Abstract

The first outside broadcast ever made by the British Broadcasting Company from a natural location was the Nightingale broadcast of 19 May 1924, in which the world-famous virtuoso cellist Beatrice Harrison performed a ‘duet’ with nightingales in her garden. The broadcast was made possible by the Marconi-Sykes magnetophone, an improved microphone developed for the early BBC. This paper explores the historical and cultural significance of the Nightingale broadcasts, with a particular emphasis on the emotive aspects, and explains the role of the magnetophone in this context. This paper was inspired by two recent acquisitions by the National Media Museum, two magnetophones donated by the BBC in 2012, and the personal archive of Captain A G D West, the BBC engineer who coordinated the first Nightingale broadcast, donated by his descendants in 2015.

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Keywords

Beatrice Harrison, BBC, British Broadcasting Company, magnetophone, wireless, radio, broadcasting, communications, nightingale

Introduction

The introduction in 1923 of a new microphone, the Marconi-Sykes magnetophone, marked the beginning of new era of radio broadcasting in Britain. The fact that one of the first outdoor radio broadcasts, cellist Beatrice Harrison’s duet with a nearby nightingale, was possible at all was due to the new microphone’s unprecedented sensitivity. But the strikingly improved sound quality also made the British Broadcasting Company's broadcasts more emotionally compelling, contributing to their efforts to attract a wider public. The 1924 broadcast would become a milestone in the transition from amateur radio towards a more
professional form of radio, and is a fascinating event in itself since the mixture of new technology and innovative content created a highly emotive experience for listeners. As nature became part of the content of this new information environment, it also tended to become a work of art. Like any artwork, the broadcast acted as a trap for attention, and by defining a new formal representation, laid claim to a refinement of human perception. The cultural effects resonated with the natural purposes of a Nightingale's song – to attract the attention of a mate, and mark territory, like nature calling for an echo of her own voice.

This paper argues that human beings develop an emotional bond with existing media over a period of time, both consciously and unconsciously, adopting behaviours and expectations in response to their current technological environment. Thus, when things change there is an experience of uncomfortable, even cataclysmic rupture with the old ways of life, while the old situation is perceived as a source of emotional comfort and strength. Using the example of the BBC's Nightingale broadcasts, and associated technologies, media and content, this paper will explore how human feelings accompany the introduction of a new medium of communication.

**An ear for an eye**

With the advent of radio broadcasting in the early 1920s, a mass changeover from the eye to the ear had begun. Those who had grown up in a fragmented print-based visual sequential culture were plunged into a new auditory world of simultaneous information created by radio.

The microphone promised to do for the ear what the microscope had done for the eye. Whilst the telephone provided a physical extension of the human sense of hearing over a distance, the microphone promised a magnification-like function that would enable people to hear sounds that they had never heard before.

Until about 1920, gramophone recordings were made by direct sound impact, shouting or singing into a horn. Between 1920 and 1922, Peel-Conner carbon granule microphones were the standard in British wireless broadcasting.
Australian operatic soprano Dame Nellie Melba making the world's first radio broadcast by a professional musician, 15 June 1920, using a Marconi C.100 L microphone of the Peel-Conner type.

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In early 1923, an electro-dynamic microphone which worked on the same principle as a telephone earpiece came into use. It was more sensitive than the early carbon microphones, but had limited frequency response. Its designer, the first chief engineer of the Marconi Company Captain Henry Joseph Round, attempted to deal with its limited frequency characteristics by using four of them in parallel, along with ten stages of amplification, to pick up something resembling the full range of human hearing. Four of these massive instruments – they weighed twenty pounds each – were mounted in a wooden box, with four large ports at the front, on a tripod. ‘Like a howitzer battery,’ wrote BBC chief engineer Peter Eckersley in *Popular Wireless* (*West, 1972, p 17*). A higher quality, more practicable microphone was needed to help the fledgling medium of broadcast radio appeal to a wider public.

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**The Marconi-Sykes magnetophone**

In May 1923, an improved microphone of a more sensitive type was introduced which was to take radio from sounding like an ordinary telephone to a medium with a stunning new auditory clarity. These were a vast improvement on the original telephone handset type (*Baker, 1984, p 193*). Although the Marconi-Sykes microphone would be succeeded by a more practical design within a few years, its enhancement of radio’s sound quality and the new types of programmes it made possible would have cultural effects that would resonate for decades.
It was known as the Marconi-Sykes magnetophone, and was the first purpose-built microphone to be commissioned by the BBC. Its extremely sensitive moving coil design was based on an earlier magnetophone design patented by A S Sykes, which had been substantially improved by Round. The new microphone and an artificial echo system were two of Round's many contributions to the early stages of the art of broadcasting (Baker and Hance, 2010).

The body of the microphone is a large magnetised cylindrical iron pot, giving it a weight of 20 pounds. The sound-sensitive coil is pancake shaped and made of very fragile fine-gauge aluminium wire. It is supported at one side on a backing of paper, which in turn is supported on three or four cotton wool pads covered by a thin layer of Vaseline. The cotton wool is used because the coil moves so easily that its movement has to be dampened. The coil is suspended between the central pole-piece and pot-shaped outer container of the powerful electro-magnet, this magnet requiring a current of 4 amperes to be generated from an 8-volt accumulator (battery). Sound waves shaking the pancake coil create electric currents within that coil, which are perfect electrical reproductions of the original sounds (Burrows, 1924, p 90). These currents are subsequently amplified.

Due to its sensitivity, the microphone was usually supported in a cradle or sling of spongy ‘sorbo’ rubber to help isolate it from mechanical vibrations – anything more than a slight movement could be enough to dislodge the coil completely.

If the studio became too warm, this had the effect of reducing the adhesiveness of the Vaseline. 'Some engineers preferred butter,' wrote Eckersley; 'the use of either Vaseline or butter was a matter of some rivalry, though both tended to melt in heated studios. Rubber solution became the ultimate answer to the problem' (Eckersley, 1997, p 80). It also became a matter of routine to change the cotton wool just before a broadcast if the microphone had been in use for some time beforehand (Pawley, 1972, p 41).
In the studio, the microphone was usually placed within a copper mesh box called a Faraday Cage, invented in 1836 by English scientist Michael Faraday. This was necessary to block out electromagnetic interference to which the sensitive microphone was susceptible. Microphone, rubber cradle, and cage would sit on a sturdy wooden splayed stand, which could be wheeled around the studio. A knife switch on one leg of the stand was used to turn the microphone on or off. The whole unwieldy apparatus was nicknamed the ‘Meat Safe’ because of its resemblance to meat storage cupboards in use at the time.

