As the *Edinburgh Evening Dispatch* remarked in September 1890, describing a display of telephones at the Edinburgh International Exhibition:

Funny persons used to prophesy how the day might come when people might stay at home and by holding a telephone receiver to their ear listen to eminent divines, or great politicians holding forth on public platforms, or hear sweet music discoursed in distant concert halls.¹

The telephone, and the idea of immediately transmitting sound over great distance, held intrigue for many in the late nineteenth century. As the telegraph—developed in the 1830s and 40s—had done before it, the telephone revolutionised long-distance communication, creating a sense of distant community.² Invented in 1876, the telephone had within a few years been adapted for bi-directional business and private communication, but was also used for one-way broadcasts. Sermons in churches were transmitted across the United Kingdom, sports results across the United States, news reports (including parliamentary debates) in Budapest, while performances from local opera houses could be heard in Zurich, Berlin,

¹ ‘Exhibition Notes,’ *Edinburgh Evening Dispatch*, 29 Aug. 1890.
and Paris. A railway station in Brussels even used it to pipe in music, perhaps in an early attempt at muzak. The Edinburgh Exhibition offered nothing quite so grand. As the *Edinburgh Evening Dispatch* concluded, ‘if any one takes the trouble of stepping into the telephone kiosk’ in the Exhibition’s grounds, ‘he won’t hear the eminent divines or prominent politicians … but he will hear a very good concert going on at no less a distance than Galashiels,’ a town forty miles away.

Every night for over a month between August and September 1890, listeners at the Edinburgh Exhibition could hear music transmitted from music-seller Andrew Strachan’s warehouse in Galashiels. Chamber music—largely violin and piano, but with some vocal works—was performed by Strachan and his colleagues, and was conveyed through Ader microphones and telephonic equipment set up by the National Telephone Company. Music had been conveyed in this way since the telephone’s invention, and similar concerts broadcast over the phone had been shown at other international exhibitions. This article argues, however, that the ‘telephonic concerts’ at the Edinburgh Exhibition were unique. Instead of broadcasting the production of an established cultural institution in a metropolitan centre to remote listeners—as had been done in the opera houses of Zurich and Berlin, or the concerts from the Opéra transmitted to the Paris Exposition Universelle the previous year—at Edinburgh, music from the back room of a music-workshop in a small border-town, was instead transmitted to the metropolis. I argue that this reversal of standard practice through the decentralisation of the public presentation of art music both capitalised on the telephone’s democratising capabilities, and demonstrates the values of egalitarianism and equality that constituted an important part of contemporary Scottish cultural identity. All of this was facilitated by the Exhibition’s own ethos, which hoped to demonstrate how technology could assist in educating and ‘improving’ not only Edinburgh and the metropolitan centres, but all of Scotland.

**Edinburgh International Exhibition 1890**

Officially titled an International Exhibition of Electrical Engineering, General Inventions and Industries, the Edinburgh International Exhibition of 1890 was, at the time, the largest that had ever been held in Scotland. Open between May and November, the Exhibition was intended to commemorate the completion of the now-iconic Forth Bridge—then the longest single cantilever bridge-span in the world, crossing the Firth of Forth outside of Edinburgh. Opening two months after the Bridge itself, the Exhibition—‘illustrative of the present state of engineering and of the mechanical arts,’ to quote the *Edinburgh Evening Dispatch*—was seen as a particularly appropriate form of commemoration, as a large-scale public celebration of technology, invention, and ‘progress’. Organisers hoped that the momentum of technological and scientific innovation that they saw in the completion of the Bridge could be carried on throughout the rest of Scotland. The Exhibition, based on these goals, was lauded as receiving

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4 ‘Exhibition Notes,’ *Edinburgh Evening Dispatch*, 29 Aug. 1890.


‘the patronage of the Crown … the favour of our civic rulers … the support of exhibitors both at home and abroad … [and] created deep interest among the public at large.’

