



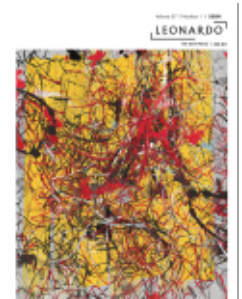
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Soundscapes of a Century: The Art and Transmission of Irish Broadcasting's 100-Year Milestone

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Soundscapes of a Century

The Art and Transmission of Irish Broadcasting's 100-Year Milestone

JIMMY EADIE

ABSTRACT

This article examines two renditions of an artwork titled *100*, which celebrate a historic radio transmission in 1916 during the Irish war for independence. The centenary artwork delves into the concept of radio transmission as an artistic expression rather than solely a practical function. The work explores the intersection of radio transmission with installation art, as well as its connections to sound art and sound design. Engaging with diverse theoretical frameworks, the article interrogates the boundaries of radio and its relationship with other media expressions. It also seeks to understand important historical works and events within radio, with a focus on exploring the roots of radio and its history in Ireland.

EXPLORING RADIO TRANSMISSION AS ART

A useful term to apply to any work using radio signals would be “transmission art.” Defined as a multiplicity of practices and media centered on the idea of transmission or the physical properties of the electromagnetic spectrum radio, this definition is aptly suited to this work [1]. In many ways, transmission art considers the radio spectrum as a potential venue in and of itself.

Scholarly examinations of the history of transmission art, such as those by Weiss [2], Lander [3], and Kahn [4], generally follow a similar trajectory, tracing the origins of this artistic practice to Marconi’s invention of the wireless and to the Futurists’ and Constructivists’ fascination with it. F.T. Marinetti’s *Technical Manifesto of Futurist Literature* [5], with its emphasis on the concept of a “wireless imagination,” has been a significant influence on many artists and writers interested in radio art. Marinetti’s early experiments with radio transmissions have served as a source of inspiration for many practitioners within this field.

The history of transmission art and experimental radio can be understood as a “counter-history” of radio that runs parallel to and, at times, diverges from the mainstream broadcasting history, which has traditionally emphasized radio as a mass me-

dium [6]. Bertolt Brecht famously suggested that radio should “change . . . from distribution to communication. The radio would be the finest possible communication apparatus in public life” [7]. Brecht’s radio theory foreshadowed the subsequent evolution of media practice, emphasizing emancipatory broadcasting, posting, and sharing. Brecht believed the medium should be interactive. Radio art exhibits a remarkable legacy, one that extends beyond the confines of the artistic realm, seeping into the political landscape with significant impact [8,9].

Transmission art can be considered one of the earliest forms of “media art,” and tracking its evolution over the last century as a conduit between broadcasting institutions and a widespread audience offers valuable insights into the interplay between aesthetic and political considerations. Yet, it remains comparatively underexamined within the domain of art historical discourse.

Hans Flesch was a German doctor and is considered a pioneer in the field of experimental radio drama, having served as a program director and innovator of the form during its nascent stages. This type of radio drama eventually became known as *Hörspiel*, a term coined by Flesch himself. The term “*Hörspiel*” is derived from the German phrase “hear play” and refers to a genre of radio drama that combines elements of radio documentary, soundscape, electroacoustic music, and sound editing techniques to create a distinctive form of radio that is considerably more experimental than its U.K. equivalent [10]. Flesch’s modernist approach can be characterized as a deliberate departure from naturalism in favor of more innovative and unconventional forms of drama, all in service of promoting social emancipation. By defying the accepted conventions of the medium and breaking through preconceived notions, Flesch sought to cultivate critical awareness in his listeners.

In 1951, renowned composer John Cage created *Imaginary Landscape No. 4* for 12 radios, and in 1956 he composed *Radio Music* for eight performers using eight radios. Each performer was directed to tune their radio to various frequencies, ranging from 55 to 156 kHz, at specific moments throughout the six-minute score. These experimental works

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exemplify Cage's pioneering and unconventional approach to using radios as compositional tools. One of Cage's most famous works is *Roaratorio*, created in 1979 in collaboration with producer Klaus Schöning. The piece, subtitled *An Irish Circus on Finnegans Wake*, is a notable example of Cage's experimentation with sound and language, incorporating various field recordings and spoken-word elements to create a unique auditory experience [11].