Figure 3

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A 1923 BBC ‘Meat Safe’ stand with its accompanying magnetophone alongside

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The microphone was first used in the studio at Savoy Hill in central London, which opened on 1 May 1923, about six months after the formation of the British Broadcasting Company. 'The microphone, on its four-legged trestle with rubber-tyred wheels, stands about 6 feet away from the south wall,' wrote Arthur Burrows, BBC Assistant Controller and Director of Programmes, in
The story of this microphone, which is gradually being introduced to all stations, is itself one of the romances of wireless’ (Burrows, 1924, p 89).

The challenges of microphone design represented just one of a number of technical problems for the early BBC which, as Scannell and Cardiff describe in significant detail, needed to be overcome before listening to radio could become a simple, trouble-free social activity (Scannell and Cardiff, 1991, pp 356–80). In the mid-1920s, most of the BBC’s listening audience was still equipped with crystal sets, which necessitated the use of headphones. Most crystal sets were designed with only one set of terminals meaning only one person at a time could listen to this type of receiver (Scannell and Cardiff, 1991, p 357). Valve sets used the mains or batteries, and could provide more volume. The loudspeaker invited shared listening and encouraged more radio listening, due to resulting freedom to listen in combination with other activities. ‘Although valve receivers played a more prominent role in the story of the emergent radio industry, crystal sets were to outnumber them until 1927, and to that extent may be said to have dominated the early years of broadcasting’ (Geddes and Bussey, 1991, p 16–17). They add that broadcast sound quality was important for crystal set listeners due to the lack of amplification, and the fact that ‘receiver and loudspeaker usually produced more distortion than crystal set and headphones did’.
The magnetophones were short-lived, taken out of use from 1925 to 1927 (West, 1972, pp 14–16) largely in favour of the compact and more efficient marble-bodied Marconi-Reisz carbon granule microphones. Although these were not nearly as sensitive as the magnetophones, the Reisz microphones were far more widely used by the BBC because they did not require the same high level of amplification. By 1929, all but one of the Savoy Hill studios was fitted with Reisz microphones. The one not so fitted had a Western Electric condenser (i.e. electrostatic) microphone, which had appeared in 1928. Because of its low
output this microphone required a one valve head amplifier (Pawley, 1972, p 119).

In November 2012, the National Media Museum in Bradford, West Yorkshire, officially acquired an original BBC ‘Meat Safe’ stand and two original magnetophones as part of a collection of 994 pieces of historic radio and television equipment generously gifted by the BBC to help celebrate the BBC’s ninetieth anniversary. This collection included many microphones used by the BBC over its history. One of H J Round’s earlier electro-dynamic microphones of 1923 – the precursor of the magnetophone – was also donated by the BBC to the Museum in 2015. Used prior to the construction of the Savoy Hill studios, it is believed to be the only known example remaining of its type, and would have been used in conjunction with three other identical units tuned to differing segments of the audible frequency spectrum. The BBC has also donated an example of the successor to the magnetophone, the Marconi-Reisz marble microphone.

Before radio broadcasting with the magnetophone, mechanical music had required, as described by Lacey, ‘listener compliance in the completion of the “transparency effect” of the gramophone, learning to trust and accept mechanically reproduced sounds as real’ (Lacey, 2013, p 68). The magnetophone brought with it a higher level of transparency in the medium, making any broadcast which used it more lifelike. Independent of the content of the broadcast, this improvement was an emotive moment for the listener. Rothenbuhler and Peters describe this kind of ‘pay-off’ for the audiophile as a pseudo-religious moment of transcendence in which ‘the medium disappears [and] there is the possibility of a communion’ when we ‘break through to the other side’ (Lacey, 2013, pp 68–9; Rothenbuhler and Peters, 1997, p 253). Due to the sudden improvement in sound quality provided by the magnetophone, listeners immediately became less aware of their crystal or valve wireless sets, and more aware of the programme they were listening to. There was a new freedom for the radio listener to experience intimate feelings. Radio as a whole passed a milestone in its transition from a niche to a popular pastime, from technical curiosity to the background of everyday life.

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Beatrice Harrison’s Nightingale broadcasts

Beatrice Harrison was the leading British cellist of her generation and a favourite of composers such as Edward Elgar and Frederick Delius. Born in 1892 in Roorkee, north-west India, to a musical family, she gave first performances of several important twentieth century classical works, and made many recordings. In 1920, she made the first recording of Elgar’s Cello Concerto, with the composer himself conducting. Although this work became the one with which she was most closely identified, she was best known for her famous Nightingale broadcasts over the BBC.
Harrison often practised pieces in the garden of her family's sixteenth century house, Foyle Riding, located near Oxted, Surrey. While practising late at night, she discovered that nightingales nesting nearby would often sing in response to her cello, in a pattern resembling a 'duet'. In 1924, after making her debut cello performance from the BBC studio she persuaded John Reith, the BBC's general manager, to arrange a live outside broadcast with the nightingale:

...I telephoned Sir John Reith at the BBC, who seemed very dubious at first. Meanwhile the song of the nightingale was at its height at Foyle Riding and I knew that it must be now or never as from now on he would sing later and later at night and in two weeks he would be gone. (Beatrice Harrison edited by Cleveland-Peck, 1985, p 131)

With Reith convinced, the BBC’s Assistant Chief Engineer (Research), Captain Arthur Gilbert Dixon West, and an assistant were called in to set up the equipment the day before. The only equipment used in the first broadcast was a single Marconi-Sykes magnetophone, a large portable ‘A’ amplifier, a few batteries, and a drum of cable (West, 1924).
Figure 6

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The BBC’s prototype ‘A’ microphone amplifier installed in one of the small thatched summer-houses in the Harrisons’ garden, in preparation for the 19 May 1924 broadcast

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‘Underneath the tree was placed a magneto-phone, with a dozen or more accumulators for providing the power necessary to transform the notes of the bird into electric current’ ('Nightingale on the Wireless', 1924). In the little summer-house with its thatched roof, was its amplifier, a tangle of wires, a few odd switches and batteries (West, 1924). The weak electrical signal the magnetophone generated required this large ‘Type A’ amplifier, which Round recommended be located within 100 feet or less of the magnetophone (Round, 1924, p 263). When the time was right, the amplified signal would be sent through Foyle Riding’s private telephone line to be broadcast from the central BBC station in London, 2LO. The announcer was Rex Palmer, ‘Uncle Rex’, a science graduate and Flying Officer during the Great War. He was the first London Station Director and became one of the great veterans of early broadcasting (Briggs, 1961, p 211).
BBC engineers prepare a Marconi-Sykes magnetophone for a broadcast, May 1925, (A G D West at top right with his two assistants in the foreground). The man in the flat cap pointing is the Harrisons’ head gardener, who, according to Harrison, ‘had the bandiest legs I had ever seen, and used the most appalling language I had ever heard’

