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INTRODUCTION

A Connected History and Geography of Studios

Jonathan Goldman, Fanny Gribenski and João Romão

An illuminated sign indicates in red letters that ‘Recording is in Session’. The door to the studio is closed, and passers-by understand that they are not to knock on, let alone open it. An essential characteristic of the studio—whether the recording studio or the electronic music studio—is its closed door that separates the sonic environment within from without. Indeed, the doors that lie at the threshold between electronic music studios and the outside world epitomize the symbolic and material nature of these sites. These doors act like gates, and their directors as gatekeepers when they decide what music gets produced and what doesn’t; they function as screens or filters when they mark the boundary between the ‘sterile’ music production space within from the vibrant musical scenes outside the studio. And yet, the doors to the studio never quite seal it off from the outside world, and the values and stimuli of the outside world always penetrate within the studio space. Indeed, the entrance to one studio space also suggests a passageway to a worldwide network of studios, either enacted by certain key figures, or through the circulation of technology. This special issue aims to query the notion of electronic music studios as ‘laboratories of the arts’ (Hennion 1989), and instead open their doors to the outside, in order to examine their technological, cultural, political, and economic inscriptions. The image of ‘door opening’ is meant to highlight circulation between studios, and between studios and many other institutions, fields of practice, and socio-political contexts.¹

The history of the electronic music studio, whose ideal type comes to maturity in the mid-twentieth century, finds its sources in that of the recording studio. In the most basic sense, a music studio is a space that makes technology available to musicians, that facilitates communication between technicians and artists (even when the

line between these different functions remains hazy), and is devoted to the development of new inventions, instruments, and musical works. Studios became integral components of the circuits of music production beginning in around 1900. A need for standardisation, prompted by a culture of listening to electronically amplified and broadcast sounds, fostered not only musical genres but also the design, acoustics, and architecture of sound studios. Early recording studios were more akin to work-shops, in which inventors explored methods of sound capture, but with the development of the phonograph industry in the early twentieth century, the inventor's workshop was progressively transformed into a recording space in which technicians had more control over the sounds produced by the musicians playing in the room next door. Modern sound studios can be traced back to the moment in which these two spaces—the recording booth and the sound stage—became physically separated into individuated and interdependent enclosures (Schmidt Horning 2013, 11–55).

It was nevertheless not before the emergence of sound film and radio in the late 1920s and early 1930s that a more streamlined model of studios finally materialised. By then, audiences were used to listening to the speeches of politicians or the sounds of large orchestras over loudspeakers. Whether at home, in large auditoriums, or at political rallies, the modern soundscape depended on the loudspeaker's capacity to amplify sounds. This was an era in which acousticians faced myriad challenges in designing public and private spaces consistent with the valences of the new 'soundscape of modernity' (Thompson 2002). Debates on architectural acoustics during the interwar period mostly revolved around quantifying the reverberation time desirable in both live performance halls and recording rooms. With the electrification of sound, voices and acoustic musical instruments were no longer recorded directly into a recording horn, but were captured via microphones usually placed in the centre of the recording room. As microphones also captured 'unwanted' sounds, control over the acoustic properties of the studio (but also of theatres, auditoriums, and other spaces) became indispensable (Thompson 2002; Wittje 2016). Engineers and acousticians worked together to 'hermetically seal' the studio environment in which 'walls, ceilings, and floors were all mechanically isolated from the surrounding structure to prevent the transmission of sound', and '[o]bservation windows were double- and triple-glazed, and heavy doors were lined with airtight rubber gaskets' (Thompson 2002, 266). And yet, as this issue aims to emphasise, studio doors were never really sealed off from the circulation of actors, artefacts, or knowledge, just as the gesture of hermetic sealing itself suggests connections between the history of science, technology, and music. Indeed, these doors could serve a variety of functions, sealing off being only one of them. These doors function as gates when they either grant or bar access to certain actors; their hinges bridge the 'clean' production of music inside to the vibrant musical scene outside the studio, a scene that is shaped by specific technological and political conditions. Moreover, a studio does not stand in isolation; it references other studios, with each control room door a conduit to another.