Electricity and electrical engineering was regarded as one of the most important signifiers of late-Victorian notions of progress and modernity. Electrical technologies, including the telegraph and telephone, had been presented to the public throughout the nineteenth century as essentially futuristic: as Tesla famously stated in 1892, electricity allowed for realisation of ‘possibilities not dreamed of before.’ For this reason, electricity was the main focus of the Edinburgh Exhibition. The credentials of the Exhibition as a demonstration of invention, progress and modernity were strengthened by the inclusion of a number of notable engineers and inventors on the organising Executive Committee. While these included figures such as Thomas Alva Edison and John Fowler (the Forth Bridge’s engineer), there is little evidence that these roles were more than honorary, as Edison, for example, did not spend any time in Scotland that year. The Exhibition was held in parkland in Meggatland outside the Edinburgh city centre and was bordered by two railway lines, the Union Canal, and two tramways. Its vast exhibition building was described as ‘suggestive of the French Renaissance, with a slight infusion of the Eastern character,’ created by the 120-foot-tall minarets flanking its main entrance. In addition to electrical displays, the Exhibition contained sections for displaying all types of inventions and industrial products, women’s and ‘artisan’ work, and a large gallery for the fine arts. The space was surrounded by large gardens, where extravagant outdoor entertainment completed the carnival atmosphere.

The Exhibition’s overall aims were steeped in Scottish Enlightenment values; namely equality and egalitarianism in education and the wide dissemination of ideas. These values were highlighted in much of the official rhetoric. The organisers stated that their goal for the event was to make it ‘an Exhibition not for Edinburgh alone, but for … the whole of Scotland,’ and they hoped that the technological advances on display could be applied across the country. This objective reflected an important aspect of contemporary Scottish social identity, which was ‘one of community, not of class.’ While the Exhibition was held in the metropolis, as Andrew McPherson argues, the ‘locus of egalitarianism’ in Scotland existed in ‘the village and small town and not that of the city’ necessarily. Although the accuracy of these assertions is open to debate, it is clear that such ideals formed an important part of Scottish self-image in the late nineteenth century. Whether they were consistently applied in practice or not, these principles were certainly present in the planning of the 1890 Exhibition.

The application of such egalitarian ideals can be seen throughout the Exhibition’s organisation, in large-scale initiatives such as days of reduced entry-fees and special train tickets and services specifically to allow the working classes to attend. Products were also selected

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for display, the organisers noted, to exclude ‘productions well known to the Scottish public in favour of less familiar ones.’ This, they hoped would make the displays as educational as possible to the broadest number of people.\textsuperscript{17} Even the decision to focus particularly on electricity and inventions was based on the idea of improving Scotland overall. As the organisers argued, in view of the rapid strides electricity was making in England and the United States, and its comparative backward state in Scotland, it was felt that an endeavour to educate the Scottish people into an appreciation of the possibilities of electricity would not only be desirable, but likely to prove attractive and interesting in an uncommon degree.\textsuperscript{18}

The journal \textit{The Scottish People} reinforced the assessment of the ‘backward state’ of electricity in Scotland in comparison to the United States of America and other parts of Europe, and hoped that the Exhibition might improve the situation.\textsuperscript{19} It was in this context that the Exhibition’s telephone kiosk was established in an ‘Electrical Annexe’ outside the main building. The majority of the ‘most interesting’ exhibits here had come directly from the electrical pavilion at the 1889 Paris Exposition Universelle, including, among other sound technologies, Edison’s phonograph.\textsuperscript{20} Thus, the same telephonic equipment that had been used in Paris to transmit music from the Opéra to the Exposition was here employed to convey music from Galashiels.\textsuperscript{21}

\section*{The Telephone in Britain}

By 1890, the telephone was hardly a new thing in Britain, having first been demonstrated in 1877 by Alexander Graham Bell (who was, incidentally, also born in Scotland). While capable of and demonstrated as a device for two-way communication, early telephones were in fact far more prominently advertised for their unidirectional broadcast capabilities.\textsuperscript{22} Among the invention’s chief purposes was the transmission of music, and it is therefore interesting to note that music periodicals present some of the earliest reporting on and advertisement of the telephone.\textsuperscript{23} Thus, for an entire group of potential users—those who read music periodicals—the telephone was primarily ‘a musical technology,’ sometimes even referred to as the ‘rival’ of the phonograph.\textsuperscript{24} When it was demonstrated for Queen Victoria in 1878, music was the first thing transmitted—a few songs were sung by American journalist and actress Kate Field, who had been working with Bell to publicise the technology—before any two-way communication was shown.\textsuperscript{25} While this may seem strange from a twenty-first century perspective, scholars have frequently noted that technology often finds uses that ‘its inventors didn’t foresee.’ For example, ‘neither the phonograph nor radio was developed primarily for musical purposes,’ just as the telephone was not necessarily intended to be used for bi-directional conversation.\textsuperscript{26}

