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The Problem of Perfection in Classical Recording: The Performer's Perspective

Amy Blier-Carruthers

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From the moment Thomas Edison spoke the words "Mary had a little lamb" into his phonograph machine in 1877, two separate modes of performance came into being—live concerts and recordings. Now irrevocably separate processes and products,[1,2] the disjuncture between these modes of performance seems to have instilled in many musicians a dislike of recordings, an anxiety that is quite different from that associated with performing live. The advent of recording is arguably one of the greatest and most transformative change that musicians have had to deal with, until now. Almost overnight (as has recently happened to musicians as a result of the COVID-19 pandemic), they were expected to cope with a completely new way of sharing their performances with an audience[2].

A rather evocative example of that situation is presented in the 1999 movie *The Legend of 1900*, a film about an orphan boy abandoned as a baby on a transatlantic ship. He is raised by the ship's crew, and as he grows up it quickly becomes clear that he is a musical genius; he becomes a virtuoso pianist and pays his way by joining the ship's band. A record producer (a character probably based on Fred Gaisberg, the early sound engineer known for his recordings of Enrico Caruso and Adelina Patti[3]) hears of his prodigious talent and comes aboard to make a recording. In the scene in question, the recording session is about to begin and the young pianist stares worriedly at the recording horn and attached equipment. As he turns to the keyboard, he asks apprehensively: "This is gonna hurt, isn't it?" His performance is magical, but when he hears the master played back to him, he is disturbed by its eerie disembodied emulation of his playing. He panics and grabs the master and, muttering through clenched teeth "I won't let my music go anywhere without me," breaks it into pieces.

Scholars such as Timothy Day, Mark Katz, and Robert Philip have described similar examples of early recorded performers approaching recording with trepidation and anxiety.[4] Gaisberg himself offers accounts of

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the unusual and stressful situations endured by performers and recording engineers at that time.[5] But even after over a century of commercial classical recordings, many of the same issues are still in evidence in performers' attitudes—distrust of the technology, dislike of the process, doubts about the captured result, disillusionment with the editing process, disagreement with the level of perfection expected of a recording, the notion that a performance exists apart from the performer and outside her control, the thought of a disembodied performance existing at all. From Walter Benjamin to Theodor Adorno, Glenn Gould, and Philip Auslander, musicians, theorists, and listeners alike have discussed the difference between live performance and recordings.[6] However, despite the fact that we are surrounded every day by recorded music, listeners still seldom question what impact the different situations have on the performances, nor do they consider the effect on the performers.[7]

What is the performer's place in a recording? To listeners, it seems obvious: metaphorically she is center-stage, of primary importance, with her name in bold across the album cover or download listing of the recording that captures and immortalizes her performance. But there are many people involved in the making of a recording, and performers often do not have full control, either throughout the process or over the final product. To understand the conflicted place in which performers often find themselves, it is imperative to acknowledge that while the performance certainly is important, it goes through a capture and post-production process largely determined by producers and recording engineers (also known as recordists), whose technological and interpretative role remains largely hidden to the listener. This creates the paradoxical situation that in the studio, the producer is all-powerful to the extent that performers often feel that control is taken away from them, yet to the outside world, the producer and production team are invisible, their names relegated to the small print on liner notes, if that. This creates a complex and confusing situation for performers in terms of identity, agency, and control.

This loss of control is particularly difficult for performers in the transition from stage to studio, with the aesthetics of live performance still largely governing their approach. Glenn Gould was one of the few people who suggested a separate aesthetic for recordings, even arguing for the primacy of recording over live music making. But this attitude has been slow to percolate through to large parts of the classical music profession, although crafting a performance in the recording studio has been the norm for rock and pop musicians since the 1960s.[8] Gould used the studio situation to gain artistic control. He was performer, executive producer, and editing director in one, with control over the process and the product, a

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level of control that many classical musicians—especially orchestral performers—often do not have.

The Broader Research Context

In the research from which this study is drawn, I attempted to define the differences between live performances and studio recordings, and interviewed professional classical musicians—orchestral players from major London orchestras, a conductor, singer, and production team members—about their approach to and feelings about these two modes of performance. The material discussed resulted in particular from an in-depth study of the work of conductor Sir Charles Mackerras and the performers and production team members he was working with at the time. The work is distinguished by the fact that it employs both an ethnographic approach and detailed performance analysis; by combining these methods, I sought not only to define the performative differences between the two performance types but also to contextualize them within the musicians' experience.[9] Because of the projects on which Mackerras was working at the time, my research focused mainly on orchestral musicians in symphonic and operatic repertoire. The performers' stances discussed here are therefore representative more of orchestral musicians, who tend to have even less control over the studio situation and recording, than conductors, soloists, or chamber musicians.

For many orchestral musicians, among the most pronounced negative aspects of a recording are: (1) the lack of an audience and a sense of occasion; (2) the different recorded balances; (3) whether the resulting recording is really representative; (4) the effects of editing; and (5) the expectation of perfection. The prioritization of perfection (achieved through repeated takes and editing), many musicians feel, is at odds with the expression and excitement they aim for in a live concert and relegates musical expression to second place. However, in this study, I am also concerned with the challenges the people on the production team face. In fact, production teams struggle with the fact that their work goes largely unnoticed. According to Nicholas Cook, classical production teams not only are expected to make their art invisible but are traditionally seen simply as technicians and not musicians.[10] My hope is that performers and production team members will find ways to reconsider their respective roles and challenges as a way of improving both their working situations and their artistic satisfaction. A first step is to look at performers' feelings of disempowerment during recording sessions and when listening to the resulting musical outcome. The musicians I interviewed described recordings as "not representative" of their playing and "not honest," claiming

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that "you never get the real thing." They "hate" listening to themselves and consider the current recording situation "highly unsatisfactory."[11] By asking professional performers what they think about recording, we give them a voice and get a chance to consider what contributes to their dissatisfaction with the process and product of recording.

An Ethnography of Classical Music

How are we to read these statements? Do performers simply experience what we feel when hearing our voices on a voicemail message? Are they too close to the situation to have an objective view? Performers and those involved in all aspects of music making have often been silenced by claims in musicology that their contributions are merely anecdotal. This is a view not shared by anthropologists and ethnomusicologists. What makes a performer's testimony any less valid than Mozart's letters, or statements by Schoenberg or Stravinsky on the value (or lack thereof) of the performative act?[12] Daniel Leech-Wilkinson and Nicholas Cook have argued that this neglect of the performer might partly be due to the fact that for musicology—which is concerned with writing history "on the basis of documents, ranging from scores and transcriptions to treatises and criticism"[13]—performance "falls between the notes of musical texts and the words of literary ones," and therefore so have performers.[14] Cook describes the twentieth-century tradition of disparaging the performer's role (for instance, by Schoenberg, Schenker, Adorno), and Mine Doğantan-Dack, a scholar and pianist, has sought to establish a "performer's discourse" that would eradicate performers' "notorious image as inarticulate musicians."[15] For many musicologists who work closely with performers, or are also performers themselves, such a performative turn is welcome and overdue.[16] This approach has created partnerships and ways of working that are giving "performers a voice," and a much-needed voice at that.[17] The work of the AHRC Research Centre for Musical Performance as Creative Practice (CMPCP) has helped to further developments in this area. CMPCP's main research projects involve the use of ethnographic techniques,[18] and the ethnographic study of classical music overall is growing rapidly. For Cook it is not an exaggeration to speak of an "ethnographic turn" in musicology, and even of an "explosion" in the use of the techniques of ethnography by musicologists.[19] The work of Bruno Nettl, Henry Kingsbury, Jonathan Stock, Stephen Cottrell, Stephanie Pitts, and Gregory Barz has helped to pave the way.[20]

In 2004, Stock explained why those working in the tradition of Western art music would benefit from borrowing ethnographic techniques:

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> It is self-evident that music is more than simply sets of sounds. . . . Music is process as well as product, an arena for both social action and personal reflection; it is [quoting Seeger] "emotion and value as well as structure and form." . . . The musicologist that analyzes what musicians and others actually do on particular musical occasions, and how these individuals explain what they do, is likely to gain enlightening perspectives on the sounds that emerge.[21]

Ethnomusicologists are now looking at classical music, and musicologists (as well as music psychologists, performers, theorists, and analysts) practice what Nettl calls "ethnomusicology at home . . . look[ing] also at the familiar as if it were not, at one's own culture as if one were a foreigner to it."[22]

Methods of data collection usually include fieldwork observation and interviews, the analysis of which can take various forms. Following an ethnographic approach described by Paul Atkinson and Martyn Hammersley , I worked with data that was "unstructured" and had not been coded beforehand, looking at a relatively small number of cases in detail, which I then analyzed.[23] I conducted seventeen interviews and observed eight recording sessions, five rehearsals for concerts, and twenty live concerts. Most of these events took place in London, but my fieldwork also followed Mackerras's international career.[24] The participants in my semi-structured interviews were aware of the general thrust of my research but I kept explanations to a minimum so as not to influence their responses. I then analyzed interview material and fieldwork observation notes thematically, producing a series of main themes, which formed the basis of my analysis and arguments. My interpretations and conclusions were then verified with the interviewees. While verification can be a helpful tool to assess the validity of research findings, I am aware of the intricacies of representing the voices of others. As Stock reminds us, "the researcher, as author, still selects which voices get to be heard, how much they are allowed to say, and when they speak—so that the use of quotations does not eliminate the issue of representational ethics. . . . The onus remains on the researcher to find an honest and sensitive solution to the particular representational challenges exposed during the project."[25]

My methodology sought to triangulate the various points of view of my informants with the issues that arose from the interviews, my fieldwork observations, and the performance analyses and subsequently to debate the pros and cons of the various standpoints as well as to suggest ways forward. This means that the broader argument posited in the latter part of this article—as well as at various points of debate throughout—is where I mainly seek to critique the views of my interviewees. It was a conscious

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choice to let the performers and production teams speak for themselves. I did not want to undermine the informant's position, nor to advocate for them too strongly from the outset.[26] The goal was, rather, to look as objectively as possible at the situation and to explore how the participants understand their experiences.[27] The broader view then aims to contextualize these voices in a useful way.

Live versus Recorded Performance

Various groups of writers have addressed the question of live performance and recording: from philosophers to commentators from the early twentieth century to an increasing number of scholars working today.[28] Until fairly recently, these debates were more statements of opinion or morally charged philosophical or theoretical discussion, firmly grounded in the context of their time. But today's scholars, particularly those working in musical performance studies, are providing more nuanced and performatively aware perspectives.[29] Performers and production team members have also joined the debate.[30] Studies range from investigations of performance styles on early recordings, the cultural contexts of these styles, music as performance rather than as a text-based art, to ways in which recordings have affected performers, performances, and listeners.[31] I seek to explore here how performers have dealt with the split between live and recorded performance. It might be useful to provide a quick overview to introduce the main issues.