In 1957, BBC producer Donald McWhinnie was deeply influenced by Pierre Schaeffer's work with *musique concrète* at the Studio d'Essai in Paris. McWhinnie wrote about how Schaeffer's experiments were instrumental in "investigating and perfecting sound techniques which we are only now beginning to value" [12], underscoring the significance of Schaeffer's contributions to the field of radio art.

Max Neuhaus is regarded as one of the most prominent artists working at the intersection of broadcast radio and contemporary art practice. His works from 1966 to 1977 are recognized as some of the earliest examples of art practice that are inherently transmission- and network-based, blurring the lines between traditional art forms and the ever-evolving world of technology. Neuhaus's *Drive-In Music* installation (1967) used radio transmitters placed along a road, enabling drivers to tune in to his work, for which he coined the term "sound installation" [13]. In 1966, Neuhaus created *Public Supply* and in 1977 *Radio Net*, which were among the earliest instances of radio art events to be produced live (on air), featuring nonlinear broadcast audio works that developed spatially. Neuhaus's works demonstrated the unconventional use of radio as a medium for artistic expression, paving the way for future experimentation and innovation in the field of radio art.

Gregory Whitehead is among the first generation of self-proclaimed radio artists who played a key role in shaping the field of radio art in the mid-1990s. He co-edited the groundbreaking anthology *Wireless Imagination: Sound, Radio and the Avant-Garde: A Selective History of Audio and Radio Art* [14], which was instrumental in defining the boundaries and possibilities of the genre, particularly in relation to other media and sound arts. Other notable radio artists are Wojciech Brzuszewski [15], Tetsuo Kogawa [16], and Janet Cardiff [17]. Among platforms of experimental radio, Resonance 107.3 FM has been broadcasting throughout England and Europe since the 1990s [18].

Founded in New York in 1997, the collective free103point9 is recognized as a pioneer in transmission arts [19]. Their works often resonate with the spirit of Fluxus, a 1960s avant-garde art movement that combined various artistic disciplines and emphasized the journey of creation over the end result. Notably, these pieces highlight the unpredictability of spectral content, drawing parallels to the essence of Fluxus [20].

In chronicling transmission arts within Ireland, two key events celebrating this form of media are The First International Festival of Radio Art, Dublin, August 1990 [21], and the Dublin Museum of Modern Arts Audio Artists Radio Transmissions [22]. We can surmise, then, that transmission art and sound art share the common characteristic of being situated on the boundary between art, music, and literature, and, as such, represent a dynamic and boundary-pushing creative practice.

UNRAVELING THE RICH ORIGINS OF IRISH RADIO

Guglielmo Marconi (1874–1937), an Italian-Irish inventor, conducted many of his experiments on wireless transmission in Ireland. He set up several wireless telegraphy stations throughout the country, but the key stations were on the west coast of Ireland, in Cork and Galway. In County Cork, Marconi connected an existing telegraph line to a wireless station with tuned circuits, which made it easier to transmit North American news to Irish press in Cork and Dublin [23]. Marconi is credited with the first "journalistic use" of wireless for having reported on the Kingstown Regatta for the *Evening Mail* and the *Daily Express* in July 1898 [24]. Marconi's ultimate objective was to establish a wireless connection to North America in the early twentieth century.

As a result of Marconi's developments, wireless telegraphy became a key feature of the Easter Rising in 1916 [25]. Irish revolutionaries transmitted a message via Morse code on a shipping wavelength, declaring that the war for independence had begun. Media theorist Marshall McLuhan credits this as being the first radio broadcast, and states "that was the year of the Irish Easter rebellion and of the first radio broadcast. The Irish rebels used a ship's wireless to make, not a point-to-point message, but a diffused broadcast in the hope of getting word to some ship that would relay their story to the American press" [26]. News of the rebellion, transmitted from the Marconi station on Valentia Island, did ultimately make it to American newspapers.

