPO K1, Externalised Cabinet, an NTC 'Birmingham' pattern kiosk, and a second GPO K1.

Figure 4. A GPO K1, Mk235 kiosk. Part of the National Collection of Telephone Kiosks, Avoncroft Museum (photograph taken 16 September 2021).

Many thought it a somewhat plain design. Whilst the K1 began to be used in quantity elsewhere (1,500 K1 kiosks would be erected throughout the country by the end of 1925), London was unimpressed. Objection was voiced by the Metropolitan Boroughs of London who deemed the K1 'not sufficiently ornamental', despite having already allowed the erection of a few in the capital. Hence, this prompted the GPO and the Metropolitan Boroughs Standing Joint Committee (MBSJC) to embark on a consultation to produce a new design that would be acceptable for placement in London.[16] Having reviewed six different designs, agreement was reached in December 1923 and a full-scale pattern was produced in wood of the chosen one (Figure 5E).[17] Sadly, it was not well received by others. Indeed, His Majesty's Office of Works declared the design to be 'devoid of architectural character' and totally unsuitable to be put anywhere in the Royal Parks, and this sentiment was echoed by the Town Planning Institute, The London Society and the Royal Institute of British Architects which, in a letter dated 6 March 1924, recommended that 'before proceeding with the building of these kiosks, to seek the advice of the newly appointed Fine Art Commission'.[18]
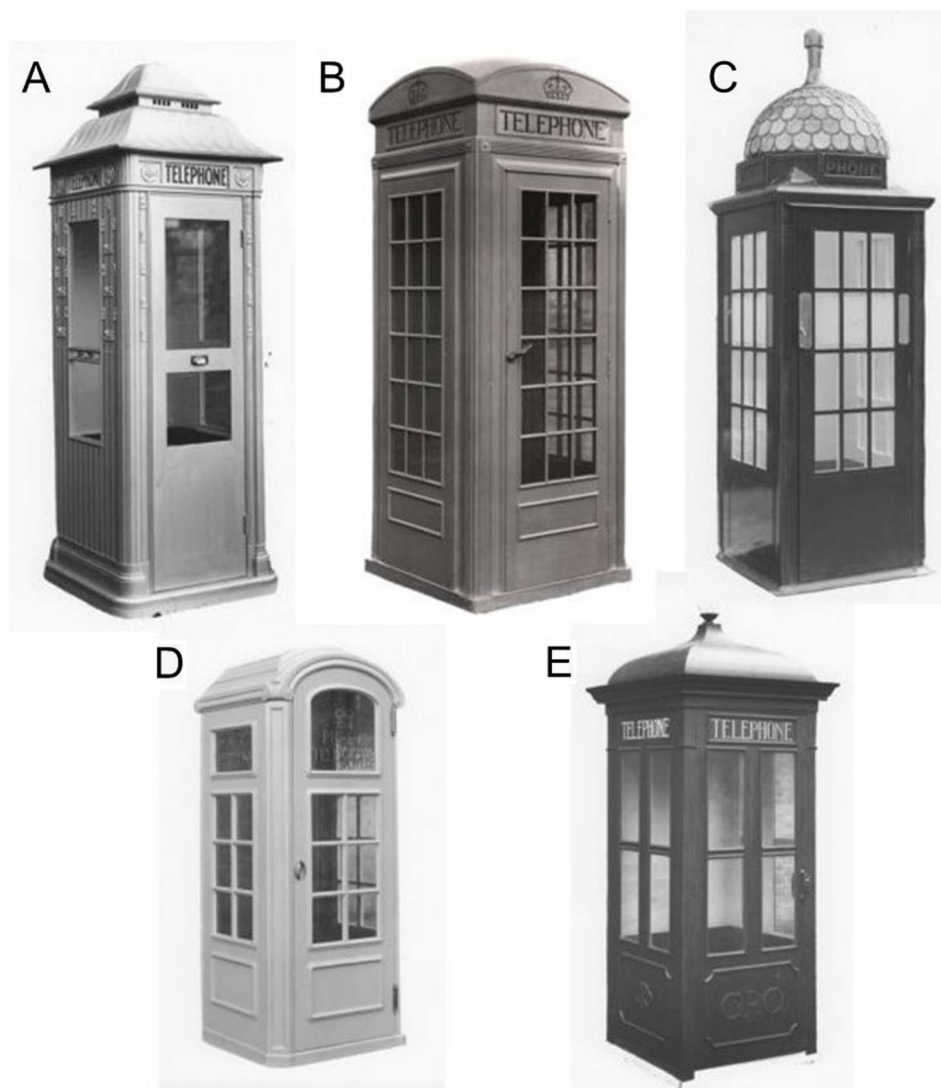
Royal Fine Art Commission

The Fine Art Commission was created to 'enquire into questions of public amenity or artistic importance referred to it by government departments and other public or quasi-public bodies'.[19] The press interpreted this remit more simply as to 'beautify England'. The Commission was announced in January 1924, held its first meeting on 8 February 1924 under the chairmanship of the 27th Earl of Crawford and Balcarres, and was granted a Royal Warrant in May 1924.

Sir George Evelyn Murray, Secretary of the GPO, formally wrote to Lord Crawford on 7 March 1924 to ask if the Fine Art Commission would offer their assistance, noting that the kiosk design approved by both the GPO and MBSJC had been 'pretty generally condemned by artistic experts'.[20] Lord Crawford accepted and agreed with the GPO that if none of the designs were deemed suitable then a small-scale competition, limited to about three architects, would be held.[21] Hence, the six designs previously considered by the GPO and MBSJC, including the one that had been approved, together with ones from His Majesty's Office of Works and the British Institute of Industrial Art were evaluated. The Birmingham Civic Society, which had previously lobbied the GPO about kiosks, was also permitted to submit a design for consideration.[22]

At the meeting of the Fine Art Commission held on 4 April 1924 all nine designs were deemed inadequate and this decision was communicated to the GPO on 11 April 1924 by the Secretary to the Commission, Harold Chalton Bradshaw.[23] By mutual agreement it was decided to ask the Council of the Royal Institute of British Architects to nominate three prominent architects who could be invited to prepare further designs for consideration.