Theodore Gracyk, Stan Godlovitch, and Stephen Davies discuss the ontological differences between live performance and recording, with arguments that range from the priority of live over recorded performance to ones which recognize the benefits of each. Godlovitch and Davies seem to share a distrust of recorded media, putting live performance at the fore of what they consider human or right, and labeling recordings as somehow dishonest or fake.[32] Their arguments, though rigorous in critical thrust, usually take an ethical stance, one which is perhaps not very useful when discussing something as subjective as musical performance and taste. This approach to performance has been widespread in musicology, both in discussions of whether there is a right way to play a composer's work, or whether a performance is more correctly represented live or via the recorded medium. But it is a problematic standpoint. It is far more fruitful to consider the intricacies and possibilities of both situations instead of asserting the supremacy of one over the other. More constructive approaches are found in arguments by authors such as Mark Katz, Daniel Leech-Wilkinson, and Nicholas Cook.[33]

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The most prominent of the early commentators is Adorno, who returned to the topic several times over a span of four decades. Between 1927 and 1941, he described the record as "not good for much more than reproducing and storing" music, an "object of that 'daily need' which is the very antithesis of the humane and the artistic," and stemming from "an era that cynically acknowledges the dominance of things over people through the emancipation of technology from human requirements and human needs."[34] However, by 1969, Adorno stated that "technological inventions . . . gain significance only long after their inception" and the long-playing record, because of the lack of distracting visual elements, "allows for the optimal presentation of the music" and may serve to "resurrect opera."[35]

Walter Benjamin, in his oft-quoted essay "The Work of Art in the Age of Mechanical Reproduction," stated "that which withers in the age of mechanical reproduction is the aura of the work of art." He asserted that even "the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be." Holding the original in higher esteem, he believed that in reproduction "the quality of its presence is depreciated."[36]

E. M. Forster, Benjamin Britten, and Constant Lambert highlighted what was for them the *ersatz* quality of recorded music. Forster's short story "The Machine Stops" prophesies a future in which mankind is subjugated to the technology it created, a future not dissimilar to that depicted in *The Matrix* films or the animated movie *WALL-E*. Written in 1909, it is strangely prescient of the technological developments of the last few decades.[37] Lambert wrote that "people soon acquire a preference for synthetic products. Those who are used to tinned Canadian salmon have little use for fresh Scotch salmon. . . . So it is with canned music."[38] And Britten stated, "If I say the loudspeaker is the principal enemy of music, I don't mean that I am not grateful to it as a means of education or study, or as an evoker of memories. But it is not part of true musical experience . . . it is simply a substitute, and dangerous because deluding."[39] For Hans Keller, recordings contribute to a "disastrous erosion" of both listening and performance skills.[40]

More recent scholars have begun to compare the different performance situations in increasingly nuanced ways. In *Musicking*, Christopher Small champions the live event, but critiques the current classical concert-going experience as based on a type of voyeurism rather than participation. Philip Auslander asks "what is the status of live performance in a culture dominated by mass media?"[41] Dorottya Fabian argues that recordings are valid and reliable sources from which to study performance. For Anthony Gritten, recordings are viable and independent of live

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performance,[42] and Eric Clarke, highlighting the differences, reminds us that "we have still not arrived at a stable conception of what a recording is—'captured' performance or studio construct—with all the consequences for our responses and attitudes to recordings that this entails."[43] Peter Johnson argues that the "practice of classical music rests upon an aesthetics of illusion," in which technology is "used to conceal its presence to create a naturalistic simulation of live performance." Recording is an intentional illusion that provides a distinctive listening experience exactly because it is impossible to achieve the same results live.[44] For Leon Botstein, "musicians and historians have been influenced by a pattern of technological change that has altered how we access, hear, remember, and think about music," with recordings contributing to the process of canon formation. But he posits that "we are at the threshold of the demise of . . . the golden age of the so-called high-fidelity recording. Music's reliance on and romance with the sound document for more than half a century is coming to an end."[45] He thinks that the live concert may as a consequence experience a resurgence.

As stated before, performers themselves have not been silent on this issue, with Glenn Gould as one of the most vociferous commentators. Pianists Alfred Brendel, Charles Rosen, and Susan Tomes have also written about their experiences. Tomes's book *Beyond the Notes* offers some important insights :

> All too often . . . I know that the bit which is finally selected is a bit which is accurate, blemish-free and free of extraneous noise, but not necessarily the bit on which I played my best, or indeed the bit on which we achieved musical unanimity. . . . it presents a blemish-free but antiseptic picture of our playing, and it gives the impression that we have mastery over nerves and fatigue, which is of course absolutely untrue.[46]

Charles Rosen wrote that with the "infinitely repeatable experience" of the recording, "the model execution was no longer one that would dazzle, surprise or disturb our emotions for the minutes that it takes place, but an ideal rendition of a respected work that could support many rehearings."[47] Gould, who was happiest in the recording studio, challenged many of the common views though he did not argue against recording as dishonest. Rather, he advocated for its potentials to be creatively exploited.[48] Today's record producers and sound engineers are among the people who best make this argument. Record producers see recordings as a different thing entirely to live performance, and think it should be allowed to be different. "Recording is not the same as concert-giving. They are separate media and have their own disciplines and objectives," writes John Rushby-

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Smith.[49] Eisenberg posits that a play cannot be taped without artistic judgment involved,[50] and this is equally true of recording a concert. Producers have a creative role in making a successful recorded product. As producer Michael Haas writes:

> A studio is not a concert hall and a recording is not a concert. A recording is music made objective. . . . Much debate is focused on the battle between "live" and studio (by implication, "dead"!) performances, where intellectual laziness has exaggerated the claims for "live" recording. As with "live" theatre and film, the differences (in both means and ends) between recordings and concerts are so vast, that they are hardly the same art form, but we can enjoy both without needing to set one above the other. . . . Translating a performance into a recording requires special skills. . . . The producer is a facilitator, translating the "stage-drama" to the aural equivalent of cinema.[51]

My study took these theoretical distinctions as a starting point, but then focused on the views of the musicians engaged in this artistic endeavor and systematically analyzed the audible differences between the two modes of performance. It is from this process that the concept of the problem of perfection emerges and will be analyzed.

The Views of Performers and Production Teams

Live performances and studio recordings are created and experienced in different ways. In performance, process and product occur simultaneously in the presence of performer and audience. In the latter, the performer and producer collaborate on a product that is consumed by the listener in a different time and place, with the music now independent of the musician.[52]

Pianist Alfred Brendel lists the differences as he sees them between concerts and studio recordings. In a concert, "the performer must get to the end of the piece without a chance to make corrections, . . . weaknesses in a concert performance tend to result from spontaneity, from a break in concentration or from nervous pressure . . . and the ability to convince the public in the concert hall is quite independent of absolute perfection." In the recording studio, on the other hand, one repeats sections several times if necessary; it is the accumulated result that counts:

> The performer can make corrections, learn while he records and get rid of nerves. . . . The studio demands control over a mosaic; while it offers the performer the possibility of gradually loosening up, there is also the danger of diminishing freshness. And there is the painful business of choosing

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> between takes. . . . In front of the microphone one tries . . . to get away from exaggerations and aims for an interpretation that will bear frequent hearing, . . . the studio offers silence . . . the player sits as though in a tomb, . . . and the studio is ruled by the aesthetics of compulsive cleanliness.[53]

Concert halls "continue to be the setting for the most vivid music-making" but Brendel admits that "there are concerts without a breath of life, and records of electrifying vigour. All the same . . . concerts are more likely to be characterised by spontaneity and risk."[54]

The classical musicians I interviewed opted wholesale for the primacy of the live concert; for them, the stage is the place of their best music making. Mackerras had respect and appreciation for what recordings could help him achieve, but when it came down to it, concerts had that something extra, a certain "electricity." However, the people involved in the technological side of the process are passionate about the notion that they can create something unique in the studio, something that should not be seen only in comparison to its live other, but as an art form in itself. For all, however, live performances and studio recordings are very different things. Mackerras felt that a concert always engendered a different feeling: "there's a sense of occasion at a concert, always, that must inevitably be lacking in recordings." The general goal in a recording was "to get it perfect, that is to have everything perfectly together and no horn cracks and no wrong notes and no bad intonation . . . which they can easily achieve by editing, but . . . there is no doubt that the immediacy, well, that there is *something* . . . that the electricity I would say of the live performance is real, it's in some ways better; it's a greater artistic manifestation . . . to do a real concert."[55]

The production team's main concern is the recording, but in order to achieve it, they must consider how to manage the transition from the live concert to the studio. They often call this a process of "transformation." Recording engineer Andrew Hallifax told me that "a recording has to make up for the fact that you can't see the performance,"[56] and producer James Mallinson explained that "there's a great argument . . . about what the truth of a recording is and what the truth of a recording *ought* to be. In other words: if you're making a studio recording, is that a different kind of reality from a concert situation?" A recording has "to cheat the ear into thinking that it's hearing something in a real environment when in fact it isn't." From his point of view, recording is a "totally

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positive experience," which allows musicians to improve their performance and achieve results they would not otherwise have been able to.[57]

Sound engineer Andrew Hallifax writes:

> There is a need for translating music into the recorded medium. . . . As [the producer] John Culshaw explains, "An artist who can be exceptional in the theatre cannot necessarily reproduce the performance in recording-studio conditions. . . . Communication with an audience . . . is an entirely different exercise from communication though a microphone to a domestic audience." If the recording process is not merely one of capturing the sound of a performance, each member of the recording team and each artist must be complicit in making the transition from the concert hall to the living room.[58]

And for BBC balance engineer Campbell Hughes, who captures live concerts for radio broadcast (with the "liveness" kept intact as much as possible), "there are huge differences that a lot of people don't understand between the live and the recorded."[59]

As for performers, they agree on the vast difference between the two situations: tenor Robert Tear considers them "entirely different disciplines," and Alistair Mackie, trumpeter of the Philharmonia Orchestra, doesn't think that a recording ever can approximate a performance in a concert hall. For Lisa Beznosiuk, principal flautist of the Orchestra of the Age of Enlightenment, it is "nearly pointless" to compare the situations. James Clark, violinist and concertmaster of the Philharmonia Orchestra, thinks that the two situations "affect artists differently" and Mackie feels that it puts them into a "different place—or mode—mentally."[60] Where live concerts are events, studio recordings are "plastic music" (Clark); where concerts are about "expression," recordings are about "balance and accuracy" (Mackie); where concerts are "thrilling" and "each night is different," recordings are "a manufactured product" (Beznosiuk).