The General Post Office (GPO) radio broadcast of 1916 was a significant historical event that took place during the Easter Rising in Ireland. The Rising, which occurred 24–29 April 1916, was a rebellion against British rule in Ireland. The GPO in Dublin served as the headquarters for the Irish rebels, who were led by Patrick Pearse, James Connolly, and other key figures of the Irish Republican Brotherhood and the Irish Volunteers. On 24 April 1916, Patrick Pearse read the Proclamation of the Irish Republic outside the GPO, marking the beginning of the uprising. The proclamation declared Ireland's independence from Britain and established the Irish Republic.

During the rebellion, the rebels attempted to use the wireless telegraphy equipment within the GPO to broadcast messages to the world. At 5:30 pm on Monday, 25 April 1916, a Morse code message was sent by Irish Republican rebels occupying a building opposite the GPO. It read "Irish Republic declared in Dublin today. Irish troops have captured city and are in full possession. Enemy cannot move in city. The whole country rising" [27]. This little-known event is widely regarded as one of the world's first clandestine pirate radio broadcasts [28].

THE 100 INTERACTIVE INSTALLATION (2016)

For a researcher exploring the confluence of historical events and sonic art, the 1916 GPO radio broadcast during the Easter Rising is of particular interest. This daring endeavor used the emerging technology of wireless telegraphy to disseminate information about the establishment of the Irish Republic. The objective of the sound installation *100*—created in relation to this broadcast version—is not only to evoke the ideological struggle against colonial hegemony but also to examine the intricate relationship between technology and

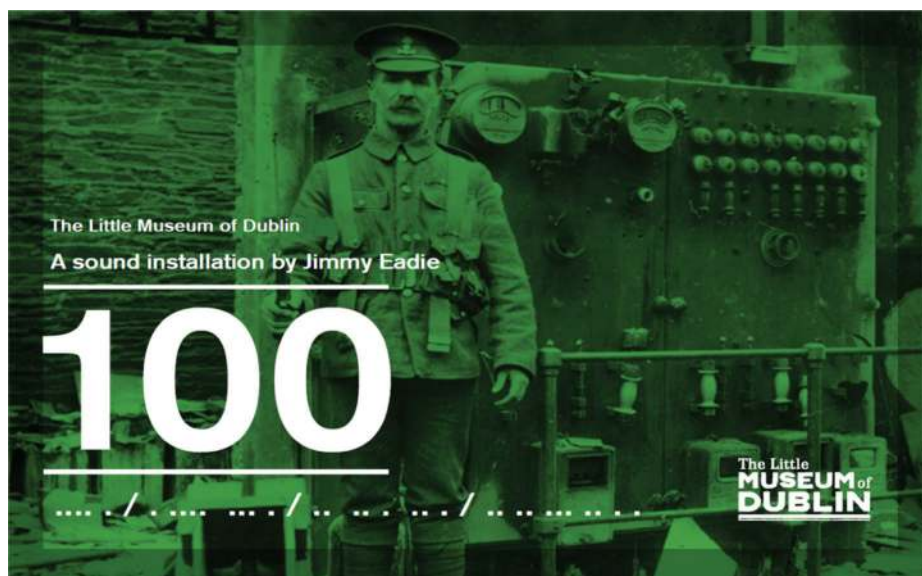


Fig. 1. Program for 100, Little Museum of Dublin, 2016. © Little Museum of Dublin.

political resistance. An assemblage of archival materials, oral histories, and contemporary soundscapes are employed in the installation to reconstruct the fervor and uncertainty that permeated the GPO during the Easter Rising.

The installation was created exactly 100 years after the 1916 broadcast, to the hour, in the Little Museum of Dublin on Easter Monday, 25 April 2016 (Fig. 1). It was also presented one month later at the center for Telecommunications in Trinity College Dublin (CONNECT).