Figure 5. Five designs of kiosk inspected by the Fine Art Commission: A = Sir Robert Lorimer, B = Sir Giles Gilbert Scott, C = Sir John Burnet, D = Birmingham Civic Society, E = GPO/Metropolitan Boroughs Standing Joint Committee (courtesy of BT Group Archives, images TCB 417/E 3090, E 3091, E 3092, E 3093, E 3094).

Each architect would receive a premium of £50 with full-size models of their designs being produced so they could be judged on a competitive basis.

This was an important decision and one that perhaps above all others explains why the British telephone box has become iconic. An architect pays as much attention to form as function, whereas the telephone service provider perhaps puts a greater emphasis on function. With architects involved in the design process, telephone boxes could be viewed as small buildings rather than an object of pure utility. The three chosen architects were Giles Gilbert Scott, Sir John Burnet and Sir Robert Lorimer.

Giles Gilbert Scott was born on 9 November 1880 in Hampstead, London. His father was an accomplished architect and even more so his grandfather, Sir George Gilbert Scott, who had designed the Albert Memorial and St Pancras Hotel in London.[24] Giles followed in their footsteps and at the young and relatively inexperienced age of 22 was awarded a contract to design Liverpool's Anglican cathedral. On 19 July 1924 the main part of the cathedral, including the sanctuary, chapter house, chancel and eastern transepts, was consecrated in a ceremony attended by King George V and Queen Mary. The following day Giles Gilbert Scott received his knighthood.

Sir John James Burnet was born on 13 May 1857 in Glasgow, the youngest of three sons to his architect father, John Burnet.[25] He studied in Scotland and France before commencing work with his father's practice at the end of 1876. In 1878 he won the competition to design the Royal Institute of the Fine Arts in Glasgow. Other notable buildings in Glasgow and Edinburgh followed before moving to London where in 1905 he was commissioned to design the King Edward VII galleries of the British Museum. He was awarded the Gold Medal of the Royal Institute of British Architects in 1923.

Sir Robert Stodart Lorimer was born on 4 November 1864 in Edinburgh.[26] Unlike Scott and Burnet, his father was not an architect but Professor of Public Law at the University of Edinburgh. Lorimer began his architectural career in 1885, working in Edinburgh, before moving to London in 1889 and then returning to Scotland in 1893. He was a committed exponent of the Arts and Crafts approach to architecture and gained significant recognition for his design of the Thistle Chapel of St Giles Cathedral in Edinburgh, which was unveiled in 1911 and for which he received a knighthood.

In addition to these three architects, the kiosk design submitted from the Birmingham Civic Society together with the one previously approved by the GPO and MBSJC were reconsidered despite having previously been rejected by the Fine Art Commission.

On 29 April 1924, the Postmaster General confirmed that Their Lordships had granted their authority to offer a premium of £50 to each of the three architects subject to the GPO being entitled to obtain and erect such kiosks without any further payments being made to the designers. It was confirmed on 19 May 1924 that wooden models of each design would be made by the GPO's London Engineering District Workshops on Cornwallis Road, Holloway. However, that left the question of the kiosk designed by the Birmingham Civic Society. On 23 June 1924, the Birmingham Civic Society announced that they had no funds to manufacture a wooden model of their kiosk design and so asked if the GPO would be prepared to incur such cost, which was estimated to be £45.[27] This was agreed in July 1924 but would ultimately rise to £75.[28] In contrast, the cost of producing wooden models of the three architect's designs totalled £566.[29]

The three architects submitted their designs to the GPO on 23 May 1924. Manufacture of the wooden models commenced, but on 25 July 1924 the GPO's Superintending Engineer reported that a date for completion could not yet be given because further details regarding some of the ornamental features of each kiosk design was still awaited from the architects. Later in

August, it remained unclear when the models would be ready, but the Birmingham Civic Society was urged to have their model delivered to the GPO workshops on Cornwallis Road as soon as possible. Finally, all five models became available and were put

Figure 6. A K2 kiosk seen in the late 1990s, with the old Bankside Power Station in the background. Now Tate Modern, it was also designed by Sir Giles Gilbert Scott.

Figure 7. Differences between Sir Giles Gilbert Scott's original design (left) and the finalised design (right) adopted by the GPO as the K2 (courtesy of BT Group Archives images TCB 417/E 3092 and E 3363).

on display in the yard behind the National Gallery on 1 September 1924 (Figure 5).

The Royal Fine Art Commission confirmed that they had reviewed all five models on 9 September 1924, two of which were approved, with the design produced by Sir Giles Gilbert Scott being preferred over that by Sir Robert Lorimer.[30] Cost estimates for manufacturing production versions of both designs were obtained subsequently from the Walter MacFarlane & Co. foundry in Glasgow. Interestingly, on 9 October 1924, the MBSJC reported that they had inspected the models but favoured the design by Sir John Burnet, which was naturally at odds with the Royal Fine Art Commission. However, it transpired that confusion had arisen because the MBSJC was under the impression that all five designs were to be reviewed and not just the two approved by the Royal Fine Art Commission. Once resolved, the MBSJC confirmed approval of the design submitted by Sir Giles Gilbert Scott.[31] Prior to this, the GPO had written to the MBSJC to confirm their preference for Scott's design.[32] In December 1924 the five wooden kiosk models had all been moved from the National Gallery to the GPO's Stores Depot at Studd Street in Islington.[33]

With all parties in agreement, the GPO wrote to the Royal Fine Art Commission on 24 March 1925 to confirm their decision to adopt the design submitted by Sir Giles Gilbert Scott.[34] On 30 March 1925 all three architects were informed of this decision and each was paid their premium of £50.[35] News was conveyed to the public across a broad range of daily newspapers on 28 March 1925, with some stating, rather optimistically, that the first production model would be ready in eight weeks' time.[36]

