

1 Introduction

On 14 June 2021, iPhones were buzzing with notifications from the streaming platform Apple Music, leading with the message “Introducing Spatial Audio.” Two two-minute explanatory audio tracks invited users to “Hear the difference” offered by a sound spatialization technology that they would now provide those equipped with appropriate listening devices: Dolby Atmos, a surround sound package that enabled sound to be sent to 128 individual locations that was introduced in 2012 in movie theatres before being adopted by music streaming services Tidal and Amazon Music and finally, with great aplomb, by Apple, in 2021.¹ The two songs excerpted in the tracks each catered to a different demographic, even if both were sung by wildly popular male artists known for their distinctive vocal registers: Marvin Gaye’s “What’s Going On” (1971) and The Weeknd’s “Save Your Tears” (2020). The songs were presented in three different acoustic renderings: first in mono, then in two-channel stereo, and finally in Dolby Atmos, while the narrator, New Zealand radio announcer Zane Lowe, delivered hyperbolic advertising copy so over-the-top that it seemed at first blush to be parody: “When we say that spatial audio with Dolby Atmos is the future of music, that’s not hype: it’s what we hear”; “It’s a difference you can really hear and feel, and once you do, there’s just no going back: total game changer”; “Think about how it’s going to feel the first time you hear all of your favourite songs in Dolby Atmos.” Lowe was “channelling” (pun intended) a familiar discourse on the way sound reproduction technology changes listening practices, one that was particularly prominent in the early days of stereo LPs. It was almost as if the sixty-three years that separated the Apple campaign from the promotion of stereo LPs and receivers (“You are the Fifth man in this Quartet” – see Figure 3.1) had been bridged. Regardless of the skepticism that listeners old enough to have heard similar claims made about earlier technology that is all but forgotten today (such as quadraphonic eight-track cassettes), Lowe’s overblown claims attest to the way music listeners and makers are recruited by industrial giants in an effort to stimulate

¹ Clovis McEvoy, “Beyond Stereo: Dolby Atmos and the Race for Space,” *MusicTech*, 26 November 2021, <https://musictech.com/guides/essential-guide/beyond-stereo-dolby-atmos-and-the-race-for-space>

demand for new goods by deeming the current ones obsolete. And yet, the nakedly mercantile tone of the promotion aside, the vision it put forth, about the role of space in music listening and composition, and more generally, about the promises of new experiences that technologically mediated listening held, is one that many composers, performers and musicologists of avant-garde allegiances embraced in the twentieth century, particularly in the 1950s and 1960s. For example, Lowe's discourse also recalled ideas heard in the early days of stereo from voices as authoritative as Igor Stravinsky's, that the new technology was destined to change not only the way music was listened to but also the way it would henceforth be composed. As Lowe expressed it, "Imagine how it will shape songs that haven't even been written yet. Music is about to change forever. Let's go." For a scholar of mid-century concert music, it was bracing to read an article published in 2021 in the august pages of *Gramophone* magazine, explaining the ins and outs of Dolby Atmos to its audiophilic readers in prose barely distinguishable from what Lowe intoned ("It's a whole new world of music listening") and strikingly similar to analogous articles on stereo LPs in the same publication circa 1958.² A technological determinist might see the juxtaposition as indicative of audio technology's slow but constant march towards greater fidelity and the conquest of space, whereas it might more usefully be viewed as emblematic of the ways new listening experiences are always explained through recourse to analogies with more familiar, non-technically mediated ones (for example, the "experience" of "space"). Despite this, listeners evaluate their new experiences via comparison to familiar listening situations, and composers or songwriters are inspired (or invited) to create art that highlights this new listening situation. In short, the example of Stereo in 1958/Dolby Atmos in 2021 highlighted many of the themes developed here with respect to the relationship musical works had with recording media in the heyday of both stereo LPs and avant-garde experimentalism, in roughly the third quarter of the twentieth century.

Avant-Garde on Record revisits the legacy of the generation of post-war composers who still occupy a prominent place in twentieth-century music histories: the hard-nosed modernism espoused by such outspoken figures as Pierre Boulez (1925–2016), Karlheinz Stockhausen (1928–2007), Luigi

² Andrew Everard, "Apple Music's Spatial Audio with Dolby Atmos: What Is It and How Do You Get It?" *Gramophone* (Aug. 2021), www.gramophone.co.uk/features/article/apple-music-spatial-audio-with-dolby-atmos-what-is-it-and-how-do-you-get-it. See also Meredith C. Ward, "Leveraging a Long and Tuneful History: Perspectival Manipulation, Surround Sound, and Dolby Atmos," in *The Oxford Handbook of Cinematic Listening*, ed. Carlo Cenciarelli (Oxford Academic, online ed., 2021), <https://doi.org/10.1093/oxfordhb/9780190853617.013.10>.