The work aims to encourage a thoughtful re-evaluation of the intricate network of sociopolitical forces that shaped the Easter Rising and its subsequent impact throughout the twentieth century. The installation attempts to create a thought-provoking experience for the audience, inviting them to engage with the historical and political context of the event through sound and sensory immersion. The work aims to highlight how effective radio broadcasting can be as a medium in its ability to tell a story in a highly distinctive and evocative manner, and, ultimately, how it connects and makes contact between people.

100 is staged as a spatial radio-orchestra; participants are provided with radios through which they select a predetermined range of FM frequencies that access specific broadcast channels. Concurrently, audio output from other attendees' radios permeates the shared space. Through the manipulation and exploration of the frequency tuning, audience members cooperatively engage in the construction of a unique and ephemeral auditory experience. Sixteen narrowcast FM transmitters broadcast on 16 distinct frequencies, ranging from 100 to 102 FM. These were received by 16 portable radios that had been modified to limit the reception of the FM channels to between 100 and 102 FM to avoid too much random exterior reception within the installation.

The audience was engaged in the "embodied" act of listening; as Brian Massumi suggests, listening is not just an act of the ear but a whole-body activity. We listen with our skin, bones, and organs, not just our ears. As such, we can consider that the participants in *100* were "sensorially performing"

within their "own" interactive work [29]. Similarly, Nathaniel Stern suggests that embodiment involves a continual process of movement and interaction with the world, in which our bodies are constantly shaping and being shaped by our surroundings. He concludes that "interactive art frames moving-thinking-feeling as embodiment" [30].

The use of 16 radio transmitters and receivers allowed participants to move about the space freely, tuning into specifically transmitted frequencies and listening to the broadcast; essentially, they performed with the radio as they walked through the space (see Fig. 2). Surprisingly, the emer-

gence of inter-channel FM oscillations led to the generation of harmonic frequency tuning noise pervading the work. This is essentially when many radio receivers in the same room tune to the adjacent frequencies and the signals modulate which resulted in a "surround-sound synthesizer" effect. This phenomenon can be attributed to the collocation of the transmitters and receivers, as well as the substantial number of individuals traversing the transmission area. Given that FM transmission operates on a line-of-sight principle [31,32], it is plausible to conjecture that the audience's movement through the transmission field may have impacted the broadcast system's sensitivity and susceptibility to fluctuations.

Morse code is a form of communication that uses a series of short and long sounds, or dots and dashes, to represent letters and numbers. It was widely used in the early days of radio communication and played a critical role in the events leading up to the Easter Rising in 1916. The Morse code audio signal that was transmitted during the rising was recreated here in the installation and played a central role in the artwork *100*, serving as both a literal and figurative basis for the composi-



Fig. 2. *100*, detail of 8 Radios and Transmitters, Little Museum of Dublin, 2016. © Jimmy Eadie.

tion. By incorporating Morse code into the installation, an endeavor was made to depict the historical significance of this technology and its influence on the sociopolitical milieu of the era in Ireland. The Morse code signal also functioned as a metaphorical tool within the composition, highlighting the complex relationship between technology and political resistance, and drawing attention to the ways in which communication technology can be harnessed for social and political change. The Morse code signal also provided a unique sonic element to the composition. Its rhythmic pattern and distinctive sound helped to create a captivating auditory experience for the audience, adding to the immersive quality of the installation. Overall, the use of Morse code within the 100 installation emphasizes the multifaceted role that technology plays in artistic expression, political resistance, and historical memory. 100 demonstrates how memories and nostalgia can operate in creative and integrated ways within radio contexts, using sound as a medium.

DESIGN OF THE SOUNDSCAPE FOR 100

The primary recording sessions for the “100” composition featured a string quartet, supplemented by a subsequent session incorporating electric guitar and vocals. The essence of the sound material for this piece was developed over these two distinct sessions. A significant aspect of the composition was the inclusion of silence on each broadcast channel, punctuated solely by the radio’s static and inter-frequency noise, to enrich the auditory textures. This lo-fi listening approach can, as posited by Elizabeth Newton [33], “aestheticize” noise within a soundscape, prompting listeners to actively engage in the construction of their sonic experience.