Sir Giles Gilbert Scott's Kiosk Design

Scott's winning kiosk design became Britain's second standardised kiosk, the K2, and offered a radical departure from anything that had gone before (Figure 6). It was large, measuring 1.03m square and 2.82m tall, and made from cast iron, but the door was teak. It weighed more than one ton. The door and two sides were glazed with panels comprising six rows of three equal-sized rectangular windows. Its classical design had moulded column detail along its edges with horizontal moulding at the top below a back-illuminated opaque rectangular glass telephone sign, above which a perforated Tudor crown (as used in the Royal cipher at that time) provided ventilation. It was topped off by a domed roof, for which it is said Scott took his inspiration from the Soane's family tomb that lies within St Pancras Old Church Gardens in London.[37] More importantly, and against Scott's wish for the K2 to be painted silver with a greenish-blue interior, the GPO adopted vermilion for the outside and flame for the interior, except for the underside of the roof. That was painted white to reflect more of the light from the lightbulb. Hence, Britain now had its first 'red' telephone box. However, this finalised design differed from Sir Giles Gilbert Scott's original submission in several subtle but important ways (Figure 7). These comprised simplified fluting detail with five lines being reduced to four, a more rounded dome roof, the Tudor crown panels pushed back and surrounded with prominent stepped beading, lengthened windows with unwired glass, spring-close hinges, a latching door, printed 'TELEPHONE' signs and a different design of handle.

Another important feature introduced with the K2 was the ability to have the door hinged at various orientations to the kiosk (Figure 8). Known as K2A, K2B, K2C or K2D plans, this
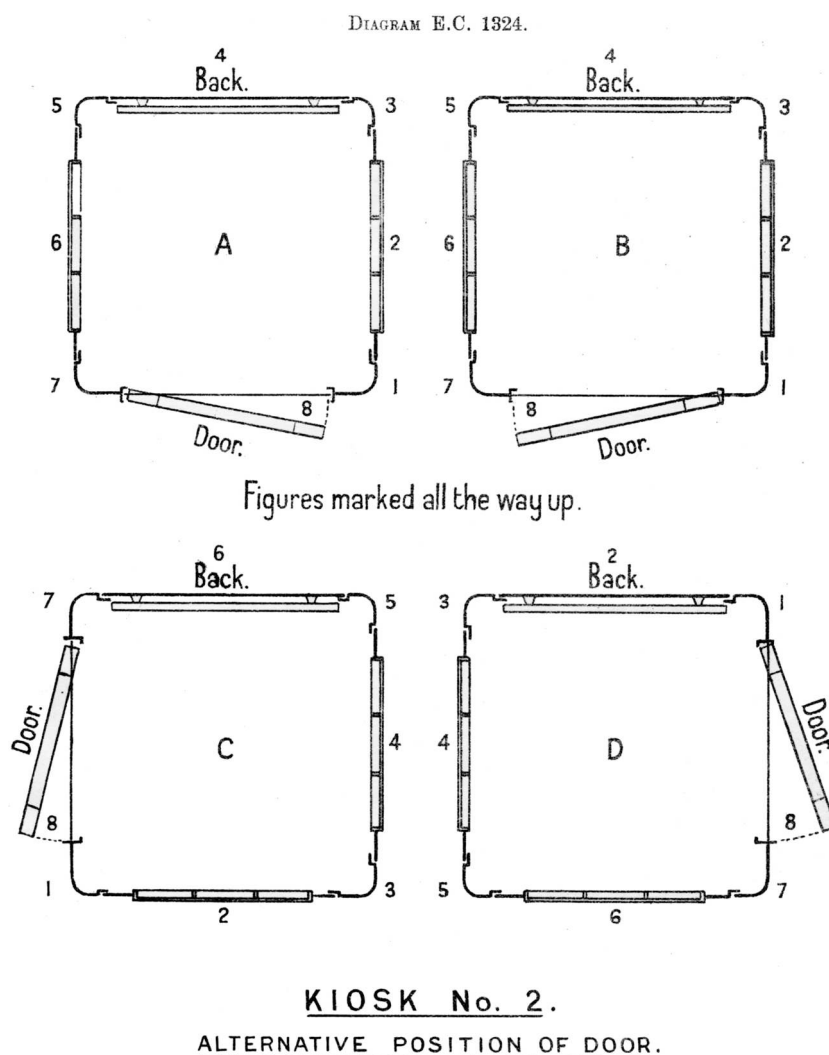

Figure 8. Door orientations for the K2 (courtesy of BT Group Archives, Diagram E.C. 1324 (uncatalogued collection)).

allowed the door to be hinged at the front on either the left- or right-hand side, or on either side of the kiosk, thereby offering greater flexibility when siting the kiosk. Quite when this idea arose is not clear. It was not a requirement of the competition, but it made many previously wholly unsuitable sites available.[38]

With no experience of using cast iron for kiosks, the GPO decided to opt for a small trial order of 100 kiosks for which an estimate was obtained from Walter MacFarlane & Co., followed by a non-competitive formal tender that was issued as contract No. 31822 on 7 May 1925. The first production models of the K2 were inspected and approved on 10 December 1925.[39] One

Figure 9. Interior of the K2C which forms part of the National Collection of Telephone Kiosks, Avoncroft Museum, showing the A + B coin collecting box installation (photograph taken 14 April 2024).

issue that did arise was that the 'TELEPHONE' sign supplied by Walter MacFarlane & Co. was not approved by Sir Giles Gilbert Scott and so the GPO issued a new contract, number 35545, with Pilkington to supply those signs.[40]

In 1924 further tariff changes were brought in and a new form of 'Button A + B' coin collecting box was introduced.[41] Hence, A + B coin boxes were installed in K2 kiosks connected to an exchange that had been upgraded to support them, otherwise the earlier Ericsson design coin box was fitted (Figure 9). Just as had happened 25 years before, the new physical telephone kiosk was actually just one element in a much wider Government strategy to grow both the number of public telephones and the telephone service as a whole.