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Nono (1924–1990) or Henri Pousseur (1929–2009), as well as other composers whose music resonated with or counterpointed the works of these figures, such as Toshirō Mayuzumi (1929–1997), Henri Dutilleux (1916–2013), Gilles Tremblay (1932–2017), Claire Schapira (b. 1946), Gunther Schuller (1925–2015) or Anthony Braxton (b. 1945). By focusing on how the works of these composers were understood and perceived by contemporary listeners in the golden age of stereo hi-fi receivers in the 1950s and 1960s, it explores the ways this reception was mediated through the technology of sound reproduction that ushered in hi-fi record culture. This book examines the ways consumer-oriented sound technology (as distinct from the kinds of technological devices that so many avant-garde musicians employed in the electronic music studios of Paris, Cologne, Munich or New York, not to mention those of Milan, Buenos Aires, Montreal or Tokyo) formed a prism through which listeners assimilated what was billed as “music of their time.” This prism was fashioned out of listeners’ formative experiences with new kinds of technologically mediated listening that set music in the twentieth century apart from all music that preceded it. In mid-twentieth century Europe and North America, as well as countless other locales, these experiences included moviegoing, Stereo LP collecting and connoisseurship, tourist-targeting *son et lumière* shows at historical monuments, and a nascent and soon-to-be ubiquitous record-based pop music industry. A host of discursive artefacts also contributed to fostering this new audio culture, including liner notes, marketing copy, record and tape reviews, audio magazines and the print advertisements they contained. How did listeners immersed in this burgeoning popular audio culture then perceive the works of the post-war avant-garde that were heralded (in interviews with composers, radio and television broadcasts, concert program notes and LP liner notes) as the consummate artistic applications of the cutting-edge technology that made these audio experiences possible? Whenever technology has been included in the story of post-war avant-garde music at all, it usually came in on the production side of things: the way technology can be used to create musical works. Less common are discussions of the ways technology (particularly with regard to sound reproduction) also induces essential modes of reception of this repertoire, at least as much as any other musical genres contemporary with it.

By concentrating on listeners’ experiences of avant-garde music, *Avant-Garde on Record* connects post-war music to every other kind of music practised in the hi-fi golden age, roughly the quarter century that followed 1948 (the year Columbia introduced the first long-playing records, with their 12-inch diameter, microgrooves and 33 1/3 RPM speed). In so doing, it aims to avoid discussing the post-war avant-garde as if it were a gated community

with little or no contact with contemporaneous cultural strands located outside its borders. However modest the contributions it makes, I take pride in belonging to a community of scholars who have in recent years taken significant steps to offer critical historiographies of the music of the twentieth century. In this book's reading of the mid-century musical avant-garde's interaction with electronic technology, it complements Jennifer Iverson's *Electronic Inspirations*, but with greater focus on records and recording rather than studios, as well as on developments in France more than those in Germany; in its concentration on concert music and the aesthetics of recordings, this book also enters into a conversation begun by Arved Ashby in his trailblazing *Absolute Music, Mechanical Reproduction*. In its attempt to connect experimental music to wider cultural trends, it follows Benjamin Piekut's tour de force *Experimentalism Otherwise*; in its attentiveness to the historiographic consequences of composers' discourse, it follows directions set out by Anne-Sylvie Barthel-Calvet.³ In the way it is concerned with the way avant-garde concert music interacts with the culture of LP record listening and collecting, this book is inspired by Robert Fink's illuminating cultural history of minimalism, *Repeating Ourselves*.⁴ In its overarching concern with "phonograph effects," that is, "any change in musical behavior – whether listening, performing, or composing – that has arisen in response to sound-recording technology,"⁵ *Avant-Garde on Record* picks up critical concepts elaborated by Mark Katz in his seminal *Capturing Sound*, while applying these concepts to the creative activity of the technophilic post-1950 international musical avant-garde. In its intention to study the impact of audio technology inside and outside the largest institutionally backed electronic music studios, it complements a recent issue of the *Contemporary Music Review* that I was delighted to co-edit with colleagues Fanny Gribenski and João Romão.⁶ By approaching this post-war moment from the perspective of recorded sound, this book benefits from frameworks developed for the study of (recorded) pop music that are applied to