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Ms Harrison recalled, ‘It was something to see all the paraphernalia of the BBC in our garden. It was a great risk of course, as in those days no wild bird had ever been broadcast in its natural state’ (Beatrice Harrison edited by Cleveland-Peck, 1985, p 131). It would represent the first ever broadcast live to radio from a natural location. The new microphone was so sensitive that it picked up sounds which were at first a mystery to the engineers. Eventually the sounds were discovered to be coming from things like buzzing insects, squirrels, and rabbits nibbling at the wires (West, 1972, p 21; Beatrice Harrison edited by Cleveland-Peck, 1985, p 132).
Following the successful test by the BBC engineers the day before, the first broadcast was made at midnight on 19 May 1924, interrupting the Savoy Orphean Saturday evening performance to go live to Harrison's back garden to hear her playing with the nightingales. Harrison played Elgar, Dvorak, and *Londonderry Air* to no response until 15 minutes before the end when the birds finally began to sing. *The Daily Sketch* reported the next day, ‘with astonishing clearness, the liquid notes of a nightingale singing in the Surrey woods at Oxted were heard by many thousands over the wireless last night’ (‘Nightingale on the Wireless’, 1924). It was later reported that approximately one million people listened while Ms Harrison had played her duet with the nightingale.
Between 1922 and 1924 nine ‘main’ stations and ten ‘relay’ stations had been set up in strategically populous centres of England, Wales, Scotland and Northern Ireland. Between them they provided a service which reached nearly 80 per cent of the British population (Scannell and Cardiff, 1991, p 15). A network system was introduced whereby each station could take, via Post Office trunk lines, ‘simultaneous broadcasts’ like that of the nightingale from the London station.

A further idea of how accurate the estimated listenership of one million may have been is provided in Reith’s book, Broadcast over Britain. He writes:

*It is difficult, and indeed impossible, to speak with any assurance of the number of people who listen to broadcasting. In our first twenty-one months, that is, till the end of September, 1924, approximately 950,000 licences had been issued, over 50,000 new licences being taken out in September alone. It is natural to assume that there are several people involved in each licence. The difficulty is to know what average figure to take. Taken at five, the audience is already over four million. For any special occasion an infinitely greater number can gather.* (Reith, 1924a, p 80)

Historian Asa Briggs has written that ‘Reith’s concern for public service was always coupled with a concern for the right kind of publicity. His book *Broadcast over Britain* is the best evidence of this’ (Briggs, 1961, p 234). Written at the same time as the first Nightingale broadcasts were being conducted, it was published in late 1924. Reith used these Nightingale broadcasts to ‘shape the idea of public service radio as an instrument of national uplift and enlightenment’ (Guida, 2015).

Having proved so popular with listeners, the Nightingale broadcast was repeated the following week (‘Broadcasting the Nightingale’, 1924), and for the next twelve years the BBC broadcast her nightingale concerts in May. On the front page of the 6 June *Radio Times*, Reith wrote that the nightingale, ‘...has swept the country...with a wave of something closely akin to emotionalism, and a glamour of romance has flashed across the prosaic round of many a life’ (Reith, 1924c, p 437).

In her autobiography, written shortly before her death in 1965, Harrison recalled, ‘The public, I must say, went completely mad...
over the nightingale, the experiment touched a chord in their love of music, nature and loveliness’ (Beatrice Harrison edited by Cleveland-Peck, 1985, p 133).

In the years to follow, thousands of visitors flocked to Foyle Riding during the nightingale season; the Harrisons entertained musicians and friends, and chartered buses to bring families from the east end of London, giving them tea and beer until midnight. The broadcasts gave her a good deal of publicity, both nationally and internationally, and the nightingale was depicted on her concert posters and embroidered on her concert dresses. It was reported that she had received over 50,000 fan letters (Briggs, 1961, p 262).

Many of the letters were just addressed to ‘The Lady of the Nightingales, England’ or ‘The Garden of the Nightingales, England’, ‘... one old gentleman from New Zealand said that he had left the old country when he was a boy and to hear the song of the nightingale once again, out on a New Zealand Farm, was a prayer answered’ (Beatrice Harrison edited by Cleveland-Peck, 1985, p 133).

A few years later, recordings of Beatrice Harrison with the nightingales were made by HMV ['His Master's Voice', also known as 'the Gramophone Company']. These were made available on the standard 10-inch shellac gramophone discs, and proved extremely popular. The first of these recordings was made in a session on 3 May 1927, which included the Northern Irish folk song, Londonderry Air (Danny Boy).

![Video 2](https://via.placeholder.com/150)

Beatrice Harrison playing her cello in her garden with the nightingales

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The cultural blues

Harrison’s selection of pieces for the nightingale broadcasts, such as Londonderry Air, Dvorak’s Songs My Mother Taught Me and Rimsky-Korsakov’s Chant Hindou, were played adagio and with much feeling. Harrison’s existing repertoire included several pieces that were contemplative and mournful. The Nightingale’s song has long been associated with sadness and lament across a wide range of art and literature, beginning with the tragic myth of Philomela referred to in the immediate reaction to the broadcasts, (‘Philomel’, 1924; ‘Philomel Calling’, 1924), which originates from Homer’s Odyssey and Sophocles’ tragedy,
Harrison selected pieces from her repertoire which the nightingale responded to. Interviewed in June 1924 by a correspondent from the Yorkshire Observer, she revealed that she had found that several nightingales also responded to particular notes of the scale, and often, she was able to maintain a kind of conversation with a particular bird by playing certain notes – to which the bird responded by singing the same tune (West, 1924; ‘Nightingale Conversations’, 1924).

In her autobiography, first published in 1985, Harrison wrote:

_Suddenly, at about quarter to eleven on the night of 19 May 1924, the nightingale burst into song as I continued to play. His voice seemed to come from the Heavens. I think he liked the Chant Hindou best for he blended with it so perfectly. I shall never forget his voice that night, or his trills, nor the way he followed the cello so blissfully. It was a miracle to have caught his song and to know that it was going, with the cello, to the ends of the earth. My excitement was intense. My greatest wish was accomplished..._ (Beatrice Harrison edited by Cleveland-Peck, 1985, p 132)

Harrison’s emotive performances on the recordings attain magical effects. Writing of music as romantic expression, Arnheim writes, ‘Sensibility and nerves are directly attacked, music becomes an organic part of nature, pulsating, rejoicing, sorrowing, boundless, amorphous’ (Arnheim, 1936, p 41). We may say that Harrison explored the expressive potentialities of her cello in line with this romantic style, while also referencing and anticipating emerging forms of popular music.

The Nightingale broadcasts acted as a kind of ‘blues’. They were interpreted at the time as a form of grieving, not solely because they were associated with some of saddest pieces in Harrison’s repertoire. Grieving can be defined as transitioning from the way life was before a cataclysmic event, to life after it. By expressing or experiencing intense emotions associated with grief creatively through a new auditory medium, perhaps it seemed easier to come to terms with the uncertain emotions that radio itself stirred up – to regain a feeling of control – by its ‘taming’ a natural environment that was familiar, and presenting it as content to console the listener.