Deployment of the K2

The average cost of the K2 was £53 per kiosk and by 9 March 1926 it was confirmed that the first K2 had been erected and opened for service in Charing Cross Road. In the middle of March 1926, 40 kiosks were ready for dispatch to the GPO, with the remainder expected within four to five months, but the feeling within the GPO was that they needed to deploy 30 or 40 kiosks and evaluate them over a few months before placing large orders.[42] A total of 78 sites had been approved with the MBSJC by the end of March.[43] It is important to recognise that parts of London fell outside of the jurisdiction of the MBSJC, such as the boroughs of Ealing and Acton. It is interesting to note that, even today, the geographical spread of London's remaining K2s still very much reflects the distinction between those London boroughs that were members and those that were not.

One aspect that did cause concern was the internal temperature of the K2 and whether the interior of the kiosks could become uncomfortably warm with all the glass. A brief survey carried out across ten K2 kiosks on the 25 June 1926 had reported favourably on the fact that the new design was roomy, light and quiet, but had noted that the interior of the kiosk was in most cases very warm at around 78 degrees Fahrenheit. A suggestion to include a bi-folding door was deemed unsuitable in wet and stormy weather but the possibility of inserting a ventilation grating at floor level was proposed, although there is no evidence that this suggestion was ever adopted.[44]

Chosen sites also evolved over time with additional kiosks added as demand grew. For example, on the corner of Fleet Street and Bell Yard in London a K2 installed in 1926 was joined

Figure 10. Two K2s on the corner of Fleet Street/Bell Yard. The one on the left is a 1926 unit and the one on the right is a 1931 unit. Both have side entry doors.

by a second K2 in 1931 (Figure 10). Many other sites followed a similar pattern, but perhaps the most well-known collection of K2s in London is the much-photographed group of five on Broad Court near Convent Garden.

Beyond London, in provincial towns and cities where a more ornamental form of kiosk was preferred, the GPO received requests for a total of 145 K2 kiosks. Based on those requests, it was predicted that a further 166 could be wanted. In the three years to July 1926 the number of K1 kiosks erected in provincial districts had increased from 420 to 1,684, i.e. a 300 per cent increase. Given this rate of growth, it was predicted that there could be a substantial increase in the next three years to 1929.[45] The view of the GPO was that, except for London, the standard kiosk remained the K1 with the K2 being a deluxe model for exceptional sites only. However, several towns and cities were recipients of the K2 but, unfortunately, definitive records are vague. Two K2 kiosks installed in Oxford next to the Martyrs' Memorial are particularly interesting because for reasons as yet unknown, they were, against GPO convention, painted a shade of cream (Figure 11). Best estimates suggest that perhaps as many as 60 K2s were deployed outside of London.[46] Research carried out by the authors using a combination newspaper articles, picture postcards and photographic archives has thus far confirmed 45 of those together with a further three erected in London but outside the MBSJC area of control (Table 1).

With suggestions of a healthy demand both within and beyond London, the GPO sought to open manufacture up to competitive tender and 16 firms were invited to quote, from which only six tendered. Of those six, two were chosen, Walter MacFarlane & Co., the current supplier of the K2, and the Carron Company of Falkirk, a well-established provider of post boxes. An order was placed in October 1926 for a further 600 K2 kiosks, with 100 being supplied by Walter MacFarlane & Co., and 500 by the Carron Company.[47] Over the production lifetime of the K2, the majority were manufactured by the Carron Company, with a third foundry, the Lion Foundry, Kirkintilloch, known to have undertaken a limited production run from 1934.

Demand is one thing, but placing a kiosk is another. Proposed sites still required protracted negotiation with the local council and other authorities, even though concern about the actual design of the K2 was no longer an issue. By May 1932 the GPO was supplying K2s to meet an average rate of demand of about 20 per month. Whilst definitive records remain sketchy, based on the number of kiosks erected within London up to 1934 and accounting for some K2s to have been installed outside of London, the authors estimate that the production run of the K2 did not exceed 1,500 kiosks. Interest in the K2 was not restricted to the UK alone, with requests being expressed from as far afield as South Africa, New Zealand and India.

Onward Development of the K2

In accordance with GPO convention, the first version of the K2 was designated the Mk234. By the end of 1926, a slightly modified version, the Mk235, was introduced in which the original door latch and two sprung hinges were replaced by three un-sprung hinges and a strong internally mounted spring door closer.[48]

Table 1. Validated K2 kiosk locations outside the MBSJC area

Town/City	Number erected	Location – validated
Birmingham	6	(1 + 2) Victoria Square (outside Head Post Office)
		(3 + 4) Five Ways (corner of Hagley Road/ Harborne Road)
		(5) Newhall Street (junction with Lionel Street, adjacent Telephone House)
		(6) Old Square
Bradford	4	(1 + 2 + 3 + 4) Forster Square (outside Head Post Office)
Brighton	2	(1 + 2) Palace Pier (either side of the entrance)
Cardiff	1	(1) Llandaff Fields (Tram Terminus)
Cheltenham	1	(1) Promenade (outside Head Post Office)
Glasgow	3	(1) City (corner of Gordon Street/Mitchell Street)
		(2) Shawlands Cross (Moss-side Road)
		(3) St Vincent Place (south side; 35m east of Buchanan Street)
Gravesend	1	(1) King Street (outside County Court) — this K2 remains as a listed building
Halifax	1	(1) Commercial Street (junction of Old Cock Yard, outside Head Post Office)
Helensburgh	1	(1) Colquhoun Square
Leeds	2	(1 + 2) City Square (outside Head Post Office)
Liverpool	4	(1) Exchange Street West (side of Town Hall) — this K2 remains as a listed building
		(2) Houghton Street (junction with Clayton Square)
		(3) St George's Crescent (corner of Lord Street)
		(4) St George's Crescent (corner of Cable Street)
Manchester	2	(1) Albert Square (opposite Town Hall)
		(2) Stevenson Square (outside No. 9 — corner of Lever Street)
Margate	2	(1) Marine Terrace (opposite junction with Station Approach)
		(2) Cliftonville (junction of Lewis Crescent and Walpole Bay)
Norwich	4	(1) St Giles Street (outside Telephone House — No. 41)
		(2) Agricultural Hall Plain (outside Old Post Office)
		(3 + 4) Junction of Unthank Road and Earlham Road
Oxford	3	1 + 2) Magdalen Street (adjacent to the Martyr's Memorial)
		(3) Carfax Tower
Sheffield	4	(1 + 2 + 3 + 4) Surrey Street (adjacent to the Town Hall)
Southport	1	(1) Lord Street (outside Railway Station)
Southsea	1	(1) Southsea — St Helens Parade (near South Parade Pier)
Wolverhampton	2	(1 + 2) Lichfield Street (outside Head Post Office)
TOTAL	**45**	