A significant component of this project involved conducting a thorough investigation of the National Television and Radio archives, located within Ireland’s national broadcaster, Raidió Teilifís Éireann (RTE). While researching interviews and performances from the Alan Lomax archive [34], one

particularly poignant Irish recording, which is of cultural significance, was found and incorporated into the soundscape. This is a 1951 recording of Máire Ní Shuilleabháin singing “Caitlín Triall,” “Cuir a Chodladh an Seandúine” [35]. The soundscape also encompasses spoken word narratives from individuals who participated in the 1916 Easter Rising. These poignant memoirs from the National Radio archive were documented for the 1966 half-century commemoration, featuring emotive recollections of Fergus O’Kelly, Arthur Shields, and Barry Fitzgerald [36]. Among the most intriguing auditory elements integrated into the piece was the high-voltage spark-gap transmitter, recorded at the Museum of Vintage Radio in Dublin. Pat Herbert, a radio historian and the museum’s curator, also contributed a reading of the Morse code proclamation. This narrated segment, strategically placed toward the culmination of the composition, effectively functioned as a denouement, providing closure to the work. The installation culminated in an amalgamation of white noise, sine waves, and spark-transmitter sounds, followed by a 16-minute interlude of silence before resuming the transmission. Throughout the day, the installation alternated between 16-minute intervals of broadcast and silence. The overarching objective of this composition was to generate an immersive and compelling soundscape, imbued with poignancy, reflection, and poetic resonance. The overall structure can be viewed in the graphic score in Fig. 3.

100: IRISH NATIONAL RADIO BROADCAST (2016–2023)

In an effort to broaden the scope of the installation the prospect of reverting to the original medium—radio—was acknowledged. This shift from a museum/gallery environment to a national radio broadcast format facilitated enhanced accessibility and furnished an opportunity for larger engagement with the historical context.

In 2016, Raidió Teilifís Éireann (RTE) commissioned an adaption of the installation 100 for national radio broadcast as part of the centenary Rising Celebration (Fig. 4).

In the process of preparing the radio broadcast version of 100, various elements of the sound installation—archival materials, oral histories, and soundscapes—were meticulously adjusted to suit the standard radio format, ensuring that the essence of the original work was preserved. Using a national radio broadcast, the installation tapped into the medium’s immediacy and wide reach. The shared listening experience fostered a sense of national unity and connection. The auditory nature of radio made listeners visualize and connect emotionally with the Eas-

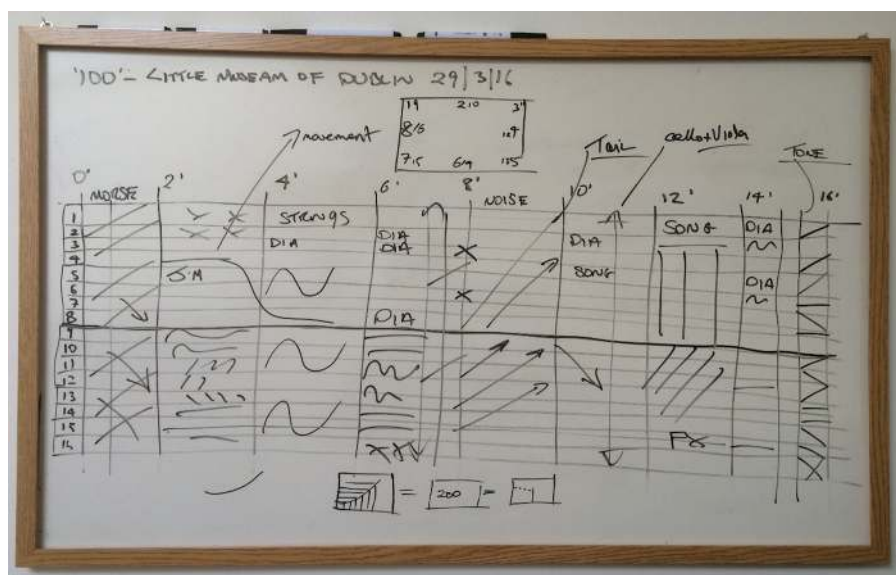


Fig. 3. 100, Graphic Soundscape Design, 2016. © Jimmy Eadie.