³ Jennifer Iverson, *Electronic Inspirations: Technologies of the Cold War Musical Avant-Garde* (Oxford University Press, 2019); Arved Ashby, *Absolute Music, Mechanical Reproduction* (Los Angeles: University of California Press, 2010); Benjamin Piekut, *Experimentalism Otherwise* (Los Angeles: University of California Press, 2011); Anne-Sylvie Barthel-Calvet and Christopher Murray, eds., *Critical Historiographies of the Post-War Avant-Garde: New Music Networks* (London: Routledge, forthcoming).

⁴ Robert Fink, *Repeating Ourselves: American Minimal Music as Cultural Practice* (Berkeley: University of California Press, 2007).

⁵ Mark Katz, *Capturing Sound: How Technology Has Changed Music*, 2nd ed. (Berkeley: University of California Press, 2010), p. 2.

⁶ Jonathan Goldman, Fanny Gribenski and João Romão, eds., *Contemporary Music Review* 39/6 (2020) ("Opening the Doors of the Studio").

repertoire that doesn't usually receive this kind of treatment.⁷ Finally, this book is the expression of my own curiosity as a music scholar with the burgeoning field of sound studies, and the ways that dynamic field, for which, emerging as it does out of cultural studies and history, music plays only a supporting role, can enrich conversations about music within historical musicology and music theory.⁸

Over the course of the six chapters and an epilogue that follow this introduction, case studies of mid-century experiences that exerted an influence on avant-garde musical listening are presented. Chapter 2 explores stereo record critics' obsession with sound "ping-pong," and how this reference to the soundscape of table tennis became first a term of praise and then one of abuse for a certain kind of spatialized recording. This transformation is mirrored in discourse on avant-garde creations that make use of spatialized ensembles, as is the case for major orchestral works from the mid-1950s onwards by Boulez (*Doubles*, which evolved into *Figures – Doubles – Prismes*), Stockhausen (*Gruppen*, *Carré*) or Pousseur (*Rimes*) (Chapter 3), studied using contemporaneous music journalism to gauge contemporary reception of these works. In Chapter 4, a host of other multiorchestral works performed everywhere from Tokyo to Boston in the years that followed the arrival of stereo LPs are discussed: *Antiphonies One* (1953) by pioneering spatialist Henry Brant, whose work was championed by Leonard Bernstein and the New York Philharmonic in the early 1960s; Toshirō Mayuzumi's *Nirvāna Symphony* (1958); Luigi Nono's *Composizione per orchestra n. 2: Diario polacco '58* (1959); Henri Dutilleux's *Symphony no. 2 ("Le Double")* (1959); Gunther Schuller's *Spectra* (1960); Gilles Tremblay's *Cantique de durées* (1960); Harry Somers' *Stereophony* (1963); Charles Ives' *Symphony no. 4* (premiered in 1965); and Anthony Braxton's *Composition 82* for four orchestras (1977). Chapter 5 investigates an unlikely source of audiences' first experiences

⁷ For example, in Peter Wicke, "The Art of Phonography: Sound, Technology and Music," *The Ashgate Research Companion to Popular Musicology* (London: Routledge, 2016), pp. 147–168.

⁸ Notable sound studies titles that intersect themes evoked here: Emily Ann Thompson, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900–1933* (Cambridge, MA: Massachusetts Institute of Technology Press, 2008); Barry Blesser and Linda-Ruth Salter, *Spaces Speak, Are You Listening?: Experiencing Aural Architecture* (Cambridge, MA: Massachusetts Institute of Technology Press, 2009); Michael Bull, *Sound Moves: iPod Culture and the Urban Experience* (London: Routledge, 2009); Brandon Labelle, *Acoustic Territories: Sound Culture and Everyday Life* (London: Bloomsbury Academic, 2019); Douglas Kahn, *Noise, Water, Meat History of Voice, Sound, and Aurality in the Arts* (Cambridge, MA: Massachusetts Institute of Technology Press, 2015).