London K2 kiosks outside control of the Metropolitan Boroughs Standing Joint Committee

Ealing	1	(1) New Broadway (o/s No. 41)
Acton	2	(1 + 2) The Mount (Junction of High Street and St Mary's Church)
TOTAL	**3**	

Figure 11. Two K2s installed alongside the Martyrs' Memorial in Oxford where curiously, they were painted in a shade of cream.

Ever since telephone kiosks were placed on the street, they have been subjected to criminal damage either in terms of theft of money from coin collection boxes or wanton vandalism such as breaking windows. The door and sides of a K2 contain 54 small panes of glass and there are four larger glass panels in the roof. Replacing all of those is both costly and time-consuming. Hence, a rather drastic approach to tackling that problem was to remove the windows from the door and sides and replace them with single polycarbonate panes with kick-proof steel panels below. These modifications did nothing for the aesthetics of the kiosk and over time the polycarbonate panes became scratched and marked to the point that they looked as bad or worse than a vandalised kiosk (Figure 12).

Naturally there were other less dramatic changes to the K2s over time. Most obviously, the internal telephone equipment changed as the service expanded and decimalisation was introduced. There were slight changes to the 'Telephone' sign typeface and the specific shade of red paint, especially after the British Standard Institute launched BS381 in 1930.

Whilst the K2 received many plaudits for its design, aesthetics and the improvements that it offered over the K1, there was, sadly, one drawback and that was cost.[49] All new kiosk installations had to be financially viable and with a K2 costing almost three times that of a K1, the GPO was understandably reluctant to deploy the K2 in great numbers, especially outside of London. The K2 also cost more than the K1 to maintain in terms of cleaning and painting. It was therefore suggested that the GPO should approach Sir Giles Gilbert Scott to seek his assistance in producing an alternative design that would be more in line with the cost of a K1.[50] This was enacted by Sir George Evelyn Pemberton Murray, Secretary to the Post Office, in a letter he wrote to Reginald Alexander Dalzell, Director of Telegraphs and Telephones on 26 January 1927. Sir Giles Gilbert Scott accepted a commission of 50 guineas to design another kiosk, which became the GPO's third standardised kiosk, the K3.[51] The K3 marked a return to concrete, except for the hardwood door, and was shorter, narrower

Figure 12. Two K2s located at Unicorn Restorations showing the extreme anti-vandal modifications that had been carried out prior to their ultimate demise (photograph taken 29 September 1999).

Figure 13. K3 kiosk, Great Yarmouth, *c.* 1936 (courtesy of BT Group Archives, image TCB 473/P 1360).

Figure 14. The K4 kiosk — part of The National Collection of Telephone Kiosks, Avoncroft Museum (photograph taken 8 April 2016).

Figure 15. K2 kiosk outside the Victoria and Albert Museum, London, showing wartime bomb damage to the right of the top two rows of windows. This Grade II Listed kiosk (Listing No. 1265488) also has completely non-authentic gold painted crowns (photograph taken 21 August 2012).

Table 2. New installations of K2 kiosks

Location	Number erected	Notes
London, Hays Galleria	4	Opened in 1987
London, South Audley Street	2	Erected in 1984, outside Mount Street Gardens. Listed as Grade II (Listings Nos 1236430 & 1236431)
Parliament Square	2	Erected in 1990. Listed as Grade II (Listing No. 1393340)
Oxford, Carfax Tower	1	K2 reinstated on an original K2 location. Listed as Grade II (Listing No. 1393364)

and very much smaller on the inside than the K2, but retained its 6 × 3 window arrangement (Figure 13). However, the K3 had little in terms of fine detailed finesse and was painted cream, with red glazing bars and door.[52] That said, the K3 was a great improvement over the design of the K1, and from 1929 it replaced the K1 as the GPO's default standard kiosk for outside central London. A revamped K1, with taller multi-pane glazing, followed by K2/K3 style signage, was made available for sites that failed

the financial tests for even the K3, but after 1930 new K1 sites began to be the exception rather than the rule.[53]

The telephone kiosk offered the public access to the telephone service at all times, whereas the postal service side of the GPO was limited by the opening times of main and sub post offices. Specifically, this impacted the purchase of stamps and hence attention turned towards the idea of expanding the capabilities of the kiosk. The introduction of stamp vending machines in 1921 had proved popular and by 1925 machines had been placed outside 1,000 post offices with plans to expand this by 500 per year. In the city of Bath, a one-off wooden kiosk comprising telephone, stamp vending machines and post letter box had substituted for the city post office between its demolition and reopening. This promoted the Engineering Department of the GPO to consider how the K2 might be similarly modified.[54] The result became the K4 kiosk, which was in effect a stretched K2 with a post letter box and stamp vending machines added to the rear of the kiosk and with the domed roof being extended accordingly.[55] Known colloquially as the Vermilion Giant, the K4 not only dwarfed everything that had gone before, but it also had none of the siting flexibility of its predecessors (Figure 14). It was not available with doors on the side and required open space at both the front, for the door, and at the back for the post box and stamp vending machines. It was also very costly, and only a single batch of 50 was manufactured.