A sense of sadness was already entrenched in the gramophone culture that was very much the ‘ground’ into which the new ‘figure’ of broadcast radio arrived. The famous dog-and-gramophone logo that would be adopted by the Victor Talking Machine Company, and several associated brands, featured Nipper listening to ‘His [late] Master’s Voice’. The rights to the painting and the ‘His Master’s Voice’ slogan had originally been sold to the Gramophone Company by painter Francis Barraud in 1900. His brother, Mark Barraud, had died young, but had left behind a phonograph recording. When his dog, Nipper, responded to the recording it had inspired Francis to create the original painting, which was then altered to create the HMV logo.

Here we have a contemporary metaphor and a quasi-technology for exploring ‘beyond death’. However, an earlier ground of Victorian spiritualism is also significant here. Christie highlights the funerary and séance like associations which occurred with the gramophones, observing that ‘music, or essentially speech, without bodily presence...spoke suggestively to a culture that was already accustomed to imagining life after death and to the denial of death’s finality in many of its most highly acclaimed imaginative works’ (Christie, 2001, p 9). Sterne observes that Nipper ‘illustrates the peculiar Victorian culture of death and dying into which sound recording was inserted’ (Sterne, 2003, p 301). There is a long history of images of dogs showing interest in their masters’ musical and vocal performances (Sterne, 2003, p 302; Leppert, 1993, pp 78, 167).

The nightingale, hidden in the trees, is a metaphor for the singer hidden by radio, ‘without bodily presence’. ‘True music,’ says Goethe in Wilhelm Meister, ‘is for the ear alone. I want to see anyone I am talking to. On the other hand, who sings to me must sing unseen; his form must neither attract nor distract me’ (Arnheim, 1936, p 143). Nonetheless, the nightingale conveys an image similar to that of Nipper – translating it from the visual to the aural. In the same way that Nipper was interested in Mark Barraud’s (his master’s) voice, the nightingale expresses interest in the sound of Harrison’s cello, but with its song rather than visual action. As a medium, radio was more suited to such a spiritual message through its occupation of the invisible ‘heavenly’ air waves. This would seem to support Sterne’s wider argument that ‘the metaphorisation of the human body, mind, and soul follows the medium currently in vogue’ (Sterne, 2003, p 289).
The earlier logo of the Gramophone Company, The Recording Angel, had been much the same idea as Nipper, the angel bringing 'voices from beyond' – calibrating human senses to the new medium using the old (spiritual) situation. Peters suggests that, even more than angels, animals have probably been the chief object for contemplating the human estate (Peters, 1999, p 241).

The nineteenth century had pushed 'man' toward both animality and mechanism via the assumption by machines of supposed human functions (speaking, memory) and the increasingly permeable intellectual and morphological membrane between humans and animals (always thin in childhood and fairy tales) (Peters, 1999, p 244). There was a perception that man and nature were mechanical and machine-like. But the electric age brought with it its own form of malaise. McLuhan observed that a culture is an order of sensory preference, and suggests that 'all new technologies bring on the cultural blues, just as the old ones evoke phantom pain after they have disappeared' (McLuhan and Fiore, 1968, p 16). He argues that 'technological traumas' including 'the trauma of industrial change', 'the major trauma of the telegraph' and 'the transition from mechanical to electric technology' are so very traumatic and severe for us all (McLuhan, 1964, p 365). Similarly, he and Fiore suggest that 'at the popular level, the confusion and pain created by radio in the twenties was “lavishly expressed” in the blues' (McLuhan and Fiore, 1968, p 7).
In identifying matching visual indicators of cultural expressions of grief which relate to birdsong, a conspicuous example is *Twittering Machine* (1922), a watercolour and pen and ink oil transfer on paper by Swiss-German painter Paul Klee. Whilst interpretations of this work vary widely, essentially it depicts a painful confusion of nature, mechanical music, and perhaps an anticipation of radio. The different angles of the four birds’ heads indicate a directionality of sound, and an auditory expression of space, with the relative heights of their heads often interpreted as representing musical notes or ranges of sound frequency, as in a vocal quartet. The birds appear shackled to the crankshaft as if ‘caged’ or ‘tinned’. They are sentenced to ‘chirp under compulsion’, cursed, like the sad Greek myth of Philomela, which tells a human story behind the nightingale’s song. If the birds fall off the crankshaft, they disappear into a rectangular pit below.
Twittering Machine indicates how, in nature, birdsong can be an inescapable ‘noise’, but by gramophone, birdsong becomes controllable, switched on or off at will. As with a wind-up phonograph or gramophone, the crank handle indicates how haptic human participation is required for the Twittering Machine to work. Before the arrival of mechanical music, reaching the sounds of nature or hearing music for most would be difficult and complex, perhaps requiring a journey over space to a natural setting, concert, music hall or theatre; or learning how to play an instrument and read music.

With mechanical music (and electronic sound recording technologies), such effects are easier to achieve, and in this sense the listener is not challenged anymore. They now have all the trappings of success but have lost their inspiration and are just ‘turning the handle on the machine’, as it were. ‘Listening’ has become ‘just listening’, with each listening experience resembling the one before it. There is music without musicians, and twittering without birds.

Whilst Twittering Machine can thus be interpreted as an artistic statement of the pain and misery that result from new technology, like the euphoric reaction to the Nightingale broadcast, it would become one of Klee’s most celebrated works, inspiring several musical compositions and becoming a popular work to hang in children’s bedrooms (Larson, 1987, p 96).

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Auditory and visual space

The original spell cast by radio broadcasting was to implode and compress space, immediately creating a feeling like claustrophobia for early radio audiences (McLuhan, 1964, p 321). Claustrophobia has been compared to ‘the winter blues’. The timing in spring of the Nightingale broadcast put nature and technology in lockstep, acting to ameliorate both the radio-related and seasonal causes of claustrophobia. The magnetophone was in its element, capturing birdsong, both a familiar symbol of spring, a new beginning, accompanied by the acoustic characteristics of the outdoors.

The nightingale’s lofty perch was significant in counteracting this claustrophobia. It is said that when we have claustrophobia, we feel like ‘climbing the walls’. Arnheim noted how ‘widely separated sounds will denote great space’ (Arnheim, 1936, p 95). The Surrey woods, with their variety of distant background noises, and the magnetophone’s ability to pick them up, provided vital atmosphere. An absence of atmosphere, emptiness, can be painful. Without atmosphere, ‘the acoustic void, the silence in which sound is embedded, has less the effect of a background free of content than of a stage agitated with important events which, however, are withdrawn beyond the listener’s power of comprehension’ (Arnheim, 1936, p 138).