with stereophonic sounds and its affordances: the *son et lumière* shows (the first one, with music by Maurice Jarre, having been held at the Chambord château in 1952) in which, beginning in France but spreading around the world, a monument is illuminated while an elaborate audio recording recounts the site's history through the use of dialogue, music and noises. This chapter tracks the listening experiences to which these kinds of pageants initiated listeners. Chapter 6 takes two works as its central focus, one musical and one literary, both inspired by the spaces of Venice's famous San Marco Basilica: Igor Stravinsky's austere beautiful *Canticum Sacrum* (1956) and Michel Butor's *Description de San Marco* (1963). I explore homologies between the architecture of the famous Venetian church, the polychoral spatialization of historic Venetian composers, the experimental literature of French author Michel Butor and Stravinsky's San Marco tribute work in order to illustrate how space infuses a certain strand of modernist art in the post-war period, one concerned with space as much as time. The chapter then goes on to discuss how a 1968 LP of Giovanni Gabrieli's music, recorded in San Marco by Columbia Masterworks' auteurist producer John McClure, would go on to underscore tantalizing parallels between San Marco architecture, experimental literature and the constructed spaces of stereophonic sound. Finally, Chapter 7 makes claims about how sound recordings served as one of the mediations of the labyrinthine mobile forms explored in the later 1950s and 1960s by the likes of Earle Brown, Stockhausen (*Klavierstück XI*, *Zyklus*), Boulez (Third Piano Sonata) or André Boucourechliev (the *Archipel* cycle), playing a subterranean role in the aesthetics of such musical works. It alights on a curious phonographic object to prove its point: an LP box set recording of Henri Pousseur and Michel Butor's opera *Votre Faust* that doubles as a recondite parlour game. Ultimately, *Avant-Garde on Record* explores the way new technological experiences in the realm of audio, especially high fidelity and stereophony, induce new forms of listening in the concert hall, as well as in the home and cinema. As Robin Maconie presciently noted in 1972, "the long-playing record has profoundly altered our conception and perception of music," adding that "what they used to say twice, composers now only say once."⁹ Analogously, this book tries to measure the way creative artists respond to new listening practices by creating works that take these technological experiences into account in their formal design.

⁹ Robin Maconie, "Stockhausen's 'Mikrofonie I': Perception in Action," *Perspectives on New Music* 10/2 (1972), pp. 92–101; 96.

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A cluster of research questions guide the coming chapters: How did the development of technologies of sound reproduction affect the compositional practice of post-war avant-garde composers in their works with or without an electronic component? Did the development of technologies of sound reproduction colour the reception of these works by listeners? Given that hi-fi domestic listening becomes in the mid-twentieth century the foremost mode through which audiences accessed and experienced music, including classical music in the broadest sense, to what extent did artists respond to this state of affairs in their compositional process? Did avant-garde musicians “account” for this change in listening practice, or “exploit” it to creative ends? Did they invoke or embed sound recording and transformation technology even into works that did not actually make use of any electrified technology (such as multiorchestral works)? Did listeners inscribe these works into perceptual categories shaped by their experience with audio technology?

This book plonks itself down on what might seem like a fairly crowded field. And yet between the edge of this volume’s towel and that of its closest neighbours lies a substantial swath of grass. Several books and articles have been devoted in the last twenty-five years to the phenomenology of music and space or to a history of the assimilation of the spatial parameter into musical works that primarily examine compositional technique.¹⁰ Dissertations on the topic are also far from rare.¹¹ Other studies have explored the history of sound recording and record production in the mode of historical realism often imbued with a techno-progressive narrative¹² or on the construction of

¹⁰ Annette Vande Gorne, “L’interprétation spatiale. Essai de formalisation méthodologique,” *Demeter*, 2002, <http://demeter.revue.univ-lille3.fr/interpretation/vandegorne.pdf>; Annette Vande Gorne, “Space, Sound, and Acousmatic Music: The Heart of the Research,” in Martha Brech and Ralph Paland (eds.), *Kompositionen für hörbaren Raum: Die frühe elektroakustische Musik und ihre Kontexte*, Musik und Klangkultur, No. 12 (Bielefeld: transcript Verlag, 2015), pp. 205–220; Jean-Marc Chouvel, *L’espace: musique/philosophie* (Paris: L’Harmattan, 1998); Maja Trochimczyk, “Space and Spatialization in Contemporary Music: History and Analysis, Ideas and Implementations,” diss. McGill University, 1994.