The GPO continued to deploy the K2 until June 1936 when it was officially declared obsolete after another Scott kiosk, known as the K6, replaced both it and the K3 as the new standardised kiosk design for nationwide deployment.[56] As a footnote to the K2 story, it is perhaps also worthy to note the resilience that the K2 kiosks demonstrated during the Second World War where

Figure 16. Grade II Listed K2 kiosk (Listing No. 1262058) on Exchange Street West, Liverpool (outside Liverpool Town Hall) alongside a K6. Sadly, the reproduction signage on the K2 has been very poorly implemented (photograph taken 15 September 2018).

several were impacted by the London Blitz. The example outside the Victoria and Albert Museum in London stands as a testament to the overall strength of a K2 (Figure 15).

Conclusion

Today, aside from those in museums, private ownership or languishing in reclamation yards, Historic England has bestowed listed status on 222 survivors, mostly at Grade II. One, the wooden prototype of Scott's submitted design, survives at the entrance to Burlington House, London and is listed Grade II*. However, in amongst these listed K2 kiosks there are five that are in fact new installations, only one of which has been placed on a genuine former site occupied by a K2 (Table 2).

When the GPO took over responsibility for the majority of the UK's telephone service in 1912, they sought to produce a standardised kiosk that materialised as the K1 in 1921. However, objection from the Metropolitan Boroughs forced a rethink and the need to engage the services of an architect. Whilst Sir Giles Gilbert Scott's K2 pacified London, it was deemed too costly for widespread deployment elsewhere, prompting the GPO to seek further assistance from Scott to produce something cheaper, which he did with the K3. However, that still meant that the GPO had failed in its original aim to create a single standard kiosk for the country. The Silver Jubilee of King George V in 1935 provided a new incentive to try and rectify that situation and once again the GPO approached Sir Giles Gilbert Scott. His third design, which became the K6, finally provided the GPO with what it desired and with over 65,000 manufactured, the K6 became Britain's ubiquitous red telephone box. Whilst smaller than the K2, the K6 did retain several of its recognisable features, and most members of public, if asked, might probably admit to not even knowing there is a difference (Figure 16).

The K2 was Britain's first red telephone box and thanks to an architect's vision turned an item of utility into one of beauty. Indeed, an indication that a Scott telephone box might become iconic occurred very early on when for Christmas 1928 the C.W.S. featured a K2 on a festive biscuit tin, and now it is certainly very well represented on tourist souvenirs and postcards. Sir Giles Gilbert Scott's K2 kiosk not only enabled the growth in public telephones in London but also established the humble telephone box as an icon of national identity that has survived for 100 years — and long may it continue to do so.