Similarly, Reith wrote after the first nightingale broadcast:

Our senses are painfully inefficient in their functioning – vast ranges of vibrations with things happening that we cannot get in touch with; and even within the provinces of sight and hearing and touch we only attain to a symbolism of things as they are, until our limitations are removed, and symbolism unnecessary, we shall know as we are known. In the meantime, let us make the most of those symbols which tend to our peace. (Reith, 1924c, p 438)

The acoustic characteristics of the woods differed greatly from the characteristics of the BBC studios at the time – with ‘claustrophobia’ experienced by both performer and listener. The latter problem had spurred the BBC towards development of an artificial echo effect to be employed in studio productions. In their patent for this effect, H J Round et al (including A G D West) wrote:

It is well known that certain acoustical reflections add to the beauty of sound of musical instruments, but hitherto the provision of such acoustical reflections have been limited by practical considerations, and in practice it has been found very difficult to obtain a pleasing degree of ‘echo’ without it being excessive in small buildings. (Round et al, 1926)

In a retrospective radio play broadcast by the BBC in 1936, Scrapbook for 1924, which included some reminiscences about early BBC broadcasts from Captain A G D West, the compère proclaimed, ‘Our antediluvian studio at 2LO! – a room heavily curtained
and carpeted, a veritable padded cell. Orchestra and singers packed like tinned fish! Here are some of radio's pioneers…” (Scrapbook for 1924', 1936).

The BBC was even discussing stereophonic broadcasting; years before Alan Blumlein famously began his experiments with binaural recording. H J Round suggested it could be achieved in broadcasting with ‘two microphones, two transmitters, two wavelengths, two receiving sets, and an earpiece for each ear’ (lewis, 1924, p 138). In 1924, the organiser of programmes for the BBC, C A Lewis wrote, ‘one microphone collecting sound from one point of view, cannot give the same effect as two ears sitting in the auditorium’ adding, ‘this fact is at the back of a good many complaints about our transmissions’ (lewis, 1924, p 138).

In the spring of 1925, two magnetophones were used in an attempt to capture a conversation between two nightingales. To preserve the illusion of nature for listeners when using more than one microphone, the Nightingale broadcasts would become the BBC's first use of fading and dissolving effects. This technology was developed out of necessity at the time – to switch on the microphone nearest to the signing nightingale. ‘Clicks and noisy changeovers from one microphone to another could not be permitted, and the duplication of microphone amplifiers meant the transport of much additional gear to the spot. Thereupon, the fade or dissolve from one microphone to another was evolved and successfully used for the first time at Oxted’ (‘Capt. A.G.D. West Leaves the BBC’, 1929).

Lacey relates the Nightingale broadcasts to a broader cultural anxiety about the 'noise' of modernity, and thus to radio's ability not just to add to the noise of life but to help ameliorate it (Lacey, 2013, p 81–82). Essayist and radio sceptic Wilfred Whitten, known to his readers as 'John o'London' had written an article in the Radio Times in March 1924, wondering whether the 'silences' of nature could be broadcast to counteract the noisiness of modern urban life (Whitten, 1924).

Sincerely I do wish that loneliness should be relieved wherever it oppresses the spirit of man or woman. But I wish also that there could be an exchange of experiences between the silences of Nature and the hum of the city. I would set up my aerial to-morrow, if in the heart of London, I could hear the cattle lowing on remote hills, or the barking of a fox in Essex, or the scream of an eagle over a Scottish glen. (Whitten, 1924)

Reith replied personally, assuring sceptical 'o'London' that soon ‘the liquid notes of the nightingales shall be borne in mystic aether waves to the home of the jaded town dweller’ (Reith, 1924b, p 482). The comforting song of the nightingale was to be the first demonstration of radio's power to reduce urban isolation, and a fair trade for radio's potentially painful implosion of space, or, in other words, its elimination of the comfort of distance. This was a courageous (if not potentially staged) reaction to a challenge from one of radio's critics, played out within the medium of print. Reith wrote:

To men and women confined in the narrow streets of the great cities shall be brought many of the voices of Nature, calling them to the enjoyment of her myriad delights. There is some peculiar quality about certain sounds, since they may be considered not incompatible with the conditions of silence. Already we have broadcast a voice which few have opportunity of hearing for themselves. The song of the nightingale has been heard over all the country, on highland moors and in the tenements of great towns. Milton has said that when the nightingale sang, silence was pleased. So in the song of the nightingale we have broadcast something of the silence which all of us in this busy world unconsciously crave and urgently need. (Reith, 1924a, p 221)

The success of the broadcast in producing ‘a sense of being there’ was underscored by the unprecedented ability of the magnetophone to reproduce all sounds in its range (Lacey, 2013, p 69). Secondly, unlike earlier microphones, the magnetophone was better able to differentiate sounds close by from sounds farther away. Reith’s allusion above to ‘some peculiar quality about certain sounds’ is consistent with contemporary and later descriptions of how we perceive space acoustically rather than visually, and specifically the importance of background ‘noise’ in creating a sonic landscape. The Surrey woods provided a familiar reference point for a listener navigating unfamiliar sensory territory, not the then-abstract environment of a studio.

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The role of the artist

Harrison’s status as an established artist holds significance, as it was she, and not a broadcast professional, who championed
the nightingale concept for the BBC. She had suggested it to Rex Palmer, who was the announcer at a performance she was giving of Elgar’s cello concerto, with the composer himself conducting. The BBC had never made a live outdoor broadcast before and when informed of the idea, Reith was concerned that the birds would be ‘prima donnas’ and remain silent.

In addition to being responsible for protecting the reputation of the BBC, Reith was a man deeply concerned with his own personal legacy. In reviewing various contemporary and scholarly accounts of Reith’s attitudes and policies, one of Street’s findings included the discovery of an article in The Times Personal Columns entitled ‘LORD REITH SEEKS ADVICE’ (Street, 2006, p 17). The article asks for public responses regarding the publication of his diaries. Street suggests that, ‘the tone of the words is that of a man who is pleading for an assurance that his place in history is secure’.

In her autobiography, Harrison writes:

_I must confess I had a hard tussle, as the BBC would not believe that such a thing was possible, and thought that it would be a waste of their time, a wild goose chase to come down to Surrey! But I knew that the good God wished the world to hear the duet of the cello and the nightingale. For nights I had crawled to find whence the most thrilling notes might ring out._ (Beatrice Harrison edited by Cleveland-Peck, 1985, p 131)

Four years earlier, it had been the Australian _prima donna_, Dame Nellie Melba, who persuaded the Marconi Company to broadcast what would become known as the world’s first major live performance on radio by a professional musician. Briggs rightly claims that ‘the Melba broadcast was a turning point in the public response to radio. It caught people’s imagination’ (Briggs, 1995, p 43; Street, 2006, p 39).