\begin{thebibliography}{99}
\bibitem{17} ‘Edinburgh International Exhibition,’ \textit{Edinburgh Evening Dispatch}, 1 May 1890.
\bibitem{18} ‘Edinburgh International Exhibition,’ \textit{Edinburgh Evening Dispatch}, 1 May 1890.
\bibitem{19} ‘The Edinburgh International Electrical Exhibition,’ \textit{Scottish People}, 3 May 1890.
\bibitem{20} ‘International Exhibition, Edinburgh, 1890,’ \textit{British Architect}, 8 Nov. 1889, 338.
\bibitem{21} ‘Edinburgh International Exhibition,’ \textit{Edinburgh Evening Dispatch}, 1 May 1890.
\bibitem{23} Kuskey, ‘Listening to the Victorian Telephone,’ 8.
\bibitem{24} Kuskey, ‘Listening to the Victorian Telephone,’ 8–9.
\bibitem{25} Kuskey, ‘Listening to the Victorian Telephone,’ 6.
\end{thebibliography}
Despite the years of prominent advertising and demonstration of the telephone, the Victorian public was slow to accept it. Many felt that its communication and conversational function inadmissibly broke down social class barriers as it allowed anyone with access to a telephone to speak to anyone else, regardless of their class. Similarly, as the *Birmingham Post* argued in a report on the Edinburgh Exhibition, while ‘science is a kind mistress,’ generally showing ‘a hundred ways in which electricity conduces to the comfort of life,’ the telephone was more a nuisance, ‘because it militates at once against privacy and politeness,’ allowing callers—at least in voice—into the home at any time.\(^{27}\) Thus the telephone was seen to distort ‘long established boundaries between the private and the public.’\(^{28}\) In contrast, many considered these aspects of the telephone to be its virtues. Entertainment transmitted over the telephone was a ‘uniquely democratizing’ experience, given that access required no particular skills and offered no restrictions based on social status or education. One need not be literate, able to read telegraphy, and anyone of any class—provided they had access to a phone—could listen to the same music, even if it was broadcast from halls where social division was the norm. As Jessica Kuskey argues, ‘the telephone seemed to offer members of the working class ready access to high-culture entertainments.’\(^{29}\)

Still, by the 1890s, if the telephone was not new in Britain, it was also far from ubiquitous. Prohibitively expensive subscriptions rates initially hampered its mass-dissemination, placing its services largely out of reach of the general public. Originally managed by private companies, in the years that followed its introduction in Britain, seven different telephone services were issued licenses, including the National Telephone Company which covered communications in Scotland.\(^{30}\) It was not until several years after the Edinburgh Exhibition that the main intercity connections were nationalised, facilitating a drop in prices.\(^{31}\) This makes the public presence of the music by telephone at the Exhibition all the more important, as few of the Scottish visitors could be expected to have had access to a telephone in their own home, let alone have experienced the transmission of music at such distance.

**Exhibitions and Telephonic Music**

The 1890 Edinburgh Exhibition was the first presentation of music over the telephone at an international exhibition in Britain. Such displays, however, had some precedent in France, where prominent demonstrations had been held at both the 1881 Exposition internationale d’Électricité and the 1889 Exposition Universelle. At 1889 particularly, the telephone-music exhibits comprised ‘listening stations’ within a standalone pavilion, ‘whose floors were carpeted, and whose walls and windows were heavily draped so as to smother distracting noises.’\(^{32}\) Half of the telephones connected to the Opéra (and when it was closed, to the Eden

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\(^{27}\) ‘The Edinburgh Exhibition,’ *Birmingham Daily Post*, 2 May 1890.


\(^{29}\) Kuskey, ‘Listening to the Victorian Telephone,’ 6.


\(^{31}\) Kay, ‘Troublesome Telephony.’

Théâtre) and the other half to the Opéra-Comique: all spaces only around two miles from the Exhibition. Entry to the pavilion allowed each listener just ten minutes of ‘telephonically transmitted music.’ A stereophonic experience was created by giving every listener two earpieces connected by acoustic tubes to the walls, and the room—with little decoration or visual stimulus—‘encouraged listeners to close their eyes and focus on listening.’ These listening stations, as Annegret Fauser argues, ‘proved to be places of magic and discovery, but also of uncomfortable awe,’ as listening to sounds with ‘no immediate source’ offered what may have seemed like a slightly terrifying glimpse into the future.