¹¹ Van R. Stiefel, “‘Maison Vague’: The Space Metaphor in Contemporary Music,” diss. Princeton University, 2002; Trochimczyk, “Space and Spatialization”; Jason W. Solomon, “Spatialization in Music: The Analysis and Interpretation of Spatial Gestures,” diss. University of Georgia, 2007; Jeff Nelson, “In Search of Musical Space: Metaphors, Schemas, and the Compositional Process,” diss. University of Georgia.

¹² Colin Symes, *Setting the Record Straight: A Material History of Classical Recording* (Middletown, CT: Wesleyan University Press, 2004); Richard James Burgess, *The History of Music Production* (Oxford: Oxford University Press, 2014); Susan Schmidt Horning, *Chasing Sound: Technology, Culture, and the Art of Studio Recording from Edison to the LP* (Baltimore: Johns Hopkins University Press, 2013).

contemporary listening habits from a historical perspective.¹³ Moreover, there has been a renewed interest in histories and sociologies of electronic music studios or avant-garde musical culture in the twentieth century.¹⁴ When Chapters 5 and 6 explore acoustics and architecture (via the monuments of *son et lumière* and the spaces of the San Marco Basilica), they find common ground with notable works in the history of architectural acoustics, and aural culture.¹⁵

And, of course, monographs on individual modernist composers (one of which, on Boulez, having been committed by the present author) intersect at several crucial junctures with the themes of this book. In approaching works transversally and thematically rather than individually, I follow the lead of Pascal Decroupet, whose scholarship bridges commonalities between composers including Boulez, Stockhausen and Pousseur, but transposed into the realm of reception.¹⁶ This book enters into dialogue with several recent monographs and multi-author volumes that explore the themes of music, space and stereophony: Gascia Ouzounian's acclaimed *Stereophonica*, and a number of remarkable edited volumes: *Living Stereo; Music, Sound and Space; Sound Objects*; and *Sound in the Age of Mechanical Reproduction*.¹⁷ A keen observer of phonographic practice, Arved Ashby, in his aforementioned *Absolute Music, Mechanical*

¹³ Tim J. Anderson, *Making Easy Listening: Material Culture and Postwar American Recording* (Minneapolis, MN: University of Minnesota Press, 2006).

¹⁴ Iverson, *Electronic Inspirations*; David W. Bernstein, *The San Francisco Tape Music Center: 1960s Counterculture and the Avant-Garde* (Los Angeles: University of California Press, 2016); Dániel Péter Biró, Jonathan Goldman, Detlef Heusinger, and Constanze Stratz, *Live Electronics im/in the SWR Experimentalstudio* (Frankfurt: Wolke, 2018); Georgina Born, *Rationalizing Culture*; Eduardo Herrera, *Elite Art Worlds: Philanthropy, Latin Americanism, and Avant-Garde Music* (Oxford University Press, 2020); Evelyne Gayou, "‘Faire & Entendre’ ou les procédures de composition d’hier et d’aujourd’hui au GRM," *EMS08 Electroacoustic Music Studies Network International Conference 3–7 Juin 2008 (Paris) – INA–GRM et Université Paris–Sorbonne (MINT–OMF) 3–7 June 2008 (Paris) – INA–GRM and University Paris–Sorbonne (MINT–OMF)*, 2008, www.ems-network.org/ems08/papers/gayou.pdf.

¹⁵ Thompson, *The Soundscape of Modernity*; Blesser and Salter, *Spaces Speak, Are You Listening?*

¹⁶ Pascal Decroupet, "Floating Hierarchies: Organisation and Composition in Works by Pierre Boulez and Karlheinz Stockhausen during the 1950s," *A Handbook to Twentieth-Century Musical Sketches*, ed. Patricia Hall and Friedemann Sallis (Cambridge: Cambridge University Press, 2004), pp. 146–160.