Notes

1. A general history of UK phone boxes is provided in: Nigel Linge and Andy Sutton, *The British Phonebox* (Stroud: Amberley Publishing, 2017); Neil Johannessen, *Telephone Boxes* (Princes Risborough, Buckinghamshire: Shire Publications, 2010); John Timpson, *Requiem for a Red Box* (London: Pyramid Books, 1989); Nigel Linge and Andy Sutton, 'The Evolution of the British Phonebox', *Institute of Telecommunications Professionals Journal* 11, Part 1 (2017): 25–31; F.J. Flood, 'Kiosks', *Post Office Electrical Engineers Journal* XXIX, Part 3 (October 1936): 175–87.
2. Nigel Linge, Andy Sutton, Andrew Hurley and Neil Johannessen, 'In Celebration of the K8 Telephone Kiosk — Britain's Last Red, Cast-Iron Phonebox', *Industrial Archaeology Review* 42, no. 2 (2020): 141–53, https://doi.org/10.1080/03090728.2020.1812026.
3. Michael Kay, 'Troublesome Telephony: How Users and Non-users Shaped the Development of Early British Exchange Telephony', *Science Museum Group Journal* (Spring 2015), https://dx.doi.org/10.15180/150308, https://journal.sciencemuseum.ac.uk/article/troublesome-telephony (accessed 30 May 2024).
4. A court judgment was issued on 20 December 1880 in favour of the GPO in a landmark legal action (Attorney General vs. Edison Telephone Company of London Ltd — Law Report 6 Q B D244). The judgment laid down that a telephone was a telegraph, and that a telephone conversation was a telegram, within the meaning of Section 4 of the Telegraph Act, 1869.
5. 'Private and Municipal Telephone Companies', *BT Group Archives* (August 2008), https://www.bt.com/bt-plc/assets/documents/about-bt/our-history/bt-archives/information-sheets-and-timelines/private-and-municipal-telephone-companies.pdf.
6. Angela Raby, *The Scientific Toy & Thomas Holme* (Flaxton: Flaxton Publishing, 2017).
7. Lawrence Goldman, ed., *The Blind Victorian: Henry Fawcett and British Liberalism* (Cambridge: Cambridge University Press, 2003).
8. Then called Holborn Vestry, but in effect what went on to be Holborn Town Council.
9. *Hackney and Kingsland Gazette*, 28 June 1897.
10. *Morning Post*, 15 January 1898.
11. At some point before 1903, a fourth kiosk was sited further east along Holborn, above what is now the entrance to Chancery Lane London Underground Station. It was very slightly different in detail to the initial three, but it has so far not been possible to establish quite when or by whom it was erected.
12. Most notably, a shift away from unlimited local call rates to more of a pay-as-you-go system.
13. Known as 'Central Battery' exchanges.
14. George Orchin, 'You May Telephone from Here. The Story of the Public Call Office', *Post Office Telecommunications Journal* 6 (May–July 1954): 105–10.
15. Several examples of this model have been identified in and around Birmingham and Northampton. A further single unit has been identified in suburban Bristol.
16. 'Phone Kiosks for London Streets', *Evening News*, 13 February 1924.
17. Blueprints produced by the Office of Engineer in Chief, GPO are dated December 1923 (source: BT Group Archives file POST 33/1447, 48–50).
18. Letter from His Majesty's Office of Works is dated 21 February 1924, Town Planning Institute is dated 11 February 1924, London Society is dated 12 February 1924, and the Royal Institute of British Architects is dated 6 March 1924 (source: BT Group Archives file POST 33/1447, 147, 75, 53, 67).
19. Matthew Carmona and Andrew Renninger, 'The Royal Fine Art Commission and 75 Years of English Design Review: The First 60 Years, 1924–1984', *Planning Perspectives* 33, no. 1 (2018): 53–73, https://doi.org/10.1080/02665433.2016.1278398.
20. Letter to Lord Crawford from G.E.P. Murray is dated 7 March 1924 (source: BT Group Archives file POST 33/1447, 149–51).
21. Confirmed in a letter dated 10 March 1924 to Reginald Alexander Dalzell, Director of Telegraphs and Telephones, GPO from Sir Evelyn Murray (source: BT Group Archives file POST 33/1447, 151–2).
22. William Haywood, *The Work of the Birmingham Civic Society from June 1918 to June 1946: Telephone Boxes* (Birmingham Civic Society), 52–3.
23. Letter dated 11 April 1924 sent to the Secretary, GPO, from H.C. Bradshaw, Fine Art Commission (source: BT Group Archives file POST 33/1447, 121).
24. The Scott Dynasty, Sir Giles Gilbert Scott, https://gilbertscott.org/family/sir-giles-gilbert-scott.
25. John Stewart, *The Life and Works of Glasgow Architects James Miller and John James Burnet* (Dunbeath: Whittles Publishing, 2011).
26. Peter Savage, 'An Examination of the Work of Sir Robert Lorimer' (PhD thesis, University of Edinburgh, 1973).
27. Letter dated 23 June 1924 from William Haywood, Honorary Secretary, Birmingham Civic Society, to the Secretary, GPO (source: BT Group Archives file POST 33/1447, 223).
28. Letter dated 29 January 1925 from William Haywood, Honorary Secretary, Birmingham Civic Society, to the Secretary, GPO, confirming the GPO had approved payment of £75 (source: BT Group Archives file POST 33/1447, 290).
29. Estimate for Proposed Work form TE 423 issued for three wooden kiosk models. Estimate No. 557 submitted 8 November 1924 (source: BT Group Archives file POST 33/1447, 267).
30. Letter dated 9 September 1924 from Harold Chalton Bradshaw, Secretary Royal Fine Art Commission, to the Secretary, GPO, confirming their preferred choice of kiosk design (source: BT Group Archives file POST 33/1447, 327).
31. Letter dated 4 March 1925 from the Honorary Clerk, Metropolitan Boroughs Standing Joint Committee, confirming approval of the kiosk design submitted by Sir Giles Gilbert Scott (source: BT Group Archives file POST 33/1448, 157).
32. Letter dated 24 January 1925 from Reginald Alexander Dalzell, Director of Telegraphs and Telephones, GPO, to the Metropolitan Boroughs Standing Joint Committee confirming the GPO's preference of the kiosk design submitted by Sir Giles Gilbert Scott (source: BT Group Archives file POST 33/1448, 146).
33. Letter dated 6 December 1924 from the Post Office Stores Department confirming the models of the five kiosk designs had been moved to the Depot at Studd Street, Islington (source: BT Group Archives file POST 33/1448, p140). From there, the Birmingham Civic Society kiosk was returned to the Society but the other four were put into public service at Alexandra Palace (Burnet), Somerset House (Lorimer), Burlington House (Scott) and Croydon Market (GPO), all undercover indoor sites.
34. Letter dated 24 March 1925 from Reginald Alexander Dalzell, Director of Telegraphs and Telephones, GPO, to the Royal Fine Art Commission to confirm adoption of the kiosk design submitted by Sir Giles Gilbert Scott (source: BT Group Archives file POST 33/1447, 354–6).
35. Letters from the Secretary, GPO, to Sir Giles Gilbert Scott, Sir Robert Lorimer and Sir John J. Burnet confirming the decision to adopt the kiosk design submitted by Sir Giles Gilbert Scott (source: BT Group Archives file POST 33/1448, 10–12).
36. Articles about the decision to adopt the kiosk design submitted by Sir Giles Gilbert Scott were published in the following newspapers: *Morning Post*, *Daily Mail*, *Daily Telegraph*, *Daily Chronicle*, *The Times* and *Daily Mirror* on 28 March 1925, and the *Illustrated London News* on 4 April 1925 (source: BT Group Archives file POST 33/1448, 19–25).

37. Historic England, Tomb of Sir John Soane, his wife and son in St Pancras Old Church Gardens, https://historicengland.org.uk/listing/the-list/list-entry/1322044.

38. This innovation was truly transformative and has been a feature of almost every British telephone kiosk since. A truly fundamental aspect of every listed telephone kiosk site, this detail has, however, been almost completely ignored by those responsible such listings.

39. Letter dated 11 December 1925 from Walter Macfarlane & Co. confirming that the first production model of the K2 kiosk had been inspected and approved by Mr McClarence of the GPO Chief Engineer's Department (source: BT Group Archives file POST 33/1448, 205–6).

40. Note from the Assistant Controller, Post Office Stores Department dated 1 January 1926 confirming that an order had been placed with Pilkington for the supply of TELEPHONE signs and that this element had duly been removed from the contract issued to Walter MacFarlane & Co. (source: BT Group Archives file POST 33/1448, 237).

41. British Telephone, BOXES, COIN COLLECTING Overview (PREPAYMENT), https://www.britishtelephones.com/ccbpre1.htm.

42. Note from the Engineer-in-Chief, GPO, reporting on the current status of the supply of kiosks (source: BT Group Archives file POST 33/1448, 214).

43. Note from the Controller of the London Telephone Service which confirms that 78 sites for locating a K2 kiosk have been agreed with the Metropolitan Boroughs Standing Joint Committee (source: BT Group Archives file POST 33/1448, 215).