Fig. 4. 100, RTE, Radio 1, Drama on One, 2016. © RTÉ.

ter Rising events. Moreover, the broadcast narrative provided context about the sociopolitical factors, prompting listeners to critically think about the events leading to and surrounding the Rising. Incidentally, the radio production of *100* has subsequently been broadcast every year on this date and can be heard online at RTE [37].

The transformation of a sound installation into a radio transmission resulted in a notable shift in its mode of reception, diverging from the intended experience in the original installation environment. As reception theorist Susan Bennett posits, “audiences bring their own perspectives and experiences to a work, and these factors shape how they perceive and interpret a performance” [38]. Also, as articulated by Salome Voegelin, the radio format effectively disseminates the signal to the “non-synchronous” ears of a “multiplicity of listeners” [39], thereby altering the work’s reception and transforming its experiential dimensions. Despite this impact on the audience’s engagement with the work, the decision to convert the installation into a broadcast medium was made, but with a commitment to preserve the original sound design principles. This undertaking was driven by a desire to expand the reach of the installation beyond the confines of its physical space, to make it more widely accessible to a diverse and geographically dispersed audience. Significant effort was made to maintain the integrity of the sound design element, ensuring that the essential qualities and characteristics of the work were retained and effectively conveyed through the broadcast medium. The objective was not to create a verbatim transcription or a mere stereo mix of the installation piece. Rather, a collaborative approach was deemed more advantageous in extending the original concept of the piece. In pursuit of this goal, Irish media artist Donal Dineen was selected to collaborate in crafting a narrative dialogue for the composition.

Subsequently, the initial sound design was reimagined by integrating select installation elements into a fixed, linear format. Blending journalistic and dramatic techniques, the project emerged as a fusion of audio-docudrama and narrated sonic collage. The work’s distinctiveness lies in combining archival material with original narrative and soundscape design. Even when broadcast on commercial daytime radio, the production preserved its fundamentally experimental nature. Commercial radio is still a very popular form of communication, and, as artist Anna Friz observes, it has “the potential above all

other media for ‘rethinking’ deeper questions of connection, community and communication” [40]. Investigating the relationship between radio art and sound art by creating a soundscape work as a form of radio art was intriguing. The soundscape composition was designed not just as a static radio broadcast but to fully leverage and expand upon the unique characteristics of the medium.

CONCLUSION

Anna Friz characterizes her practice as self-reflexive radio, which can take the form of broadcast, installation, or performance. Radio serves as both the source and medium for her works, often being a primary subject of exploration. Using this definition, *100* attempts to cultivate a speculative realm for exploring contemporary radio art. Both iterations of the work engage with current debates on radio’s political influence, offering an innovative and socially conscious installation and broadcast experience. By creatively addressing these topics, the work aspires to contribute to the ongoing conversation surrounding radio’s potential for driving social and political change. The intention was that it would engender an interest in Irish radio culture and history, furthering the potential for rethinking deeper questions of connection and communication within the radio landscape. These questions and tensions played a vital role in shaping the direction and scope of his project. They represent significant inquiries that contributed to our comprehension of Irish radio as an art form, allowing us to adjust and recontextualize it within the broader framework of international media arts practice.

Both versions of *100* address questions of process and materiality, but with different emphases. The broadcast focuses on the process of transmission itself, while the installation is concerned with exploring the aesthetics of radio, as well as

its institutional framing and narrative format. Ultimately, *100* explores the interplay between the social dynamics of radio, technological access, and the integration of media into everyday life. The project contributes to the ongoing evolution of

transmission art by exploring new avenues for artistic expression. Furthermore, it fosters audience engagement, adding depth to both academic and practical discussions about this dynamic legacy medium.

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