When asked which performance mode they preferred, all these performers unhesitatingly chose live concerts. Beznosiuk finds it much easier to project the spirit of the performance and musical work in a concert. As Clark describes it: "In a concert, off you go—anything could happen . . . a great musician brings different things out in each live performance . . . there is no replacement for a live performance." For Mackie, "the concert platform exposes you like nowhere else. . . . Performance is about standing up and doing it," and Tear finds the performance itself "wonderfully ephemeral . . . It's not like doing a painting where if you don't like something you can paint it out. You can't do that with a performance. Whatever is *is*, and that's it." When asked whether the occasion has an

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effect on his performance, he replied: "The event . . . has its own dynamic and you are affected by that, definitely. . . . The event itself has its own impetus. . . . Not just mentally either. If you have an emotional upset the first thing that goes is your voice. You have to be at one with yourself for it to work properly. Everything changes you. If you do a recording—some on Monday and some on Tuesday—everything about you is different. The air is different, the temperature is different, everything is different."

It begins to look as if the only constant element between the two groups, that is, performer and production team, is that both are using the same score. While the performers perceive the transition from stage to studio as a largely negative step, production team members see it as a necessary and positive transformation. This duality is where the problems begin: two groups are collaborating on a product but approaching it from very different standpoints.

If producers are sure of what a recording is and what they aim to achieve, why are many people still uncomfortable with the circumstances of recording? Musicians and conductors want recordings to be as much like live performances as possible, but is this really what they aim for, or is it just what they think they should be saying? Editing has become an ethical issue, but surely recordings should be allowed to be independent of and free from comparison with live performance?[61] I will argue here for two different possible responses to this problem, first, to bring more of an element of "liveness" and creative freedom into the studio, and second, to experiment with a wider variety of the possibilities that recording technologies might afford.

A Recording Industry in Decline?

The classical recording industry has been in steady decline for a couple of decades; budgets have been cut and record labels have folded. Scholars and journalists alike have declared the art form's decline or even demise.[62] Classical recordings are time-consuming and expensive to make, and even the best orchestras are making far fewer.[63] There is a lack of research in the area of the classical music business, partly because detailed sales figures have always been difficult to obtain. For instance, Norman Lebrecht states that he "finally managed to extract" some figures from the record companies, and the reports by the International Federation of the Phonographic Industry (IFPI) seem to be designed to provide as little information as possible. I attempt here to paint as full a picture as possible with the limited resources available.

Sound engineer Jonathan Stokes explains that when the CD format was first introduced, the huge increase in sound quality convinced record

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companies to re-record many works. At the time, Polygram owned three classical music labels—Decca, Deutsche Grammophon, and Phillips—and each issued 120 new recordings a year. That amounts to almost one per day. This is no longer the case.[64] The Philharmonia Orchestra, once among the world's most prolific recording orchestras, was down by the mid-2000s to around six recordings a year, from thirty to forty discs about a decade before that.[65] Record companies no longer provide the necessary budgets and private funding has to be secured before a project can go ahead. The same is true for other London orchestras, such as the London Symphony Orchestra (LSO), which Richard Morrison described at the turn of the millennium as being "gripped by a desperate sense of siege."[66]

Is the classical recording industry in fact "dead," or is this a sentiment born from a general sense of panic due in part to cuts in arts and education funding in the UK ?[67] There certainly was a great deal in the press about it. With sensationalist headlines—"Piracy Continues to Cripple Music Industry as Sales Fall 10%," "Requiem: Classical Music in America is Dead"—and Lebrecht's declaration that "the classical record was dead . . . an art form had come to its end," who could doubt that there were serious problems?[68] Added to this picture were several other factors—the bankruptcy of the music retailer HMV in 2013 and again in 2018, the closure of innumerable smaller record shops (both in the UK and the USA), record companies being merged or going out of business (leaving only the so-called Big-3: Universal, Warner, and Sony),[69] and the number of classical music recording industry professionals concerned about the decline of work in their industry—and a picture of a seismic shift emerges. Popular debate in the press blamed piracy and the inability of record companies to control the copyright of their catalogue. In addition, there was a point at which classical music started making a significant return—consider for example the immense success of The Three Tenors—and companies developed an expectation of similar proceeds, which were not achievable on a regular basis.[70] Before the big companies merged, classical music projects were to some extent subsidized by the labels as a prestige-enhancing benefit to the brand,[71] and classical music sales were allowed at least two years to show a return. However, corporate accounting policies started to demand higher returns, within a year or less.[72]

Against this backdrop, several writers have sought to bring balance to the discussion; among them are Pekka Gronow and Ilpo Saunio, David Kusek, Gerd Leonhard, Jim Rogers, as well as various journalists.[73] They have examined sales figures and attempted to contextualize the drop in sales i. Between 1995—the height of the CD-fuelled boom in the recording industry—and 2011, UK sales figures more than halved: in 1995,

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266.9 million units were sold, compared to 113.2 million units in 2011.[74] Classical music is widely agreed to take up 10 percent of the global market, 7 percent of the total figures in the UK, and 3 percent of the US market. The percentage of the US market might seem small, but the overall numbers are higher as the US market holds a much larger share of the global pie than does the UK: compare the UK market of 266.9 million units to the US total of 1100.5 million units in 1995.[75] According to Lebrecht, even with these small percentages, classical music was sold in enough volume to be at one time a robust and profitable industry. Rogers lists global sales for physical and digital sales at $38.7 billion in 1999, compared to $24.4 billion in 2010. Digital sales figures have only been included in the IFPI's statistics since 2004, but general sales figures show the same trend downward: $26.9 billion in 1999 to $17 billion in 2009. The IFPI reported sales figures for 2014 at $15 billion (with an even split between digital and physical sales—46 percent each—with the remaining 8 percent accounted for by performance rights and synchronization revenues).[76]

The crisis has been blamed mainly on illegal downloading, but a more varied shortlist of causes can be identified,[77] including: corporatization and the push for larger profits; a trend for record companies to act as oligopolies, with executives being increasingly highly-paid; bad deals for the artists; overcharging the consumer during the CD boom; long-term inefficiencies in how companies were run; over-production of the classical catalogue and therefore saturation of the market (according to Lebrecht, at one point 276 recordings of Beethoven's Fifth Symphony were available);[78] no need to replace worn albums due to the indestructability of the CD; the format change to digital which allowed illegal copying and subsequent loss of copyright control; the Internet and massive explosion of music piracy; a further consequence of digitization which allowed albums to be unbundled into single tracks for sale (therefore decreasing profits); a focus on law suits to protect copyright instead of putting efforts into diversifying their offering; the role of supermarkets in cutting the profit margins; and finally, a failure of invention and creative thinking, simply relying on re-recording canonic repertoire rather than focusing on bringing on new repertoire by living composers.[79]

However, as grim as this picture may seem, some scholars remind us that this crisis (from the late 1990s onward) is set against the backdrop of a period of "super-profits" and of "outstanding success" in the 1980s and 1990s.[80] Cook asserts that in the second half of the twentieth century, "the story of classical music . . . at least in the UK, has been one of outstanding success."[81] It would seem that as far as the industry has fallen between 1999 and 2014, it had risen by about the same amount between

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1985 and the end of the century. For example, between 1986 and 1995, global unit sales grew from 2,290 million to 3,349 million (with the UK numbers growing from 197.7 million to 266.9 million, and the US numbers from 618.3 million to 1,100.5 million). In 1990, the US market was valued at $7.5 billion, and by 1999 it had grown to $38.7 billion. In 1995, unit sales were 80 percent higher than in 1985, and the real value had more than doubled.[82] The CD boom meant that when the digital crisis arrived, companies had at least twice as far to fall. However, let us take a moment to consider that the recording industry isnot the same thing as the music industry, as Rogers, Kusek, and Leonhard have convincingly argued. The music industry was in fact doing rather well, through growth in live music activity and digital music downloading.[83] It is not clear how far this applies to classical music, an art form which has always relied on the live concert. However, the situation has inspired people to ask what the other options might be, something we will return to later.

Recording: "Not a good experience"

For trumpeter Mackie, this "slow demise is not a wholly negative thing," and neither does flautist Beznosiuk "feel the lack of making recordings." All musicians agreed, however, on one thing: recording was more lucrative. For Mackie, "it's an inverse relationship: the most demoralizing work is the best paid, and the most artistically valuable or stimulating is the worst paid."[84] Tenor Tear was happy to have recordings as part of his career, but found that because they are "endlessly perfectible," they are "not as true, they don't go with my temperament . . . you have to be as technically perfect as you are able to be, but at the same time putting your character into it. It's not quite as free, but it's a different kind of freedom." He found any situation that limits his ability to act his role challenging: "being fixed in one place is difficult, somehow you're straight-jacketed." When asked if his recordings were representative of him, he said, "Yes, I do basically." On the value of recordings and his reasons for making them, he responded: "I suppose it is in many ways a bit of a monument, it proves that you *were*, at least at some point. I suppose it's a bit of vanity, a bit of wishing to do good music well, a bit of wanting to get paid—it's a mixture of all those things really."

For violinist Clark, a typical recording session was "stitched together . . . sometimes recorded bar by bar . . . it's awful," with many small factors dictating the end product (the microphones, the temperature, the room etc), and "it can be a misery. . . . Many artists don't give their best in recordings." Beznosiuk describes that when a recording is worked on in smaller sections, "chopped up," the experience is difficult and multiple

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takes are not always helpful: "if you can't play it, then fifteen times will be no help; but if you can play it, then doing it two or three times can mean that you get a really nice result. . . . a recording is more relaxing, but not so thrilling—live is more exciting." When recording "you try to recreate a concert feeling . . . you're going on a journey, but you have to keep going back and doing bits again, which means you might lose beautiful moments that you would have had, had it been live." Mackie, who thought that recordings are "artistically not a good experience" and "fundamentally dishonest," said: "In a recording, you might do three really nice takes, but then they say 'but now we're going to move a microphone' and you have to focus all over again: it's really hard to continually and repetitively focus like this." But he remained "idealistic" and he theld on to the thought that he's making music when recording.

The Recording Studio: Power and Control

One of the main reasons for performers' negative feelings is that they do not think they have power or control over the process or the product of recording. Conductors and solo or chamber artists seem to be more positive or comfortable (than orchestral players, for instance), as they have more direct contact with the producer, and have more scope to work in their preferred manner, for instance stopping for a break or insisting on another take, etc.[85] They also may have a more direct say in the editing process, though not much more. The producer almost invariably makes the editing choices, and performers will hear the "first edit" but they won't know what that composite performance is comprised of. Most musicians working with mainstream record companies never know the number of edits made in their recorded performances.[86] They do not have artistic control over this element of post-production; they have to trust the producer's decision-making.