Just as scholars of the History of Science, and of Science and Technology Studies (STS) have tended to focus on the internal dynamics of workshops and laboratories, musicologists have tended to consider studios as closed spaces, perhaps as part of an attempt to describe them as 'experimental systems' (Latour and Woolgar 1986; Galison 1997; Rheinberger 1997; Knorr Cetina 1999). As the studios' reputation arguably depends on the machines they house, scholars have focused on the ways in which technology has mediated genres, and helped create unique studio 'sound signatures'. Recent studies have investigated not only the studio's machinery (Braun 2000; Pinch and Trocco 2002; Manning 2003; Donhauser 2007) and their connections with wartime technologies (Kittler 1999; Iverson 2018) but also the global and wired circuits of technological music making (Greene and Porcello 2005; Doornbusch 2009; Vágnerová 2017) and the sensorial experiences of arrangers or producers while interacting with technological assemblages (Bates 2016). At least since the late 1970s, music scholars have depicted the studio as a heterogeneous space in which composers, performers, and producers interact with each other (Zak 2001; Zagorski-Thomas 2014). Others have highlighted the economies of the music produced there (Attali 1985; Frith 1996; Théberge 1997). More recently, by investigating the fetishised narratives of and about music studios (Meintjes 2003), scholars have called for a reworked history of music and technology that includes women and other marginalised groups who 'may gain access to the studio, but often feel outside of its discourse' (McCartney and Waterman 2006 , 4; see also, Lefebvre 2009; Rodgers 2010). While drawing on these contributions, this special issue opens up new avenues by mapping the myriad circulations of actors, artefacts, knowledge, and economic models that have played critical roles in the history of sound recording and music studios.

To be sure, over the last two decades, an abundant literature has examined the relationship between studios and their broader sociopolitical contexts. In particular, a substantial body of research on music diplomacy in the Cold War, and the ways the radically binary politics of that era profoundly affected every aspect of music making has emerged (Beal 2006; Fosler-Lussier 2015; Herrera 2020), and some of the articles in this issue contribute to this burgeoning subfield (see especially articles by Cohen, Bohlman, and Brody). It was, after all, in the heart of the Cold War that the specific contours of the electronic music studio, that rarefied subcategory of the recording studio, took shape, imparting family resemblances to studios in Cologne, Warsaw, Paris, New York, San Francisco, Tokyo, Buenos Aires, or Toronto as well as to the tape works produced therein. Yet this issue explores a broader variety of connections than those that specifically reference Cold War politics.

This issue aims to move from specific case studies of individual studios to a topography of studio practice. In mapping the manifold networks to which these studios belonged, this issue first uncovers the various contexts of the studio's activities, from large scale socio-political and economic structures of power to academic and educational systems; music's various economies; as well as cultural modes of sociability. In tracing these connections, the essays collected here identify the many institutions,

people, and objects that shaped studio practice. For example, Brigid Cohen ties the Columbia Princeton Electronic Music Center's (CPEMC) promotion of cross-fertilisation between East and West with the United States' cultural diplomacy, while João Romão re-examines the history of the WDR Studio for Electronic Music in Cologne through the lens of West Germany's efforts to standardise the training of sound engineers. In addition to shedding light on the history of these studios, the articles collected here unsuspected connections between fields of knowledge and practice that have hitherto been considered separately. For instance, Alexandra Hui demonstrates that field recording bounded environmental psychology, sound engineering, and composition; and Martin Brody explores the history of Victor, one of Columbia University's mascot-synthesizers, thereby unexpectedly connecting interwar eugenics, information theory, cybernetics, and avant-garde musical aesthetics. As the latter example reveals, following the trajectories of people and objects who made a studio's history also opens the door to *longue durée* approaches by revealing over-looked filiations. In Jonathan Goldman's study, Gordon Mumma's studio can be seen as an expansion of the bandoneon; similarly, Martin Brody tracks the way the organ, itself a technology anchored in previous musical soundscapes, is inscribed in the synthesiser's connotations.

Beyond mapping new historical connections and fuelling fresh narratives about the history of studios, the articles in this issue challenge established categories in music and, more broadly, historiography. Collectively, the essays unsettle commonly adopted musical geographies by revising some common assumptions regarding the circulation of musical studio practices. For instance, Andrea Bohlman shows that, despite previous claims regarding the absence of electronic music studios beyond that apotheosis of the sealed door, i.e. the Iron Curtain, in fact, Warsaw was home to an active music studio supporting television programmes and the production of classical and popular musical recordings alike. As Stefanie Alisch's contribution on kuduro music studios in the Angolan capital of Luanda exemplifies, and as a recent wave of scholarship has demonstrated, the geography of studio practice goes far beyond Europe and the United States, calling for global inquiries.

While inscribed in an international network that spanned the world by the later 1960s, studios are also the expression of the regional and cultural specificity of the locales in which they developed (Born 1995; Loubet, Robindoré, and Roads 1997; Dobrian 2000; Gluck 2007; Goldman 2007, 2009; Weissberg 2010; Böhme-Mehner 2011; Groth 2014; Ojanen and Lassfolk 2016; Duffy 2017; Biró et al. 2018; Rudi 2018).² As the articles reveal, the history of studios beyond the walls of a few iconic Western sites is not one of top-down dissemination, but rather follows the logic of competing processes of local, regional, and national integration, sometimes but not always involving complex processes of appropriation of Western techniques, aesthetics, and technologies. What is more, as Brigid Cohen's article demonstrates, the practices of Western studios were shaped from the outside in, and are best approached in a post-colonial perspective attentive to questions of identity and trans-cultural encounters. Finally, Alexandra Hui's article calls into question the very

premise that the studio's door opens to a location fixed in space, by examining a mobile studio designed to capture 'natural' soundscapes, whose constant movements make the very idea of identifying a studio with a fixed place irrelevant.