¹⁷ Susan Strasser and David Suisman, *Sound in the Age of Mechanical Reproduction* (Philadelphia, PA: University of Pennsylvania Press, 2010); Paul Théberge, Kyle Devine and Tom Everett, eds., *Living Stereo: Histories and Cultures of Multichannel Sound* (New York: Bloomsbury Academic, 2015); James A. Steintrager and Rey Chow, eds., *Sound Objects* (Durham, NC: Duke University Press, 2019); Georgina Born, ed., *Music, Sound*

Reproduction, noted “though the recording has been ‘serious’ music’s main vehicle of currency for at least twenty years now, American musicologists fail to give it or other mass media much ontological recognition beyond documentary functions.”¹⁸ While Ashby was not primarily interested in avant-garde offerings so much as the classical music that was the bread and butter of the first fifty years of the record industry, his thesis, that “recordings have irrevocably changed notions of performance and the musical work, and that certain bodies of ‘classical’ music have had as profound a symbiotic relationship with media as has some pop,” is fully endorsed here.¹⁹

Readers will be relieved to learn that this is *not* a 100 000-word excursus on music and space, nor does it specifically concern the way composers progressively “conquered” the parameter of space in their compositions, nor is it a history of the use of space and spatialization in musical endeavours since antiquity. It also does not purport to be a history of audio technology or of recording techniques, the subject of several other publications.²⁰ Without denying the importance of the technical side of sound recording and engineering, I am mostly concerned with the way metaphors of recorded sound are inscribed into musical works rather than the way, say, stereo LPs encode their two channels. From a metaphorical point of view, the distinction between, for example, stereophony and binaural sound, crucial from an audio-technical point of view, is less salient to the concerns of this volume, since both contribute to an analogous discursive construction of spatialized recorded sound. I propose, rather, the story of how new technologically mediated forms of listening influence the way musical works are perceived by audiences in general and also are conceived by modernist composers eager to incorporate technological innovations into their musical works. Rather than taking “real” space and its uses in music as its object, I focus on new technologically assisted forms of listening, the kinds of very contingent and era-dependent listening practices afforded, for example, by the standard domestic hi-fi set-up from the 1960s of a stereo receiver’s output to two spatially distinct loudspeakers in a living room full of soft surfaces like carpet and upholstered sofas. I stake out the position that the pervasive two-

and Space: Transformations of Public and Private Experience (Cambridge: Cambridge University Press, 2013).

¹⁸ Ashby, *Absolute Music, Mechanical Reproduction*, p. 1. ¹⁹ *Ibid.*, p. 4.

²⁰ For example, Schmidt Horning, *Chasing Sound* and Roland Gelatt, *The Fabulous Phonograph 1877–1977* (New York: MacMillan, 1977).

speaker sound system induced a new form of listening that trained listeners to be alert to novel auditory experiences. I contend that these new contingent, historically specific forms of listening had an impact on the way music was produced, perceived and evaluated, even when it was not conceived for nor heard through a hi-fi receiver. This postulate is well captured by a comment made in 1976 by French composer Michel Philippot (1925–1996) speaking about music in the age of radio, but which he equally applied to records and recordings:

I mean that even when composers do not intend to write for radio, their musical thought can no longer be what it was before the existence of radio. Nor can any listener's perception of any musical work be what it was before. Therefore, even if formally the musical "form" has not changed, since its perception has been modified, it is objectively changed.²¹

By tracking this "objective change" in listening as well as composing with respect to avant-garde repertoire from its golden age in the third quarter of the twentieth century, this book is therefore concerned with the way audio technologies are encoded into certain musical works. *Avant-Garde on Record* is intended to appeal to a fairly diverse readership. In addition to classical music listeners, composers, music historians, theorists and music students, I aim to attract any reader interested in sound technology and record collecting, the history and aesthetics of twentieth-century concert music, musical manifestations of artistic modernism, the history of ideas, or cultural history generally.

The personal adventure of this book emerged from a realization accompanied by a nagging sense of self-reproach. I realized that I loved listening to stereophonic or binaural effects in music with headphones, the gaudier the better: the spatialized sound effects found on stereo demonstration discs from the late 1950s; the extreme panning of Beatles's stereo LPs or on classic jazz albums from the 1960s; or the effect of sound ambling from one side of the room to the other, or one ear to the other when wearing headphones, whose *locus classicus* might well be Pink Floyd's quadraphonic masterpiece *Dark Side of the Moon* (1973). In essence, I was delighting in the codes of rock phonography, for which, as Peter Doyle has studied, the sonic spaces created by slapback reverb and heavy echo define the aesthetics of rock records since at least the early days of Elvis Presley and Carl Perkins releases on Sun Records produced

²¹ Michel Philippot, "Les formes musicales déterminées par une pensée radiophonique: Musique pour la radio – Musique créée par la radio (1976)," in Michel Philippot, *Écrits* (Sampzon: Delatour, 2010), pp. 541–551; 543.