The musicians I interviewed all expressed dissatisfaction with the balance of power in the studio. Beznosiuk saw a two-tier hierarchy: the "important people" (soloist/s, conductor, producer) and those who "just go with the flow" (the orchestral musicians and sound engineers). Mackie felt that "the process and the expectations limit and define what you can do musically," that comments were often focused on balance and accuracy only, and that orchestral musicians were "at the mercy of the production team." He gave as an example a recording session where they did nineteen takes of a difficult trumpet line, all of which except one he played well, and in the final edit "they picked the bad one!!" Tear admitted the existence of a hierarchy, with singers and conductors further up the ranks, but even then "you've got very little [power]. They can pretend to let you

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think that you do, but I don't think you really do, because somehow it's not your business. The singing is your business and the making of a record is their business. And I think you have to trust each other, really, quite a lot. There is a lot of acceptance in this, isn't there?!"

The Expectation of Perfection

One issue raised by all the performers, and also a frequent topic in the wider literature, is that because of recordings, the public's expectations of perfection in execution has become not just the ideal but the norm. Recordings have therefore influenced live performance, creating an expectation of perfection which musicians are at constant pains to deliver, both live and on record. According to Philip:

> By the beginning of the twenty-first century, musicians and audiences have become so used to hearing perfect performances created by editing that the general standards in the concert hall are also much higher than they used to be... Musicians who first heard their own recordings in the early years of the twentieth century were often taken aback by what they heard, suddenly being made aware of inaccuracies and mannerisms they had not suspected. . . . The most obvious effect of getting used to hearing ones' own recordings, as professional musicians do today, is to become highly self-critical about details. Any tiny blemish or inaccuracy takes on hideously exaggerated proportions. Making a recording becomes a process of detailed self-examination which would have been impossible a century ago. Seeking after precision and clarity becomes a habit, so that, in the concert hall too, musicians aim for technical perfection—often, it seems, above everything else. . . . This self-consciousness can be helpful or destructive, but now the genie is out of the bottle it cannot be put back.[87]

Producer Andrew Keener says that the "search for perfection can become obsessional,"[88] and for Day "the need for accuracy has been the bane of the lives of most recording musicians throughout recording history, and the subject of countless laments for the inhibitions of this striving for technical perfection causes."[89] Adorno held recording responsible for the "barbarism of perfection," which he saw as overwhelming performance practices already in 1938. He specifically cited Toscanini as complicit in setting this "official ideal of performance," going to the extreme of likening the role of the conductor to that of a totalitarian Führer:

> There is iron discipline. But precisely iron. The new fetish is the flawlessly functioning, metallic brilliant apparatus as such, in which all the cogwheels must mesh so perfectly that not the slightest hole remains open for

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> the meaning of the whole. Perfect, immaculate performance in the latest style preserves the work at the price of its definitive reification. . . . The performance sounds like its own phonograph record.[90]

Auslander highlights that "live performance's cultural valence" has traditionally been set above that of any mediatized type of performance because "the common assumption is that the live event is 'real' and that mediatized events are somehow artificial reproductions of the real." This rivalry is not due to any "intrinsic characteristics of live and mediatized forms" but is rather "determined by cultural and historical contingencies." In other words, it is the way we perceive, judge, and use these things that gives them their cultural value (or cultural capital, to use Bourdieu's term).[91] The irony Auslander reveals, however, is that although live performance still holds a symbolically higher social position, it now often seeks to replicate the mediatized product, whether it be through perfection of execution, amplification of sound, or close-up effects. Jacques Attali also makes this point: "What irony: people originally intended to use the record to preserve the performance, and today the performance is only successful as a simulacrum of the record."[92] Katz is amazed by how quickly the values of recording have taken over:

> The repeatability of recorded sound has affected listeners' expectations on a much broader score as well. When the phonograph was invented, the goal for any recording was to simulate a live performance, to approach reality as closely as possible. Over the decades, expectations have changed. For many—perhaps most—listeners, music is now primarily a technologically mediated experience. Concerts must therefore live up to recordings. Given that live music had for millennia been the only type of music, it is amazing to see how quickly it has been supplanted as model and ideal.[93]

Botstein writes that "the increased sophistication in the technique of editing redefined sufficient accuracy and made the encounter with random error and inevitable inconsistencies in any live performance intolerable." (He adds that between the 1930s and 1980s, acousticians of concert halls tried to mimic the modern clean and perfect sound of recordings). The flawlessness of edited recordings resulted in the raising of technical standards and preferred performance styles which were antiseptic, with no extraneous noises.[94] It "removed a 'vital' aspect of human musical performance," according to Leech-Wilkinson: "If accuracy comes first, spontaneity and originality are pushed into second place."[95]

It would appear that the problem lies in the very fact that recordings, or more specifically, the aesthetic expectations of recordings, are impinging upon the perceived freedom of a live performance. Recordings reveal

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too many blemishes in too much detail—it is argued that the mistakes detract from the musical experience. Despite the strength of these arguments from both performers and scholars, I wonder if mistakes—one of the "vital" elements Leek-Wilkinson refers to—are really as much an issue as they are made out to be, either in reference to present-day recordings or in how today's commentators assess older recordings. The rationale seemingly being that we edit out mistakes because nobody can bear to listen to them. However, recordings from the age before editing have immortalized the occasional mistakes of a few great performers, but we forgive them and enjoy their performances nonetheless. Perhaps we have misconstrued what these "mistakes" are or what they mean because we're judging them from the context of our own time. We perceive earlier performers as playing less perfectly than performers now because of the imperfection of their recordings, and in comparison with the faultlessness of our own recordings. Yet, it may be that they didn't worry so much about mistakes. Maybe performers then didn't play significantly less perfectly than performers do now: they were giving a performance, and because it was not technically possible to edit errors out, it was more akin to a live performance. Performers today can achieve an extremely high level in the studio, but without editing their albeit rare "mistakes" would also be immortalized on record. The disparity would not seem so great if we were comparing like for like.

Another way to look at this is that today's because standards of professional singing and playing are so high, even in live performances audible mistakes are quite rare. This is not to say that players don't work and struggle to get things "right"—they do, every day, often to the detriment of their health[96]—but they do such a good job that a typical audience member wouldn't notice many major mistakes in a live performance. So why do performers worry so much about playing perfectly in the recording studio, and then in turn on the concert platform? Why does everyone put so much focus on the need to have blemish-free recordings, if what we hear on the concert platform is already of so high-caliber? The problem is that we are conflating different types of perfection. There are in fact at least two kinds: the live standard of perfection which is the professional's best attempt at accuracy in the moment, and the recording standard which seeks not only to eliminate any textual and technical mistakes, but also any blemishes and tiny imperfections seen as detrimental to the sound, whether it be untidy ensemble, split notes, shuffling feet, airplanes flying overhead, or the sound of a violin bow making contact with the strings. Of course, musicians are always trying to achieve technically accurate performances, but expectations of perfection take away their freedom to choose to eschew technical perfection for the sake of achieving a

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Table 1. Reasons for stopping takes, in diminishing order of occurrence

Issue	Number of takes
Tempo	20
Mistakes	18
Ensemble	16
Characterization/Style	13
Tuning	12
Articulation	6
Music/Text	5
Technical (rec.)	4
Sound	3
Logistics	3
Total	100

musically expressive moment, an imposition that many resent. As Johnson states, "What needs to be sorted out here is the difference between the artistic pursuit of an ideal image and perfection as a criterion of value."[97]

Many musicians comment on how the very fact of being recorded makes them focus on accuracy and aim for perfection, because they know it is the expectation that they must be professional and musically (which ultimately means textually) reliable. Dorottya Fabian's research supports this: "At most recordings the desire for technical perfection overrides the importance of 'unrepeatable' musical moments . . . In the studio one tries to reach technical fluidity and perfection."[98] If we take as an example just one of the recording projects I observed—Mackerras conducting Mozart's *Così fan tutte* with the Orchestra of the Age of Enlightenment[99]—we will see that reasons for stopping a take were more often slight disturbances in tempo and ensemble rather than glaring inaccuracies or imperfections of an individual's execution (see Tables 1 and 2).

For a recorded performance, tempi need to be consistent enough throughout the recording session so that takes can be edited together, whereas fluctuations in tempo would be overlooked in a live performance, and indeed probably perceived as musical and aesthetically pleasing. In live opera, problems of ensemble between stage and pit are among the rare imperfections perceivable, and the opportunity is taken to correct these for a recording. So it is at least partly the need for the material to be uniform enough to be editable that drives the necessity for recording standard perfection. It is easy to see why this is the case, but we might ask ourselves whether the sacrifices—in terms of a performer's feeling of freedom to take risks—are worth it.

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Table 2. Takes stopped list—comments made by conductor (CM) and producer (JM)

Issue	CM	JM
Mistakes	2	2
Tempo	6	8
Ensemble	2	5
Tuning	4	4
Characterization/Style	7	3
Articulation	4	3
Technical	6	5
Music/Text	2	1
Sound	1	0
Logistics	1	1
Positive Comments	6	24
Total (incl. "other")	*ca.* 40	*ca.* 64

(Table 1 shows the total takes that were stopped, including those when no particular comment was made; Table 2 shows who reacted to particular issues, with at times more than one comment on a take, hence the different totals).[100]

In this example, out of a hundred instances only eighteen takes were stopped for mistakes, compared to a combined eighty-two for other issues such as minor imperfections or blemishes. But for a recording, getting these small details right is seen as important, and this, as well as perfection of individual execution, puts extra pressure on the musicians. Many musicians do not like having to prioritize perfection but, as Tony Pay of the LSO described: the "problem is that musicians have become satisfied with their work when the microphone is 'satisfied'—technical perfection has become the extent of their concern with interpretation."[101] However, we could ask the question: is it the musicians who become satisfied or the production team, or is there a general but tacit consensus that it is simply the exigency of the medium and the current aesthetic that have been satisfied? Another member of the LSO, Bill Lang, said "I love a concert performance, many times you get touches of magic there. But recording can knock any beauty out of music-making. Players . . . don't go for it, they get careful. Note-getting, not music-making. This is where recording can destroy music. I'd rather hear a recording of an actual concert, warts and all."[102] For musicians at the top of the profession, with positions in some of the world's best orchestras and opera companies (as those interviewed for this project certainly are), accuracy is of course very important, but

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perfection is not the central factor in a live performance: "Perfection is never seen as the most important part of a concert—in a concert it's expression"; in a concert, "you sacrifice perfection for the event." For them, the expectation of perfection and accuracy "have been created by the record industry," which is "a pity."[103] Alfred Brendel goes so far as to call modern listeners "wrong-note fiends," saying that "a few missed notes are not only irrelevant but almost add to the excitement of the impact."[104] But producer Rushby-Smith explains: "The live concert is intended to give immediate satisfaction. Blemishes are heard once and are generally forgotten by the time the final bars have sounded. Recordings are heard repeatedly and the smallest flaw is multiplied by the number of times the recording is played, so the quest must be for a level of perfection rarely attainable in live performance."[105]