McLuhan and Fiore argued that artists are often the most courageous ‘pioneers’ in a new communication technology, collaborating with technical people to explore the possibilities of new forms of expression. ‘The artist is the only person who does not shrink from this challenge. He [or she] exults in the novelties of perception afforded by innovation. The pain that the ordinary person feels in perceiving the confusion is charged with thrills for the artist in the discovery of new boundaries and territories for the human spirit’ (McLuhan and Fiore, 1968, p 12).

The medium of radio broadcasting paralleled the natural motivations of the Nightingale – leading to the opportunity for a rather unique situation where content and medium would be deeply resonant with each other. Arnheim generalises, ‘Every art translates all content into the means of expression most suitable to the medium of representation’ (Arnheim, 1936, p 177), but here we can see the content is most suitable indeed. The Nightingale’s song signals the beginning of spring (like a new medium of expression, a new musical form), his search for a mate (the listener), and marking new territory (suggesting an abstract or non-visual perception of space).

The broadcasts’ simultaneous use of music and natural sound retrieved the ancient sounds of a far more primitive age Arnheim would describe as, ‘long before the invention of actual human speech, [when] the mating- and warning-cries of living beings were understood only as sounds and only in virtue of their expressiveness’ (Arnheim, 1936, p 28). Harrison had created a new form of art. ‘Even the surrealist had this ambition – to attain a fresh vision of the world by the juxtaposition of ordinary things’ (McLuhan and McLuhan, 2011, p 55).

Oscar Wilde recognised how art ‘is a veil, rather than a mirror. She has flowers that no forests know of, birds that no woodland possesses’ (Wilde, 1894, p 30), but there was a sympathetic tone to the broadcasts which reflected the audience. The first Nightingale broadcast was conducted a mere six years after The Great War. Britain was still reeling, recovering from years of difficulty, with a shared sense of loss. Guida observes, ‘many men writing in Flanders had found solace and comfort (as well as much sadness) in birds and their song’ (Guida, 2015). Harrison’s contemporaneous repertoire served an audience in mourning.

Referring to radio drama, Arnheim suggests, ‘the sound of mourning, more directly than the word of mourning, transmits sorrow to the hearer. And all natural and artificial sounds of mourning, which are soft and long-drawn-out and in a minor mode, are appropriate for increasing the effect of a mourning-chorus’ (Arnheim, 1936, p 30).
Communication is described by Peters as ‘a registry of modern longings’. ‘The term evokes a utopia where nothing is misunderstood, hearts are open, and expression is uninhibited. Desire being most intense when the object is absent, longings for communication also index a deep sense of dereliction in social relationships’ (Peters, 1999, p 2). The social and participative nightingale festivals at Foyle Riding were, it can be argued, partly inspired by such longings.

Returning to the idea of a new musical form, Harrison, a member of the highbrow orchestral establishment, had discovered with her ‘duet’ with the nightingale what can be considered a new sort of ‘jazz’. The word ‘jazz’ comes from the French jaser, to chatter. Jazz is a form of dialogue. It was jazz music from the London Savoy Hotel which preceded the first (19 May 1924) and second (26 May 1924) Nightingale broadcasts. In the first, jazz was heard from 9.45 to 11.00, with the ‘Song of the Nightingale from Surrey Woods at intervals from 10.30’, and in the second, from 10.00 to 11.00 it was officially recorded as ‘Savoy Hotel Bands, and Song of the Nightingale from Surrey Woods’ (BBC Programme Records, pp 65–66). A press review of the 26 May broadcast noted, ‘the sudden change from the jazz music of the Savoy bands to the music of Miss Harrison’s instrument in a plaintive melody of Rimsky Korsakoff produced with rather remarkable suddenness the suggestion of romance which is the proper environment for the singing of the nightingale’ (‘Broadcasting the Nightingale’, 1924). This juxtaposition of previously separate forms achieved harmony in the radio environment, in how the broadcasts involved the listener in ‘a conversation’, and a process to close the interval. Both jazz and the Nightingale broadcast required intimate listener involvement in the activity of ‘completing an image’, musically, intellectually, and emotionally.

Conductor-composer Constant Lambert, in his 1934 book Music Ho! ‘provided an account of the blues that preceded the jazz which followed The Great War. Lambert concluded “that the great flowering of jazz in the twenties was a popular response to the highbrow richness and orchestral subtlety of the Debussy-Delius period. Jazz would seem to be an effective bridge between highbrow and lowbrow music...”’ (Lambert, 1985, p 181; McLuhan, 1964, p 296). Jazz transcended class boundaries, as did radio, as did the Nightingale broadcasts.

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The owl and the nightingale

The conversational characteristics of the Nightingale broadcasts with Harrison’s cello were compared with the earlier conversational forms of print. Just before the first broadcast, a cartoon in Punch (Punch, 1924, p 355) picked up on this by referencing a literary form known as debate poetry (or verse contest); specifically a twelfth/thirteenth century Middle English poem called The Owl and the Nightingale (in which they trade insults). The narrator overhears an owl and a nightingale haranguing each other in a lengthy and comical debate about whose song is the more beautiful, with the nightingale beginning the verbal attack, ‘My heart sinks, and my tongue falters, when you are close to me. I’d rather spit than sing about your awful gurgling’.

The Punch cartoon features the nightingale (proudly) announcing, ‘I was broadcast last night. Great fun!’ with Owl (not to be outdone) counterpointing, ‘Ah! I’ve been approached to supply the hoots for a Scottish concert.’ In addition to the comment on the jealousies and one-upmanship the nightingale’s newfound celebrity might provoke among other birds, the panel above the cartoon of nightingale and owl portrayed the BBC ‘boffins’ setting up their outside broadcast equipment. This received mention in the Irish Times in May just after the broadcast. ‘Not long since, a humorous artist designed a picture representing the operators of the Company setting up their instruments for the very object which has now been carried into effect, not in jest but happy earnest’ (‘Philomel’, 1924).

Perhaps inevitably, ‘bookish’ owl and ‘tuneful’ nightingale can also be considered as characterisations of the wider print versus radio debate. In a chapter of his 1924 book Broadcast over Britain entitled, ‘The Fears of Mediaevalists’, Reith wrote:

I believe it has been proclaimed that broadcasting will encourage contentment with superficiality; that both as direct and indirect result of wireless, there will be less reading and close application to study; the direct result will presumably be from the fact that time
is occupied in listening; the indirect result might arise from so much being brought concentrated and “tinned” to hand. Even the broadcasting of the song of the nightingale evoked one or two such diatribes. (Reith, 1924a, p 129)

One of the most insightful comments on the initial broadcast came from a correspondent of the *Daily Record & Daily Mail*, who pondered what the great poets would have thought had they stumbled upon the party of BBC radio engineers stalking the nightingale with a microphone. ‘These men with their microphone, their valves, their condensers, inductances, and all the prosaic implements of the broadcasting business, were taking immensely practical steps towards fulfilling the poets’ own dream – that everyone might come to appreciate the beautiful things of life’ (Philomel Calling’, 1924). The observation retrieves the romanticism advocated by Oscar Wilde’s essay ‘The Decay of Lying’, which concludes:

*And now let us go out on the terrace, where “droops the milkwhite peacock like a ghost,” while the evening star “washes the dusk with silver.” At twilight nature becomes a wonderfully suggestive effect, and is not without loveliness, though perhaps its chief use is to illustrate quotations from the poets.* (Wilde, 1894, p 54)
Following a Nightingale Festival, on 14 May 1933, a special nightingale concert was performed by Beatrice Harrison and broadcast by the BBC to draw attention to the plight of the nightingales, whose numbers were decreasing due, in part, to many of them being caught and sold as pets. The conclusion of the evening was aptly described in an article in The Times, ‘It was the screech of an owl that silenced the nightingale’s song’ ([A Nightingale Festival, 1933](http://dx.doi.org/10.15180/150402/023)).
The nightingales during the Second World War

After the Harrisons moved away in 1933, broadcasts and recordings were made of the nightingales singing alone, and of the dawn chorus in the garden. On 19 May 1942, BBC engineers had set up their recording equipment for one of these broadcasts when 197 Wellington and Lancaster bombers on their way to Mannheim could be heard approaching in the distance. The broadcast had to be cancelled for fear that Nazi spies listening in would be able to pinpoint the bombers’ position. With lines to the BBC still open, the recording went ahead. The original recording still exists today. The first side records the departing aircraft; the second captures their return – eleven fewer.

The coincidence of these two things being heard, broadcast, and recorded so close together resembled a divine intervention; a triumph of light over darkness; Nature’s defiance of the affairs of Man. Rothenberg wrote:

...this strange soundscape of menacing bombers and incessant nightingales, singing as they always do, even in the midst of human destruction and the violence that comes with civilization. Even airplanes could not silence the nightingale. Here is a bird who cares nothing for the whims of men or the great noises we produce. Does he know his place extends far beyond the disasters of history?

(Rothenberg, 2005, p 143)

Borrowing from Arnheim’s method of understanding dramatic devices in radio plays, we can characterise the event as a parallelism between action and sound. The opposition of bass [bomber] and tenor [nightingale] voices corresponds to an opposition in the action (Arnheim, 1936, p 49). Harrison’s original broadcasts with the nightingale differed from the event with the bombers in the sense that originally it was not a parallel but a contrast between plot and sound. The opposition of voices contrasted with similarity in the action. Bass (cello) and tenor (nightingale) were allies.

The BBC broadcast and recording interrupted by the bombers in 1942 inspired a fictionalised scene in the British wartime (1943) propaganda film The Demi-Paradise (directed by Anthony Asquith, starring Laurence Olivier as Ivan Kouznetsoff, a Russian engineer visiting Britain). About one hour, thirteen minutes into the film, there is a short sequence of a forthright Ms Harrison as herself playing her cello with the nightingales in the midst of a German bombing raid on Britain, with the BBC engineers putting it out on radio. Russia had joined the Allies in 1941, and a purpose of the film was to stimulate a collaborative spirit between Britain and Russia.
The Demi-Paradise (1949): ‘A short sequence of a forthright Ms Harrison as herself playing her cello with the nightingales in the midst of a German bombing raid on Britain, with the BBC engineers putting it out on radio’

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Olivier’s (Russian) character upon hearing the nightingales singing outside, recites a passage from one of English Romantic poet John Keats’ best known works, Ode to a Nightingale, ‘Thou wast not born for death, immortal bird[s]’, indicating his Russian appreciation of the British way of life. The quotation also symbolises resilience, Ode to a Nightingale describes the conflict between ideal and reality.

Thou wast not born for death, immortal Bird!
No hungry generations tread thee down;
The voice I hear this passing night was heard
In ancient days by emperor and clown:
Perhaps the self-same song that found a path
Through the sad heart of Ruth, when, sick for home,
She stood in tears amid the alien corn;
The same that oft-times hath
Charm’d magic casements, opening on the foam
Of perilous seas, in faery lands forlorn.

The inclusion in the film of the broadcast by Harrison, and Olivier’s reference to Keats’ poem, suggests what the filmmakers’ motives may have been to stir emotion by recreating the past – a reassuring ‘feeling’, as well as the more obvious goal to improve understanding of the British values being fought for. Following the first Nightingale broadcast, author George Birmingham had written in the Radio Times, ‘certain sounds have the power of awakening emotion, so intense that the very memory of them afterwards re-creates the emotion. The nightingale’s song is one of these sounds. Keats’ Ode is a splendid example of the emotions awakened’ (Birmingham, 1924).

The interval between the ideal (the way we want things to be) and reality (the way things are), while often painful to address, is an opportunity for enhanced perception, including introspection. ‘The poet is bothered that the paean of the nightingale is not for us. In melancholy he soon forgets the bird and turns within, to his own problems’ (Rothenberg, 2005, p 22). He argues that the Romantic poets took up bird music as a symbol of inner feeling. Poets became the Romantic era’s most prominent guides to our wonder, intoxication, and frustration with the revelation of beautiful bird sound and the emotions it might lead us to (Rothenberg, 2005, p 22). Through his places in nature, life and poetry, the nightingale was a powerful national symbol. Commenting on the first 1924 Nightingale broadcast, a correspondent in the Manchester Guardian opined, ‘down all the ages no bird has been more celebrated for its music than the nightingale, and the works of our own British poets alone would suggest that its song was a national possession’ (‘Auntie Philomel’, 1924).

It was the process of the Nightingale broadcasts, not just the song of the nightingale, presented in The Demi-Paradise as an antidote or counter-environment for the effects of war – retrieving the sadness and the sense of loss which had been associated with The Great War, and repurposing it as a symbol of continued British resilience during the Second World War. The versatility of the broadcasts themselves as a symbol exemplifies Rothenberg’s observations, as well as McLuhan and McLuhan’s reference to the acoustic ‘message of the birds’ – ‘that the output of any process, biological or psychic, always differs qualitatively from the input’ (McLuhan and McLuhan, 2011, p 40).
In *Modernism and Mass Politics: Joyce, Woolf, Eliot, Yeats*, Tratner argues that modernism was, at root, an attempt to reform mass culture in an age marked by collectivist thinking across the political spectrum; it was ‘an effort to escape the limitations of nineteenth-century individualist conventions and write about distinctively “collectivist” phenomena’ (*Tratner, 1995, p 3; Avery, 2006, p 107*). Radio as the first broadcast medium would play a central role in this effort. The Nightingale broadcasts had three stages across this individualist-collective transition. One with Harrison and nightingale; then after 1933, only the nightingale himself was broadcast; and after 1942, broadcasts cease, the story seeming to have been absorbed, disappearing into a collective subconscious it helped to create.