At Edinburgh—using the same equipment as at Paris in 1889—the music came not from the cultural centre of the opera house, but from a small border town forty miles away. Specifically, it came from ‘a room off Mr. Strachan’s Music Warehouse,’ in the Arcade Buildings of Galashiels, which appears to have been something of a local institution. Andrew Strachan (1845–1915), a local musician, music seller and piano tuner, was described in the Southern Reporter as ‘well known all over the South of Scotland as a promoter of high-class concerts and other entertainments.’ He was considered ‘gifted with musical abilities, and as a violinist his services were in great demand in the Border towns,’ and his music shop was in business for over thirty years (before he migrated to Canada in 1913). Although no records survive regarding the organisation and planning of the Exhibition telephonic concerts, it can be assumed that Strachan’s apparently well-known entrepreneurial propensities in addition to his musical talents contributed to the success of the undertaking.

In early August 1890, the National Telephone Company had local representatives set up the back room of Strachan’s warehouse with ‘four Ader microphones … suspended overhead from cords hung across the room,’ which were then connected to the telephone network. With this set-up, music was transmitted to the Exhibition every night between 6pm and 10pm. Strachan usually played the violin, and a Mr Brooke was the regular pianist, with the majority of the repertoire being ‘violin and pianoforte selections.’ They were often accompanied by other local musicians, including the ‘well-known bass’ William Johnstone, and tenors Mr Millar and Mr Murdoch on the first evening. At other times, songs ‘by ladies and gentlemen, friends of Mr Strachan’ were performed, as well as ‘glees’ by the Lahope Parish Church Choir. Figure 1 shows an illustration of the workshop, with (presumably) Strachan at right on the violin, Brooke at the piano, and a representative of the National Telephone Company listening in the background.

33 Fauser, ‘New Media, Source-bonding, and Alienation,’ 42.
34 Fauser, ‘New Media, Source-bonding, and Alienation,’ 43.
35 Fauser, ‘New Media, Source-bonding, and Alienation,’ 40.
37 When he married in 1876, records list him as a carpenter, but by 1881 he was being described as a music seller. In the 1891 Scottish census he is listed as a ‘Music Seller and Piano Tuner.’ He died in 1915 at the age of 70 in Alberta, Canada, where he had moved with his family two years before.
42 ‘Edinburgh Exhibition,’ Border Advertiser, 13 Aug. 1890.
Unlike the Paris Exposition telephonic concerts where the space encouraged visitors to close their eyes and immerse themselves entirely in the operatic sounds, the organisers of Edinburgh clearly considered some sort of visual aid important for the listeners. The interior of Strachan’s music warehouse was photographed before the concerts, and framed prints were hung around the Kiosk, so visitors could ‘see where the music comes from, as well as hear it.’ Many scholars have noted that sound without location often appears ‘ambiguous’ or ‘mysterious’ to humans, who rely largely on the eye ‘to confirm or disconfirm’ meaning. As Steven Connor argues, there is a ‘sense of ontological deficit that is always a feature of sound and hearing’ on its own; that ‘to be exposed to sound’ alone ‘is to be deprived of the means of identification.’ Although the idea of the supremacy of the eye over the ear is contested, it remains that the appreciation of ‘acousmatic’ sounds—that is, ‘sounds that one hears without seeing their source’—is as necessarily learned as any other form of listening. Indeed, ‘solipsistic sound culture,’ and the ‘privatising of auditory space’ of the kind that the telephone earpieces created, was profoundly new in the late nineteenth century. Thus it makes sense that, for

Figure 1. ‘The Galashiels Exhibition Telephonic Concerts,’ *Edinburgh Evening Dispatch*, 29 August 1890. © British Library Board, NEWS11042.
many hearing music disconnected from its source for the first time, a visual aid to help give meaning to the sounds would have been necessary.

The Reception of the Edinburgh ‘Telephonic Concerts’

The Telephone Kiosk at the Exhibition was often described as very crowded in the evenings and was well received in light of both its novelty and the music performed. The Edinburgh Evening Dispatch’s critic was impressed by the ease with which ‘one can sit luxuriously in the kiosk, hold a couple of receivers to his ears, and listen to the music,’ with many others captivated by the sound quality. As the Kirkintilloch Herald reported, ‘two American ladies’ they spoke to believed ‘that they never before witnessed such a wonderful performance.’ The Magazine of Music was similarly surprised to note that ‘the music loses little in volume, and, if anything, gains in sweetness.’