As easy as it is to understand this point of view, and to sympathize with the difficulties of answering the aesthetic question of what kind of performance should be immortalized on a recording, performers would like things to be different. As Alfred Brendel writes:

> In the studio accuracy is more readily manageable than "soul" . . . the gramophone record has profoundly upset listening habits. Its effects on the player, however, may not only be purifying but also sterilizing; it may be petrifying as well as concentrating and distilling. The interpreter who aims at accuracy risks less panache, lesser tempi, less self-effacement. The gramophone record today sets standards of perfection, mechanical not musical, which the concert hall seldom confirms. It induces some artists to play in a concert as though for a record, in the fear that the audience is listening as though to a record . . . those who consider spotless perfection and undisturbed technical neatness the prerequisite of a moving musical experience no longer know how to listen to music.[106]

And Emanuel Ax writes, "One of the big things that I've worked on all my life and am still working on is to get away from being conscious of and a slave to wrong notes. It's one of the worst things about the recording culture—it's the biggest single problem both for performers and for listeners, including critics."[107]

It cannot escape notice that this is very strong language from all quarters: slave, fiend, iron, totalitarian, destructive, obsessional, sterilizing, petrifying, straight-jacketed, mechanical, plastic, manufactured, awful, chopped up, dishonest. How are we to deal with this situation in which the medium we rely on to have music nearly ever-present in our lives is viewed with such complicated and overwhelmingly negative attitudes? Although many performers seem to want to escape from this aesthetic

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imperative of perfection, they still don't feel willing to release unedited recordings. Mackie admitted that he could not "live with releasing a recording with mistakes," giving as example the recordings made by the label Nimbus, which were done with one microphone and no editing: "they got quite a following, but the recordings sounded terrible." Conversely, Clark, who did some work for Nimbus, had a different opinion of the approach: performers were "more into the music" and "more relaxed," with the resulting performance having "more vibrancy" and being "far more exciting." One might think that musicians would, if they were in charge of their editing choices, pick takes for their excitement or vibrancy rather than for perfection. However, producers and editors cite examples of performers being hyper-critical of themselves, explaining that it is not unusual for performers to ask for retakes or send long lists of edits even where a producer would have been satisfied with less intervention.[108]

Looking at the bigger picture, Mackie described that up until recently too many careers had been built on being able to record bar by bar, constructing a better performance than would have been possible live, therefore creating a false posterity. The fact that recording companies have less money should ensure that only people with real merit will get recording deals.

The Control Room Glass: Which Side of the Fence?

People on the production side of the fence have a completely different conception of what can be achieved in a recording. For them, a recording should be liberating for performers, providing a safety net that allows experimentation and risk-taking not available during live performance. For sound engineer Stokes, "they *can* take risks . . . they can try things out, so you can build up a really exciting performance" and for Rushby-Smith the "possibility of retakes enables artists to take risks they would never dare take on the concert platform, often with breathtaking results."[109] But we have seen that performers feel very differently. Mistakes take time, and time is money (and there is never enough in the budget for experimentation), so there is incredible pressure to get it right as quickly as possible, also added to this is the fact that musicians feel bound to make sure they do not take a risk that results in a take they may regret later, or that might pall upon repeated hearing. For example Tony Pay of the LSO says:

> The impression an orchestra often gets from a record producer is "produce the goods or else." We're there on sufferance—watch out. I remember trying to solve a problem with a conductor and a producer, and if I'd been any good there wouldn't have been any problem. And this unease is made

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> worse by the knowledge that the record companies have the orchestras over a barrel. If you don't produce this time, they'll use another band next time. We are desperately trying to please, just in order to make an income. . . . But we all know the wonderful records, and the only way we can judge past performance, or at least get an idea of it, is to listen on record. The making of records is important, more important than present practice seems to allow.[110]

This last sentence highlights an important issue—musicians would like the studio to be a place where they feel more in charge, more able to be creative, more able to exercise their artistry. But present recording practices do not often allow for that. This is not because producers and sound engineers are not experienced musicians themselves or can't recognize a transcendent performance, but because they are also restricted by time, budgets, and current aesthetic preferences to achieve a professional and marketable final product within the constrictions of the project. According to Mackie, to avoid a situation where the producer makes selections the performer is not happy with, they leave the producer with the smallest number of non-ideal takes to choose from, which in turn makes it a situation not conducive to experimentation. Dorottya Fabian found that most of her interviewees (79.5 percent) "reported taking fewer risks in the studio, in spite of the potential for correction," with reasons given being time constraints and tight budgets, among others.[111] When I explained Mackie's point of view to a production team member, he responded that he had not thought about it quite like this, that people on the production "side of the fence feel that there is more freedom in recording."[112] This difference in point of view may account for a large part of the tension in the recording situation, and needs to be opened up for discussion. When a production team sees only great opportunities in repeated takes, while musicians labor under a feeling of great pressure to get things right and little control over the situation, then it is not surprising that the result is often misunderstanding and dissatisfaction.

Toward a New Aesthetic

This tension is also due to another factor: in classical music, recording has not emancipated itself from the aesthetic of live performance in the way that film has successfully diverged from theater. It would seem logical that the two performance modes should be seen as independent of each other and judged on their own terms. There are several possible solutions, which include: a reconsideration of the ontologies of live and recorded formats, and arguing for their emancipation; teaching musicians now training in

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conservatoires how to make the transition from stage to studio successfully; making producers and engineers more aware of the challenges and justifiable anxieties musicians face when standing in front of the microphone; a further exploration of the various possibilities for classical recording aesthetic; and opening critics' and listeners' ears to new possibilities that musicians and producers might explore if given the artistic and commercial freedom to try.

What Do Performers Want?

Recordings have become an integral part of musical life, but the performer's relationship with them is still fraught with mistrust and difficulties, centered around two issues: first, power and control, and second, perfection. When musicians enjoy recording, it is either because they feel at least somewhat in control over the entire process, or because there is time and space to experiment with a performance only achievable through recording. If this self-determination is taken away, musicians simply feel disenfranchised. If even large-scale recording projects could be based more on collaboration and engendered relationships based on trust and a mutual goal—which of course does happen, but by many accounts not often enough—with enough time and money to be more experimental in the studio, then we might find fewer musicians harboring negative feelings about recordings and the recording process.

The need for perfection seems to stifle the creative intention of the performers. Most musicians trust the producers and engineers to get the best result within the current aesthetic and commercial expectations, and they *do* want to make recordings. The challenge is for record companies, production teams, orchestral management, and musicians to create a situation where everyone is comfortable with the fact that a recording is not simply a live performance captured, but a different art form, and that everyone has a stake in making the best possible recording, in both artistic and technical terms.

Mackie has a definite view of how things are now and how they might change for the better. He explains that in previous decades, the record companies made the artistic decisions, but now decisions are frequently made by the orchestra, in his case the Philharmonia which is a self-governing entity. Mackie feels that it is important to make audiences aware that even the best orchestras no longer get the time, money, and support necessary to create a satisfying result on record. We might recall here Tony Pay's comment: "the making of records is important, more important than present practice seems to allow."[113] Current recording practices have become so streamlined that performers are expected to deliver

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the goods in a one-off live fashion—in as few takes as possible—while also having to satisfy the ultra-perfectionist aesthetics of infinitely editable modern recording. If present classical recording practices do not allow for recording to become a truly distinct medium, what are we recording for? Surely we don't simply need yet another version of a Beethoven symphony to add to the back-catalogue; we want to hear the latest vision from today's musicians, and that would be best achieved through music making, not "note-getting." Market forces pull in the direction of a sellable product, but performers feel that their artistic, creative, and musical priorities are often not being achieved. What would result if we opened the debate and created a space where all concerned could discuss new aesthetic possibilities that might also be commercially viable? The first step toward this goal seems to be to emancipate recording from its live counterpart and to view it as a discrete art form.

Theater and Film

In order to consider the ontological differences between recordings and live performances, it is helpful to remember their "cousins," theater and film. Why is it that classical music is still suffering from the comparison of performance with recording whereas this no longer is the case for film and theater productions? Nicholas Cook argues in *Beyond the Score* that even there, the process of conceptual transformation took decades and that since live and recorded music are so "closely entangled," a more integrated approach may be necessary.[114]

While the theater–film analogy is suitable, there are some points at which the comparison does not directly correlate. It might be these very points that have made it difficult for recordings to depart significantly from concert aesthetics. The points of tension or non-parity are the texts which form the starting point, the performers involved, and the transparency of the end product.

Table 3 shows that there are similar processes for both (central column): for the live mode (concert and theater), the performance occurs once in real time in front of an audience. In the mediatized mode (film and recorded music), the work is recorded or filmed in multiple takes, as shorter segments, and not always in the order in which it was composed or written.[115]

It is at the outer extremes of the processes that the practices diverge. Film and theater have distinct texts—script and screenplay—with the latter reconceptualized to work within the cinematic aesthetic.[116] In music, the starting point for both live and recorded performances is the composer's score. Another instance in which film and theater differ but live and

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Table 3. Theater and film versus live music and recorded music

	Text	People	Process	Takes	Editing
Theater	Play/Script	Stage actors	Live –beginning to end	One take	None
Film	Screenplay	Film actors	In sections, not in order	Multiple takes	Part of storytelling – visible, obvious
Live Music	Score	Same musicians	Live – beginning to end	One take	None
Recorded Music			In sections, back and forth, not in order	Multiple takes	Invisible, trying to present the illusion of a start-to-finish performance

recorded classical music do not, has to do with the performers. Film and theater are separate disciplines that usually require different talents and temperaments, which is not the case for classical musicians who perform live and make recordings as well. Classical performers have to move from concert to recording mode sometimes within a few days, so when the red light goes on at the start of recording, they already have a pre-existing concept or memory of the live performance. Therefore the potential for a sense of what Sterne calls "loss" is much higher.[117]

Other parts of the processes show more points of tension. The public's reaction to multiple takes and editing is much more accepting for film than for music. Classical performers and record companies don't explain that this music is often recorded in relatively short sections, often with a splice every few bars, with the consequence that an average-length recording will often contain several hundred edits. Splicing in this way is still seen as cheating by some in music circles. However, producer Andrew Keener argues that there is some hypocrisy in this, because: "nobody berates Meryl Streep for wanting to do twenty takes of a single twenty-second shot. Each time she will bring another nuance, another eyebrow raise, another eyelid-flash to a different part of the take." Keener believes (like producer Walter Legge) that "one of the roles of the producer is to collect all the jewels. I firmly believe this. It's one of the reasons for making a record."[118] What complicates matters is that film is more obviously a different product from its theatrical counterpart—it doesn't claim to be a

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beginning-to-end performance, whereas classical recordings still present a semblance of one. But Cook thinks this shouldn't be problematic for audience members; both recordings and film are presenting a constructed product—it is up to us to remember that fact:

> Nobody who sees a film thinks it was made by leaving the camera running for two hours: films consist of the traces of a large number of performative events taking place over a period of weeks or months. . . . But the film still references an event or series of events of which it presents itself as a trace: it is just that the diegesis, as film theorists call it, is fictive, and understood as such by audiences.[119]

A classical recording aims to give a "best seat in the house"[120] experience while obscuring the work involved in its creation—the artifice and the creative production necessary to achieve that end. A good producer would argue that multiple takes in a classical recording happen for exactly the same reasons as in film: to capture the best expressive moments. It comes down to a problem of perception. Some listeners (and musicians too) think that any attempt at editing, and thus at interrupting the live performance, is ethically wrong, missing the point that editing can and does take place for valid artistic reasons. However, it is also done in order to erase mistakes and blemishes, to achieve the perfection that is expected from recordings. The problem lies in the fact that this process is obscured: it feels more like cheating because it is hidden. (Compare this to the movies where "mistakes" sometimes will be added at the end as out-takes or bloopers, or put into a "making-of" documentary bundled together with the film.) Cook argues that the Best Seat in the House (or BSH) paradigm is an ideology: it "embodies a choice," but is not seen that way: rather it is taken for granted, as simply the way things are. In line with Sterne's discourse of fidelity, faithful reproduction is transparent, it effaces itself." The classical recording industry has been reluctant to grasp new opportunities because of this entrenched way of thinking, one centering on, as Cook describes it, the "paradigm of reproduction," the "discourse of fidelity," and the "BSH ideology": "a way of thinking that rules out alternatives while not even acknowledging that there are alternatives to be ruled out."[121]

As each medium develops, it finds a place for itself, distinct and separate from its ancestor. As Susan Sontag writes, "If the painter's job had been no more than fabricating likenesses, the invention of the camera might indeed have made painting obsolete. But painting is hardly just 'pictures,' any more than cinema is just theatre for the masses, available in portable standard units."[122] It is time that we learnt this lesson as it relates

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to classical recording and start embracing and exploring the creative opportunities offered by those differences instead of defending the ontological barricades.

Let a Recording Be a Recording

I would like to suggest that we stop comparing performances and recordings and allow them to become emancipated from each other; that we let a recording be a recording; and that we work on how that process and product can evolve for the benefit of the performers, the production team, and the listener. The appetite to move forward and explore new territory is echoed by practitioners and scholars alike.[123] This article describes a set of circumstances and working practices that were prevalent until March of this year when the music industry was brought to a standstill. It needs to be read with the caveat in mind that nobody knows what the classical live concert scene or recording industry will look like when the current crisis is over, but it will be up to everyone to consider what the implications are for musicians and the music industry, and it is my hope that some of the ideas discussed here could be useful to that end. There are ways in which a recording can be more successful than a live performance, where a recording can help us hear passages of music which might be obscured in live performance (e.g., opera libretti inner lines, quiet accompanied solo passages, intimate playing or singing which draw the listener into the grain of the sound, finer details of orchestration, complex soloistic passagework).[124] But there are also other options which I would like to propose for exploration. As an overarching aim, if each set of stakeholders could gain a better knowledge of the challenges the others face, they might develop a deeper understanding of the different facets of the process and therefore improve their experiences of it.

Let us consider the performers first. They would benefit from coming to terms more fully with recording as a different craft; this would help them feel less alienated by the process. It might improve their experiences if they could embrace the constructed and curated sound-world and more willingly explore the possibilities offered by recording. Producer and process could be viewed less as an interfering filter and more as part of the artistic process, more in the sense of pop music producers (but production teams have a responsibility in this collaborative approach too). It would certainly be a shift toward greater collaboration if performers were more fully involved in choosing their edits with the producer. What kind of recording would that result in? Perhaps one more representative of the performer's intentions, or at the very least, one in which the performer felt more complicit. Another (though maybe less obvious) matter worth

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considering might be for some performers and orchestras to specialize in making recordings much like there are film and theater actors, though the landscape of classical music would have to change significantly to enable this to happen. Even today, few musicians, other than exceptions like Glenn Gould, would choose to renounce the concert platform completely in favor of making recordings. As listeners, we want to hear the best orchestras on record, and also have the chance to see them perform live. Perhaps the answer is to work toward developing fuller studio recording skills in current musicians and to train students coming through the conservatory system to work as comfortably in the studio as they do on stage, which historically has not been the case. Such courses are slowly making their way into conservatory curricula, and are showing promising results, for instance at London's Royal Academy of Music and Royal College of Music, as well as increasingly at other conservatories and colleges internationally.[125] This kind of training teaches students about the priorities of both performing and producing in the studio, and enables them to move from approaching the studio with concerns about perfection, permanence, and pressure, to engaging in experimentation, collaboration, and creativity. Such courses are gaining momentum as the classical music education community recognizes that the old record label and studio systems no longer exists, with performers increasingly organizing and curating their own recording projects.[126]

As for the members of the production team, it would improve the situation if they were to consider more carefully and understand that performers often do not feel liberated by multiple takes and editing. Producers could consider working more collaboratively with performers when choosing edits. Jonathan Freeman-Attwood, an experienced record producer, professional trumpeter, and principal of the Royal Academy of Music, proposes what he calls "the new studio," a place where "we toy afresh with Glenn Gould's ideal of studio recording: 'an art form with its own laws.'" He believes that working with a performer involves "identifying with their aspirations, questioning them and then gathering the fruits of their work with each 'take' rather than toeing the company line . . . the ideal conditions for our new studio require a dynamic convergence between artist, producer, and artwork."[127] But might we go even further than this and really collaborate and co-create?[128]

Another aspect to question is the value and desirability of recorded perfection. What if the studio became instead a space for risk and experimentation, what Born calls a "crucible for creativity"?[129] Freeman-Attwood, who refers to George Steiner's "commitment at risk," sees the "new studio" as a place where performers, can "re-invent the 'studio' as a critical workshop for evaluating the ideals of previous generations" and

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stimulate "a practical re-appraisal of modern musical interpretative values."[130]

In order to create this "new studio", one issue that needs to be dealt with is the notion that the final recording is a beginning-to-end seamless performance. It might help to change this concept and to judge a recording more realistically if the production team's part were celebrated instead of being hidden. As Blake reminds us, "Producers, too, make music," and as Freeman-Attwood describes the producer's role:

> when the artists have left the studio . . . the producer holds all these "voices". . . The one person who has not created the music must now sing for the artists and the work. The performers may challenge the producer's will in the studio, but in the cutting-room they must trust that the latter's "first edit" or "proof" will recognizably evince each layer of session in memory, hope and expectation. In an environment where as many artistic decisions are made after the event(s) as during the sessions, editing can only contribute to the creative process if there is the quality and range of possibilities behind the decision to choose one take above another.[131]

It would seem that two of the most powerful figures in this process—the performer and the producer—should not only work together more closely but also develop new models of collaboration. Cook even suggests considering the producer an "auteur," as is used for film directors, or, given the multiple processes and people involved, seeing it as a team of auteurs.[132] The production team should be more visibly recognized for their contribution to, and influence on, the process and product of recording.

If producers and engineers shared their expertise with musicians and listeners instead of keeping it what they call a "black art,"[133] there may be a greater chance of everyone embracing recording as an art form in its own right. Apart from the different working environment that this would produce in the studio, the sharing of working practices and the creative processes (for instance, via production notes accompanying the recording) would make the process more visible, and show what can be done with recording, and why it is done. This might start to break down the feeling amongst some listeners that they were being sold a composite product, and amongst performers that they were at the mercy of a powerful yet ultimately invisible producer. The boundaries of current practices could be pushed further by having the performer collaborate in the post-production process that Freeman-Attwood describes: it's not so much about not having "trust" in the producer, but of the performer sharing creative control of their final product.

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Formats and Aesthetics of Recording

And what about the current format and aesthetic of recording? Classical recording processes and dissemination formats have been relatively static for a while, and as we have seen, the capturing of a performance is largely viewed simply as a process and not an art form in itself. Cook dedicates the last chapter of his book to experiments that have pushed the creative boundaries of recording until now, such as Phase 4 Stereo, the Decca/Culshaw/Solti *Ring* cycle, Glenn Gould's recordings, Karajan's quadrophonic sound recordings, and some more recent experiments including Emmerson and Draper's *Remixing Modernism* album. Cook states that they "hardly add up to a coherent trend, but at least they enable us to pose a question: Might such explicitly phonographic approaches create new options for the presentation of classical music within a culture increasingly attuned to the values of digitally mediated sound?"[134] We have access to digital technology, multi-mic stereo surround-sound, and powerful post-production tools, yet we still stick largely to the sound-world of a live concert (i.e., we hear roughly what we would expect to see on-stage). Why do we not experiment more? There have been precursors to such experiments, for example, Glenn Gould's highly crafted studio recordings, and his "acoustic orchestrations" in which he used varied microphone setups and editing techniques to interpret the music one step further, effectively using recording as a compositional tool.[135] During the same period, the Decca/Culshaw/Solti stereo recordings of Wagner's *Ring* cycle tried to give the listener a sense of the live opera staging by using long takes, evoking the movement of a staged drama through sound, and special sonic effects.[136] But how is it that these experiments from the 1960s and 1970s didn't proceed to drive the mainstream aesthetic of recording? Why did the debate not continue? These attempts, together with the Beatles' 1967 album *Sgt. Pepper's Lonely Hearts Club Band* (widely deemed the first concept album which explored stereo multi-tracking techniques) are frequently mentioned in the literature, but seem not to have been followed up on.[137] We could dismiss these as exceptions to the norm, obscure experiments of interest only to academics and aficionados, but in fact they were very successful. The Culshaw/Solti *Ring* cycle appears to have been the best-selling classical release of all time, selling 18 million copies—compare this to Michael Jackson's *Thriller* (26 million), Pink Floyd's *The Wall* (23 million), or Billy Joel's *Greatest Hits* (21 million).[138]

The Decca *Ring* cycle project was unprecedented in size and scope. When these recordings were released, they were lauded not only for the high quality of the performances and the novelty of having a studio recording of the entire *Ring* for the first time, but also for their highly

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creative stereophonic innovation and the outstanding listening experience that they offered. These recordings were celebrated in *The Gramophone* magazine, from before their release until well after, and recording as a process was highlighted as never before. Prime editorial space was given to their producer, John Culshaw, prefacing most of the volumes in which the releases were reviewed, with color double-page spreads announcing the exceptional fidelity and realism of the recordings, including pictures of the recording process and descriptions of how the effects were achieved.[139] The recordings lived up to the hype: reviewers described the first release, *Rheingold*, as "a stupendous piece of recording," "the finest [stereo recording] I have heard," which "surpasses anything done before" in terms of "splendour and fidelity" as well as "naturalness."[140] Later installments were described as "of superlative technical merit" and a "triumphant result, artistic and technical."[141] The multiple awards these records won all offered the highest praise, echoing the reviewers who said that they were "indeed the greatest of all achievements in the history of the gramophone record."[142]

If this is in fact the best-selling classical recording project, it could be an indication that there might be something to this idea that recordings which push the boundaries, which use the possibilities of the studio environment and technology as an artistic tool, can be aesthetically pleasing and commercially viable. Culshaw believed that one need not go as far as Gould in asserting that live concerts would cease to exist, but that stereo recording offers an "entirely different experience" and so should co-exist happily with its live counterpart.[143] Just as this *Ring* cycle was a huge leap forwards in the 1960s, is it not possible that a new stereophonic and digital approach to classical music might be less of a theoretical argument and rather more of a practical approach worth exploring? The market shows signs of interest in such products, for example, the recent appearance of a re-issued box-set of Decca's "Phase 4 Stereo" experiments from the 1960s, 10- and 20-channel recordings in which music was re-scored and split to individual channels to achieve separation and movement.[144] Might this be an indication that the record-buying public is ready for experimental possibilities?