In addition to challenging common understandings of musical geographies, the issue shows how studios resist frequently adopted binaries, including East and West (Cohen), home and institution (Goldman), high-tech and low-tech (Alisch), or classical and popular (Bohlman). In João Romão's paper, the boundaries between composers and studio engineers are also viewed as fluid. Ultimately, opening the doors of the studios leads us to revisit the ways we classify institutions, people, and technology, since studios seldom fall into clear categories or submit to established taxonomies. In fact, we suggest that the studio can be best conceived via Foucault's concept of heterotopia. The studio indeed embodies an 'other' space that introduces a break with respect to ordinary places; one that ushers users into a complex topographical arrangement. Like heterotopias, studios are 'capable of juxta-posing in a single real place several spaces, several sites that are in themselves incompatible' (Foucault 1986, 25).

If Foucault's concept of heterotopia seems particularly apt to capture what studios are, it is because they articulate not only different spaces, but also various times (*viz. heterochronia*). Like museums and libraries, studios often exhibit a will to 'enclose in one place all times, all epochs, all forms, all tastes', or in other words, to constitute 'a place of all times that is itself outside of time and inaccessible to its ravages' (Foucault 1986, 26). As the articles in this issue explore, studios tend to go from being spaces of musical creation to loci of assembled textual and audio-visual documents: in essence, an archive. Several essays look into the ways by which these spaces of creativity and production were transformed into objects of inquiry. These often include people contemporaneous with the studio who archive, produce records, collect papers, etc. After all, becoming an archive, an educational space, or even a shrine to the real, imagined or mythological past is part of the life-cycle of a studio, as the emblematic case of Oskar Sala's studio illustrates, since its function 'changed over the decades from a place of sound production to a space of self-archiving' (Dörfling 2020, n.p.). It has often been noted that 'archives are made by the viewer, by a person's desire to consider a class of categorised information as the trace of an activity situated in time and space' (Chabin in Méchoulan 2011, 10). Of course, the

archival gesture has never been neutral; not only is it beholden to the habits of collective memory, to the forms of institutions of the past, to conservation practices and transmission techniques, but it is also the result of political decisions, of power relationships and of social issues. (Méchoulan 2011, 9)

The articles in this issue illustrate different forms of archive production—and hence knowledge—with respect to the studios studied, partly as a result of the variable life-spans (and after-lives) of the studios studied here, thereby engendering a fluidity of methods, ranging through classic archival methods and genealogy (Brody),

ethnography (Alisch), oral history (Cohen, Goldman and Romão), and anthropological methodologies (Hui), to name but a few. This research intersects with recent interest in the history of the sound archive and the role of sound data in social sciences research since the late nineteenth century, in which scholars ‘ask whether and how early archives adapted the novel object of sound to existing academic infrastructures, archival practices, and governmentalities’ (Birdsall and Tkaczyk 2019, S3). The theme of archiving also leads us to questions regarding the preservation of contemporary musical heritage generally. While most work on this subject has focused on the issue of ‘migration’, that is, of the possibility of being able to re-perform electronic works conceived on obsolete computer platforms (Goldman), a concern for the preservation of seemingly ephemeral artworks is today as much in the province of historians of science, technology and music scholars as it is with the producers of migration technology (Boutard 2013). In this way, when the doors of the studio swing open, not only do the manifold political, institutional, and aesthetic foundations of studio practice come to light: in turn, studios appear as crucial sites for the making of individual and collective identities, memories, and sensory experiences.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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Jonathan Goldman is Professor of Musicology at the Université de Montréal. His research focusses on the postwar avant-garde. His book *The Musical Language of Pierre Boulez* (CUP, 2011) won an Opus Prize. He also co-edited and authored the preface of a translation of Boulez’s writings (University of Chicago Press, 2019), in addition to editing several multi-authored volumes on Quebec composers, creative process and musical semiology. Goldman was editor of the new music journal *Circuit* (2006–2016).

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Notes

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- [2] A recent wave of scholars have shown the regional particularities and rhizomatic character of global electronic music studios, from the incubator of South American tape music in the 1960s, the Centro Latinoamericano de Altos Estudios Musicales (CLAEM) in Buenos Aires (Herrera 2018), Otto Joachim’s electronic home studio, a Canadian first (Messier 2009), or the ‘psychedelic’ explorations of Ramon Sender’s San Francisco Tape Music Center (Bernstein 2008). The global circulation between studios is thrown into particularly vivid relief by the incessant travels of the pianist and electronic music artist David Tudor (Iverson 2018, 70–71), which had wide-ranging implications as far away from his Stony Point, NY home as Ahmedabad, India (Rogers 2020).

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