Throughout the press reception of these concerts, many reviewers were awed by the distance the sounds had travelled. Some publications stressed how ‘remarkable’ it was that ‘the wire to Galashiels is brought round by Innerleithen and Peebles’ making the total distance actually more than forty miles. The Edinburgh Evening Dispatch argued that, although other concerts had been given by telephone in the past, these were ‘the first of the kind which has been carried on … at such a distance between the performers and the audience, and for such a length of time.’ The Magazine of Music also reported the incredulity of ‘many persons’ who were extremely surprised that ‘the music is actually being performed so far away.’ In contrast, other writers highlighted how close the music sounded, and the trope of the music sounding as if it were ‘being performed in an adjoining room,’ or that it could be heard ‘as distinctly as if it were going on in the next room’ occurs repeatedly throughout the reception.

This is one of the most important aspects of the way the telephone was received, and its particular relevance to the Edinburgh Exhibition’s ethos. The telephone collapsed space—in this case made sound produced many miles away sound as close as the next room—and thus democratised space. As Stephen Kern argues, ‘telephones break down barriers of distance—horizontally across the face of the land and vertically across social strata,’ making all places ‘equidistant from the seat of power.’ For the first time, in the distribution and promotion of music, it did not matter whether the performers were in the cultural metropolis. Such technology brought with it the possibility that anyone in any part of the country could play music, and have it heard by anyone in any other region.

49 ‘Telephonic Concerts,’ Kirkintilloch Herald, 13 Aug. 1890.
50 ‘Exhibition Notes,’ Edinburgh Evening Dispatch, 29 Aug. 1890.
51 ‘Telephonic Concerts,’ Kirkintilloch Herald, 13 Aug. 1890.
53 ‘Exhibition Notes,’ Edinburgh Evening Dispatch, 29 Aug. 1890.
54 ‘Exhibition Notes,’ Edinburgh Evening Dispatch, 29 Aug. 1890.
57 Kern, The Culture of Time and Space, 316.
The late-nineteenth century Scottish ‘autostereotype’ was primarily based on ideas of a national ‘egalitarianism and practicality.’\textsuperscript{58} This was prevalent, not only in the capital and other urban centres, but across the country. Many provincial towns were ‘powerfully shaped by enlightenment values and culture’ in the form of ‘urban improvement,’ and were also influenced by a ‘strengthening impetus to cultural refinement.’\textsuperscript{59} Through the development of an ideological ‘collectivism’ during the late nineteenth century, education and ‘improvement’ was made accessible to ‘all social classes’ and ‘to all areas of the country.’\textsuperscript{60} These notions were clearly reflected in the philosophy of the Edinburgh Exhibition, which—naming that Scotland appeared to have fallen behind in terms of technological advancement in comparison to Europe and the United States—intended to promote new technology to the widest possible audience.

The telephone—as the telegraph had done before it—was capable of ‘binding the centre and its most farflung margins’ by ‘short-circuit[ing] spatial relations’ and making ‘location irrelevant.’\textsuperscript{61} It thus fitted particularly well to both the notions of Scottish ‘egalitarianism’ and the Exhibition’s promotion of technology to facilitate these goals. The transmission of music by telephone only amplified these ideas. Music was not only an important cultural phenomenon in itself, but at the Exhibition, transmitted from a remote part of the country, the telephone showed how technology could help to decentralise and democratise culture in a manner, as the \textit{Dispatch} concluded, ‘not for Edinburgh alone, but for … the whole of Scotland.’\textsuperscript{62}

\textbf{About the Author}

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\textsuperscript{58} Andrew G. Newby, ‘“A Mere Geographical Expression”? Scotland and Scottish Identity, c. 1890–1914,’ in J. Augusteijn et al. (eds), \textit{Region and State in Nineteenth-century Europe: Nation-building, Regional Identities, and Separatism} (Houndsmills: Palgrave Macmillan, 2012), 150.


\textsuperscript{60} McPherson, ‘The Reproduction of an Ideology of Egalitarianism in Scottish Education,’ 237.


\textsuperscript{62} ‘Edinburgh International Exhibition,’ \textit{Edinburgh Evening Dispatch}, 1 May 1890.