If the recording industry is in decline, Cook suggests that a "standard business response" would be to "make your product different. . . . To create distinct and distinctive phonographic experiences . . . might seem an obvious route" to counteract a suffering industry that could "offer different products to different consumers."[145] What about a spatially deployed orchestra with implied movement in surround-sound, over-dubbing, or hyper-real positioning of instruments? Or maybe rethinking a score to explore new interpretations of the sonic picture, or new compositions

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commissioned to use all the opportunities that recording affords? Or using the multi-track techniques of rock and pop music to give listeners the option of choosing their own mixing and balancing options at home, or release recordings with several editing options?[146] Patmore suggests that the future of recording will do just that: it will involve more technology, it will be specialized, and it will be consumer choice driven.[147]

The reasons to record have changed over the decades and continue to do so. From the desire to capture the repertoire to keeping up with the technology and the improvements in sound quality (acoustic recording onto shellac, electrical recording, vinyl, tape, digital compact disc), we have come to a point where there aren't any significant improvements in recording technology on the horizon which would give the recording industry an excuse to re-record everything yet again from a sound quality perspective. In fact, for possibly the first time in recording history the most popular technology—MP3 downloads and digital streaming—usually presents a step down in quality (the high-quality download formats available—for example, 24-bit/96 kHz FLAC [Free Lossless Audio Codec]—are not yet extensively used by the average listener). In reaction to this, the singer-songwriter Neil Young, who campaigned to raise the standard of recording formats, developed the music player Pono which promises to reproduce the quality that the artist and producer captured in the studio.[148] Another interesting trend is in the rise of vinyl sales , to the extent that the UK Official Charts Company launched their new LP chart in April 2015.[149] Vinyl versus digital is an old debate, but people are still saying that they are attracted to what they perceive as a richer, deeper quality to the sound of a vinyl record, and the more tactile listening experience it offers.[150] Though some people are looking for improved sound quality, these are ripples on the edges of the mainstream, for now, and the next big change might perhaps instead involve a different performing style or artistic goal.

Despite the transitionary moment the recording industry is experiencing, there is little danger that as listeners we will cease to want to hear recorded music. Music remains a fundamental part of the human experience. Patmore firmly believes in "humankind's insatiable desire to listen to music," and Bergh and DeNora argue that recorded music is one of the ways we articulate our identities, it is part of our "reflexive embodied praxis" that live music cannot and will not replace. They believe that this technology is an augmentation, not a replacement for old ways of listening.[151] Cook identifies that classical music has never been so accessible, and in terms of total listening hours, it is more widely disseminated than ever.[152] Record companies therefore are looking for ways forward, and commentators are identifying possible avenues for the future of recorded

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music in the digital age. Some companies are focusing on "lossless" downloads (sometimes also available as vinyl LPs and Super Audio CDs) and working with the spatial distribution of sound in classical recording through 5.1 surround sound, for instance Linn Records or Harmonia Mundi, whose releases present us with fresh and exciting recordings which sound great.

However, the other possibility, and my main hope for this potential exploration of options, lies in the concept of perfection. Sonic and technical perfection is now the norm, but is arguably not the most musically rewarding aim, so might we learn to prioritize it less? People might be ready for this, as many musicians certainly seem to be. Re-releases of historical recordings have become ubiquitous and listeners seem to enjoy performing styles different from the current mainstream, and listeners are increasingly used to "live" recordings, and now to live-streamed performanes, so it seems clear that less perfect performances can be valued and loved. Orchestras are finding new ways of making money, one of which is the so-called live recording. These are recordings of a concert, though there is still some editing involved; with the decline of traditional commercial recording, these are now a financial necessity.[153] They are also artistically preferable for some of the orchestra members, though some see them as "the clash of two mutually exclusive performance modes."[154] From some performers' point of view, "live" recording is probably not the answer to their dislike of the recording studio and the particular kind of perfection expected there because the aesthetic expectations of recording are further invading the concert hall. However, "live" recordings have opened our ears to the possibility that a slightly imperfect recorded performance can be enjoyable, and artistically and commercially valid.

Finally, we need to consider the listeners and critics. Could it be possible that perfection isn't really as important as it has been allowed to become? Perhaps what we really want is better defined as mastery. What do we value more in performance—perfection or expressivity? Could we, even in the studio, aim for something that is exciting rather than flawless? "Live" recordings are offering this to a certain extent, but maybe a more drastic shift in taste is on the horizon. If this experimental or more expressive type of recording is something that listeners might like to hear, then the conditions need to be created to make it possible. However, one of the reasons that performers and producers are reluctant to release a recording that prioritizes expression over perfection is that mistakes are the easiest thing for a critic or listener to spot and comment on. Brendel's term "wrong note fiends" highlights the problem that even an expression-centric producer faces: a bad review can negatively affect sales, so critics need to first open their minds to new aesthetic possibilities.

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There are many reasons why record companies might be reluctant to allow their production teams and performers to take creative risks, especially in the context of the classical music profession which can seem to resist change. As Leech-Wilkinson asks: "Where is the incentive to innovate when maintaining traditions is the very focus of everyone's professional engagement with music?"[155] Patmore offers an interesting possibility based on the recording society pre-order model, where people who want to try specialized items—for instance, phonographically experimental recordings—must pay for them in advance, thus minimizing the financial risk to the record company. This certainly sounds like something worth exploring, and some companies are doing just that.[156]

Concluding Thoughts: Artistic and Technical Licence

What needs to happen for this new concept of recording to have a chance? This will most easily be achieved through opening up the debates around the aesthetics of recording, and it will require a willingness to relinquish the focus on perfection in search of something more artistically interesting. All involved, those who create and those who consume recordings, will need to allow a space where fear of imperfection does not control the outcome: where there is freedom to experiment, to try other aesthetics and formats, to find other options that are more interesting and exciting for all concerned. This might result not only in good business for record companies, but could directly translate into larger budgets to provide more time in the studio for performers and production teams to achieve something more artistically satisfying.

The twin themes of fear of mistakes and time-equals-money seem to have hovered over recording practice from its earliest inception until the present day. It is surely time to try to move beyond them. Fred Gaisberg, the early sound engineer mentioned at the beginning of this article, described his first recordings as being made in a state of fear: fear that he would do something wrong—make a mistake with the recording equipment and not only miss capturing a magical performance but also upset the famous singer, be it Patti or Caruso for instance, by having wasted their time.[157] It seems strange that performers working today still seem to be burdened by a fear of getting it "wrong" for a recording. John Culshaw, producer of the *Ring* cycle, explained that the only reason that such a successful and artistically valid set of recordings was achieved was because two enlightened managers at Decca had "courage and imagination" enough to take a "huge financial risk," and "approved a budget that gave the rest of us the artistic and technical licence to do the thing properly." And, as Culshaw admits, success was not "pre-ordained." He tells a story

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of a chance meeting in Vienna's Hotel Imperial the night before the whole project started, where he and Solti bumped into a very distinguished colleague, who when he heard about their impending venture replied: "Very interesting, very nice. Of course, you won't *sell* any." It must have been a relief to Culshaw to be able to say nearly a decade later: "He was not alone in thinking that, but he was wrong."[158]

In order to maximize the possibilities of future chances to "do the thing properly," both artistically and technologically, it will be relevant and important to consider the issues we have dealt with here: to listen to performers and their concerns regarding the recording process, to acknowledge the tension created by the confusion about their place in the process and product of recording, to question the aesthetic of recorded perfection, and to reconsider our understanding of the ontologies of live performance and studio recording—to allow each medium to be what it is. As funding for the arts is cut and the recording industry is undergoing its biggest metamorphosis in a generation, we have an opportunity to figure out how the concert and recording industries could use these recent shifts in the landscape to their advantage—to move with or even to further inspire changes in taste, to work out new ways of conceptualizing, creating, capturing, disseminating, and enjoying recorded music. Nicholas Kenyon suggests that times of radical challenge offer opportunities for positive revolutionary change.[159]

Notes

Amy Blier-Carruthers is Lecturer in Postgraduate Studies at the Royal Academy of Music and Teaching Fellow in Performance at King's College London. She read music at King's College London, also completing her PhD there, supported by an AHRC Collaborative Doctoral Award linked to the CHARM project. She went on to lecture at the Royal College of Music for three years, before joining the Academy in 2014 and King's in 2016. She is co-investigator on the AHRC Digital Transformations project "Classical Music Hyper-Production and Practice-as- Research", a core member of the AHRC Research Network "Performance in the Studio", and has collaborated with Aleks Kolkowski (Science Museum) on the AHRC-funded project based around a re-enactment of the Arthur Nikisch 1913 acoustic recording by the Berlin Philharmonic of Beethoven's Symphony No. 5. She is a Fellow of the Royal Society of Arts, a co-director of the Institute of Musical Research, a member of the Equality Diversity and Inclusion in Music Studies Network, and has most recently been invited to give lectures and workshops at such institutions as the Wigmore Hall, Princeton University, University of Oxford, University of Cambridge, the Smithsonian Institution, and the Royal College of Art. The research underpinning this article was supported by an Arts and Humanities Research Council Collaborative Doctoral Award, for which the author is very grateful. The author would like to acknowledge,

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1. See Roger Beardsley and Daniel Leech-Wilkinson, "A Brief History of Recording to ca. 1950," www.charm.rhul.ac.uk/history/p20_4_1.html. Also Daniel Leech-Wilkinson, *The Changing Sound of Music: Approaches to Studying Recorded Musical Performance* (London: CHARM, 2009), chap. 3, www.charm.rhul.ac.uk/studies/chapters/chap3.html#fnLink08.

2. This work describes a set of circumstances and working practices that were prevalent until March this year when the music industry was brought to a standstill. It needs to be read with the caveat in mind that nobody knows what the classical live concert scene or recording industry will look like when the current crisis is over, but it will be up to everyone to consider what the implications are for musicians and the music industry, and it is my hope that some of the ideas discussed here could be useful to that end.