44. Note and attached reports from the Controller, London Telephone Service, to the Secretary, GPO, dated 28 June 1926 reporting on a survey carried out on ten K2 kiosks with the suggestion that additional ventilation should be considered to prevent the inside of the K2 from becoming uncomfortably warm (source: BT Group Archives file POST 33/1448, 251, 260–4).

45. GPO Memorandum dated 25 July 1926 reporting on the current and predicted growth in demand for telephone kiosks in Provincial Districts (source: BT Group Archives file POST 33/1448, 358–61).

46. Internal GPO note summarising the number of K2 kiosks requested for installation in towns and cities excluding London (source: BT Group Archives file POST 33/1448, 419–21).

47. GPO internal note dated 28 October 1926 confirming that a further 100 K2 kiosks would be ordered from Walter MacFarlane & Co. and 500 from the Carron Company (source: BT Group Archives file POST 33/1448, 331–3).

48. The presence of just two hinge rebates in a K2 door frame remains a simple and quick way of identifying a Mk234 unit.

49. GPO Memorandum dated 15 December 1926 which stated that the K1 kiosk cost £13 whilst the K2 cost £33 (source: BT Group Archives file POST 33/2641B, 16–17).

50. Correspondence between Sir Lionel Earle and Sir G. Evelyn Murray, GPO, dated 15 December 1926 and 20 January 1927 suggesting that Sir Giles Gilbert Scott should be approached to design a kiosk that is more attractive than the K1 but more in line with its cost compared to that of the K2 (source: BT Group Archives file POST 33/2641B, 18–19).

51. Letter dated 16 February 1927 from Sir Giles Gilbert Scott to the Secretary, GPO, agreeing to design a new kiosk for the GPO (source: BT Group Archives file POST 33/2641B, 33).

52. GPO Memorandum dated 23 March 1928 that includes engineering drawings of the K3 and confirms the paint scheme to be adopted (source: BT Group Archives file POST 33/2641B, 72–3). The 'all red' door was short-lived. By 1931 — and probably much sooner — the door paint scheme changed to one that copied the red glazing and cream colour scheme of the sides.

53. This later K1 signage was also retrofitted to K1 existing sites. Through to 1929, the K1 remained very much the plain kiosk that was around when the idea of a K2 first arose. All models of the K1 were declared obsolescent on 20 October 1930 and to be superseded by the K3. They were finally declared obsolete in November 1936.

54. F. McClarence, 'Post Office Services: Provision of Increased Public Facilities by Means of Kiosks', Post Office Electrical Engineers Journal 18, Part 4 (1926): 358–61.

55. Engineering drawings of Kiosk K4 with stamp vending machine (source: BT Group Archives TCB 417/E 3224).

56. Papers from the GPO Engineering Department dated 10 June 1936, which confirm that the K2 was to be made obsolete and that any recovered K3 kiosks should be scrapped (source: BT Group Archives file POST 33/1448, 445–6).

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Notes on Contributors

Nigel Linge is Professor Emeritus of Telecommunications at the University of Salford. An electronic engineer by profession, Nigel specialises in data communication networks and their applications but also takes a keen interest in telecommunications heritage. He regularly delivers lectures and writes papers on the history of telecommunications and has co-authored two books, *Thirty Years of Mobile Phones in the UK* and *The British Phonebox*. Nigel is also chairman of the editorial panel for the *Journal of the Institute of Telecommunications Professionals* and writes a regular column describing events in telecommunications history. His media appearances include the BBC4 *Timeshift* documentary, 'Dial B for Britain'.

Correspondence to: Professor Nigel Linge, School of Science, Engineering and Environment, SEE Building, University of Salford, Salford M5 4WT, UK. Email: n.linge@salford.ac.uk

Neil Johannessen created and managed BT's Museum in London and was Curator of BT's national heritage collection. The abrupt demise of the old red phone boxes in the 1980s and 1990s consumed a lot of his time, and he set out to understand as much of the real story as he could. Pivotal in the establishment of the National Collection of Telephone Kiosks, today, he is one of the UK's premier kiosk historians. Now retired, he remains a recognised authority on telecommunications heritage in general, and continues to advise heritage organisations and groups to the best of his abilities.

Andrew Hurley has been a lifelong employee of BT and its predecessor, the GPO. His work included exchange planning, installation and maintenance, and he progressed from Deputy General Manager, Cardiff, to General Manager, Gloucester, and finally District General Manager. Following retirement, he became the project manager for the creation of the National Collection of Telephone Kiosks held at Avoncroft Museum and now acts as the collection coordinator for that collection. Acknowledged for his expertise on phone boxes, Andrew supports a wide range of researchers and makes regular contributions to the media and featured in the BBC 4 *Timeshift* documentary, 'Dial B for Britain'.

Andy Simmons spent nearly 33 years in BT across multiple disciplines. Andy has an award-winning interest in telecoms heritage. An avid supporter of Avoncroft Museum, when possible, he now spends many an hour scouring the internet for photos of early telephone kiosks, particularly early wooden varieties like Wilson As, etc, an example of which he helped to measure and record in detail recently. Internet searches have also focused on locating numerous K2 kiosks installed outside of London.

Andy Sutton is a BT Fellow employed as the Principal Network Architect for RAN Architecture and Mobile Backhaul along with Satellite Communications and Fixed Radio Links. He holds an MSc in Mobile Communications from the University of Salford, is a Chartered Engineer and a Fellow of the BCS, IET and ITP. He is a visiting professor of telecommunications at the Universities of Liverpool and Salford and sits on the Editorial Board of the *Journal of the Institute of Telecommunications Professionals*. Andy is a member of the AIA and keen student of telecommunications history, he is co-author of four books, two of which focus on telecommunications history and heritage — *30 Years of Mobile Phones in the UK* and *The British Phonebox*, both published by Amberley Publishing.

ORCID

Nigel Linge 🅳 http://orcid.org/0000-0002-4318-8782