Harrison is an important symbol for women in this scene. Women were working in factories which were targets of the German bombs. Music was part of their daily lives. Baade observes, ‘Music played an important role in industrial psychology’s attempts to remedy the effects of mass production on the relations between workers and their environment, co-workers and management’ (*Baade, 2012, pp 62–63*). Harrison’s role was also not unlike the original challenges the BBC had faced in their debut of broadcast radio, in that war was a crisis altering or shattering relationships between humans and technology. McLuhan and Parker argue that: in wartime, or any age of accelerated change, the need to perceive the environment becomes urgent (*Mcluhan and Parker, 1968, p 252*). ‘When the social environment is stirred up to exceptional intensity by technological change and becomes the focus of much attention, we apply the terms “war” and “revolution.” All the components of “war” are present in any environment whatever. The recognition of war depends upon their being stepped up to high definition’ (*McLuhan and McLuhan, 2011, p 17*).

As the bombing raid carries on in the distance, Harrison continues playing. A similar incident three years earlier may have inspired Harrison’s role in the film. Baade notes how *Melody Maker* reported that Eddie Carroll ‘was the first bandleader to broadcast through an air raid, in an OB from the Hammersmith Palais de Dance for *London after Dark*, a series that was relayed to North America. “With fine irony, one of the numbers featured was *A Nightingale Sang in Berkeley Square,*” a song that described a quiet London night, transformed by love’ (*Eddie Carroll Airs in Air-Raid*, 1940, p 2; Baade, 2012, p 90). Theatre and cinema closures, blackouts, and air raids had kept many citizens at home, meaning millions had turned to the BBC for entertainment. Harrison’s scene in *The Demi-Paradise* served as a reminder of the continued resilience of the BBC in wartime.

It is significant that in the film Harrison plays in the inner garden of a country house instead of in the woods. The country house and garden, like the nightingale, are entrenched symbols of the British identity. In 1918 the philosopher L T Hobhouse recalled sitting in his Highgate garden, reading Hegel and witnessing a bombing raid by three German aircraft. In the dedication to his book *The Metaphysical Theory of the State*, Hobhouse reminded his son, Lt R O Hobhouse of the Royal Flying Corps, that he was fighting against ‘the Hegelian theory of the god-state’ (*Hobhouse, 1918, p 6; Colls, 2002, p 204*). For Hobhouse, peace was an English garden. War, on the other hand, was Hegel’s bombing machines. In 1940 the god-state bombing machines returned. Picnicking in his garden, this time at Sissinghurst in Kent, English diplomat Harold Nicolson compared the battle in the air with the tranquillity beneath (*Wright, 1988; Colls, 2002, p 204*). Similarly, in *The Demi-Paradise*, the English garden serves as a metaphor for peace, contrasting with the bombing raid; however, it expands on Hobhouse’s recollection. Whilst it remains an environment for the action of individual characters, the British public, ‘us’, can now be included thanks to the action of radio.

Olivier’s role as the visiting Russian protagonist in *The Demi-Paradise* uses the language and cultural barrier to put the film’s audience in the role of the outsider to heighten perception of the British way of life. It was Jacques Ellul who in 1962 first argued that propaganda is not ideology (*Ellul, 1965*). It is rather the hidden, but complete image of a social way of life that is imbedded in the social technologies and social patterns just as it is imbedded in, say, the English language (*Mcluhan, 1967, p 164*). The mother tongue is propaganda because it exercises an effect on all the senses at once. It shapes our entire outlook and all our ways of feeling. Like any other environment, its operation is imperceptible (*McLuhan and Parker, 1968, p 252*). Such an environment is naturally of low intensity or definition. That is why it escapes observation (*McLuhan and McLuhan, 2011, p 17*).

An urgent need to perceive the environment brought forth the combined symbols of the nightingale, Beatrice Harrison, and the BBC for *The Demi-Paradise*, and ‘the artist provides us with anti-environments that enable us to perceive the environment’ (*McLuhan and Parker, 1968, p 252*). Anything that raises the environment to high intensity, whether it is a nightingale’s song or violent change resulting from a new technology, turns the environment into an object of attention. ‘When an environment becomes an object of attention it assumes the character of Anti-Environment or an art object’ (*McLuhan and McLuhan, 2011, p 17*). The scene of Harrison playing her cello dutifully as the bombs fall against a background of searchlights is such a
landscape. Harrison’s defiant presence against the night sky in the scene is a triumph of light over darkness. There is a similar formal contrast between the sound of the bombers and Harrison’s cello. The same vocabulary is used in optics as in acoustics, if we think of Harrison’s cello as a light voice, and the unseen bombers as a dark voice.

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**Conclusions**

A newfound sense of realism in radio broadcasting was made possible by the Marconi-Sykes magnetophone, particularly its ability to create a feeling of ‘being there’. Its ability to pick up background noise, particularly in the higher frequencies, was crucial in counteracting entrenched ‘claustrophobic’ listener perceptions of space on radio. Listeners to the Nightingale broadcast were invited to act as intermediaries in the enchanting conversation between cello and nightingale, between art and nature, participating in a pleasurable process of ‘tuning their senses’ to a new perception of auditory space.

The atmosphere of uncertainty surrounding whether the nightingale would sing at all was in sympathy with the uncertainty surrounding broadcast radio and the BBC itself. Uncertainty about radio’s place in British life, and corresponding phantom pain caused by the loss of the old print-dominated information environment were, in part, ameliorated by the improved sound quality made possible by the microphone and its ability to retrieve a more familiar sense of reality. Part of Beatrice Harrison’s role as an artist was to interpret and ameliorate previous and contemporary technological trauma, the internal conflict between heart and mind that usually accompanies a loss of someone or something which has emotional value. She created a level of safety and comfort in manipulating aspects of the old environment to create innovative content for the new. These old environments – sombre music, the romance of birdsong, and auditory space – were all retrieved. Listeners were familiar with these feelings – the broadcast speaking to who the listeners already were. The trauma of overextending the human sense of hearing to the exclusion of the other senses was anesthetised by the soothing duet and how it drew upon pre-existing individual memories and the entrenched cultural image of the nightingale.

The song of the nightingale has long inspired poets and artists. For the first time, his song became part of the content of the radio environment, taking on all of the properties of a work of art, whilst the magnetophone extended and expanded the radio environment itself. The first Nightingale broadcast, as a work of art, a new form, acted as an anti-environment which had the effect of raising the radio environment to one of high intensity, rendering it more perceptible. People thus felt compelled to begin conscious participation in this new ‘conversation’ by listening to the broadcast in great numbers, and by using older familiar media (writing about it, sending fan letters, buying gramophone recordings, and physically attending the festivals at Foyle Riding). It was these mixed euphoric, mournful and nostalgic feelings accompanying the Nightingale broadcasts which best evidenced human sense ratios in a rapid process of adaption to a new information environment created by new technology.

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