3. Fred Gaisberg was an early sound engineer and record producer, known as the first A&R man, initially working for the Berliner Company, then later the Gramophone Company (HMV).

4. See Timothy Day, *A Century of Recorded Music: Listening to Musical History* (New Haven: Yale University Press, 2000); Mark Katz, *Capturing Sound: How Technology Has Changed Music* (Berkeley: University of California Press, 2004); Robert Philip, *Early Recordings and Musical Style: Changing Tastes in Instrumental Performance, 1900–1950* (Cambridge and New York: Cambridge University Press, 1992); Robert Philip, *Performing Music in the Age of Recording* (New Haven: Yale University Press, 2004).

5. F. W. Gaisberg, *Music on Record* (London: Robert Hale, 1947), 40–41 and 51.

6. Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction" (1936), in *Illuminations*, ed. Hannah Arendt (Bungay, Suffolk: Fontana/Collins, 1982), 219–53. Theodor W. Adorno, *Essays on Music*, ed. Richard Leppert (Berkeley, Los Angeles, London: University of California Press, 2002): of particular interest are Adorno's essays on recording technology, its uses, and its effects: "The Curves of the Needle" (1927); "The Form of the Phonograph Record" (1934); "On the Fetish Character in Music and the Regression of Listening" (1938); "The Radio Symphony"

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(1941); and "Opera and the Long-Playing Record" (1969). Glenn Gould, *The Glenn Gould Reader*, ed. Tim Page (London: Faber and Faber, 1987). Philip Auslander, *Liveness: Performance in a Mediatized Culture* (London and New York: Routledge, 1999).

7. I have explored these issues in my thesis "Live Performance—Studio Recording: An Ethnographic and Analytical Study of Sir Charles Mackerras" (PhD diss., King's College, University of London, 2010).

8. Christoph Cox and Daniel Warner, eds., *Audio Culture: Readings in Modern Music* (London: Continuum, 2004), 5. See also Andrew Blake, "Recording Practices and the Role of the Producer," in *The Cambridge Companion to Recorded Music*, eds., Nicholas Cook, Eric Clarke, Daniel Leech-Wilkinson, and John Rink (Cambridge: Cambridge University Press, 2009), 45–47.

9. For the analytical part of my research, my comparative case studies were based on directly corresponding pairs of live and studio recordings of the same piece with the same performers, ideally recorded at around the same time. The performances I studied, when heard in direct comparison, even for just a few seconds, show a striking difference between live and studio recording, with the differences audible in every aspect of performance. The timbre of the two performance styles significantly differs due to the acoustic space and the presence or lack of an audience. A live performance tends to be much more expressive and overt in terms of declamatory style and characterization and has more scope for dramatic timing. Phrasing and articulation are typically more sustained in the recording studio. Tempo is surprisingly consistent in the performances by Mackerras under investigation, but when it does differ, it tends to be quicker in live performance. *The Sir Charles Mackerras Collection* (C961 and C1189), British Library Sound Archive, London, UK. These recordings are available at the British Library Sound Archive, shelfmarks: CD 1–4: 1CDR0032905-8. For a detailed analysis, see my "Live Performance–Studio Recording".

10. Nicholas Cook, *Beyond the Score: Music as Performance* (Oxford and New York: Oxford University Press, 2013), 366–67.

11. Interviews with: Alistair Mackie, trumpeter and chairman of the Philharmonia Orchestra, 13 December 2007; Robert Tear, tenor, 17 December 2007 and 9 August 2009; James Clark, violinist and concertmaster, Philharmonia Orchestra, 20 December 2007; and Lisa Beznosiuk, principal flute, Orchestra of the Age of Enlightenment, 7 December 2007. Beznosiuk cited a Desert Island Discs broadcast in which Sir Simon Rattle stated, "listening to your own recordings is like a dog going back to sniff the mess it just made"; she added: "This is a good description."

12. Dika Newlin, *Schoenberg Remembered: Diaries and Recollections (1938–76)* (New York: Pendragon Press, 1980), 164; and Igor Stravinsky, *Poetics of Music in the Form of Six Lessons* (London: Oxford University Press, 1947), 127. See Nicholas Cook, "Between Process and Product: Music and/as Performance," *Music Theory Online* 7, no. 2 (April 2001).

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13. Cook, *Beyond the Score*, 3. See also Daniel Leech-Wilkinson, *The Changing Sound of Music*, http://www.charm.kcl.ac.uk/studies/chapters/intro.html, last accessed 20 August 2020

14. Cook, *Beyond the Score*, 3.

15. Ibid., 1–24. Mine Doğantan-Dack, "Recording the Performer's Voice," in *Recorded Music: Philosophical and Critical Reflections*, ed. Mine Doğantan-Dack (London: Middlesex University Press, 2008), 302.

16. According to Cook, this has been helped in part by the research funding structures in the UK over the past decade or so, and the work of research centers such as the AHRC Research Centre for the History and Analysis of Recorded Music (CHARM, 2004–2009, and the AHRC Research Centre for Musical Performance as Creative Practice (CMPCP, 2009–2014), Cook, *Beyond the Score*, 252. Another important research center focusing on artistic research is the Orpheus Instituut in Ghent, Belgium. http://www.cmpcp.ac.uk and http://www.orpheusinstituut.be/en, last accessed 20 August 2020.

17. Cook, *Beyond the Score*, 250.

18. Ibid., 252. See also http://www.charm.rhul.ac.uk/index.html.

19. Cook, *Beyond the Score*, 250.

20. See Bruno Nettl, *Heartland Excursions: Ethnomusicological Reflections on Schools of Music* (Urbana and Chicago: University of Illinois Press, 1995); Henry Kingsbury, *Music, Talent & Performance: A Conservatory Cultural System* (Philadelphia: Temple University Press, 1988); Jonathan Stock, "Documenting the Musical Event: Observation, Participation, Representation," in *Empirical Musicology*, eds. Eric Clarke and Nicholas Cook (Oxford: Oxford University Press, 2004), 15–34; Stephen Cottrell, *Professional Music-Making in London: Ethnography and Experience* (Aldershot and Burlington, VT: Ashgate, 2004); Stephanie E. Pitts, "What Makes an Audience?: Investigating the Roles and Experiences of Listeners at a Chamber Music Festival," *Music & Letters* 86, no. 2 (2005): 257–69; Gregory F. Barz, "Confronting the Field(note) In and Out of the Field: Music, Voices, Texts, and Experiences in Dialogue," in *Shadows in the Field: New Perspectives for Fieldwork in Ethnomusicology*, eds. Gregory Barz and Timothy J. Cooley (Oxford: Oxford University Press, 2008), 206–23.

21. Stock, "Documenting the Musical Event," 19. The growth of research in this area was further evidenced by the publication in 2011 of the special issue of *Ethnomusicology Forum* 20, no. 3, on "The Ethnomusicology of Western Art Music," edited by Laudan Nooshin (and subsequently published as a collected edition, *The Ethnomusicology of Western Art Music* (London and New York: Routledge, 2013).

22. Nettl, *Heartland Excursions*, 1.

23. Atkinson and Hammersley state that "in practical terms, ethnography usually refers to forms of social research having a substantial number of the following features: [1] a strong emphasis on exploring the nature of particular social phenomena, rather

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than setting out to test hypotheses about them; [2] a tendency to work primarily with 'unstructured' data, that is, data that have not been coded at the point of collection in terms of a closed set of analytic categories; [3] investigation of a small number of cases, perhaps just one case, in detail; [4] analysis of data that involves explicit interpretation of the meanings of human actions, the product of which mainly takes the form of verbal descriptions and explanations." Paul Atkinson and Martyn Hammersley, "Ethnography and Participant Observation," in *The SAGE Handbook of Qualitative Research*, eds. Norman K. Denzin and Yvonna S. Lincoln (London: SAGE, 1994), 248–61.

24. The fieldwork was undertaken between 2005 and 2009, the final years of Mackerras's career and life. Venues included Watford Town Hall (Watford Coliseum) for the recording sessions, and for the concerts and live recordings the Royal Festival Hall, Queen Elizabeth Hall, Barbican, Royal Opera House Covent Garden, English National Opera (Coliseum), Royal Albert Hall, Vienna Konzerthaus, Prague Obcení Dům, and Berlin Philharmonie.

25. Stock, "Documenting the Musical Event," 31.

26. See for example Anthony Seeger, "Theories Forged in the Crucible of Action: The Joys, Dangers, and Potentials of Advocacy and Fieldwork," in Barz and Cooley, *Shadows in the Field*, 271–88; and Salwa El-Shawan Castelo-Branco, "Epilogue: Ethnomusicologists as Advocates," in *Music and Conflict*, eds. John Morgan O'Connell and Salwa El-Shawan Castelo-Branco (Urbana: University of Illinois Press, 2010), 243–52. Castelo-Branco writes: "Ethnomusicologists can contribute . . . by applying their in-depth knowledge of local musical cultures . . . and can provide information on [those] musical cultures, . . . drawing attention to their value and to the common grounds on which future cooperation can be built" (249).

27. Paul Willis echoes this when speaking of the tension between the experience in the field and the knowledge that you will write about it afterwards: "We must consider the ethics of our interactions, as we and our subjects know that these will eventually become data. . . . We are concerned with the interpretations of the facts by the people in a particular situation; we are looking at how the people involved understand what they are doing." Paul Willis, "Ethnographic Approaches to Organisational Study," keynote address, Approaches to Collaborative Doctoral Awards conference, Globe Theatre, London, 24 November 2008.

28. A partial list includes Theodore Gracyk, "Listening to Music: Performances and Recordings," *Journal of Aesthetics and Art Criticism* 55 (1997): 139–50; Stan Godlovitch, *Musical Performance: A Philosophical Study* (London: Routledge, 1998); Stephen Davies, *Musical Works and Performances: A Philosophical Exploration* (Oxford: Clarendon Press, 2001). Adorno's works are collected in Leppert (references in note above). Benjamin, "The Work of Art", in *Illuminations*; E. M. Forster, "The Machine Stops," first published in the *Oxford and Cambridge Review* in 1909, and in book form in 1928: *The Machine Stops* (London: Penguin, 2011), 1–55; E. M. Forster, "Not Listening to Music" (1939), in *Two Cheers for Democracy* (New York: Harcourt, Brace & Co., 1951), 127–30; Constant Lambert, "The Mechanical Stimulus," in

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Music Ho! A Study of Music in Decline (1934) (London: Hogarth Press, 1985), 200–34; Benjamin Britten, *On Receiving the First Aspen Award* (1963) (London: Faber & Faber, 1964), 19–20; Gould, *The Glenn Gould Reader*; Philip, *Performing Music in the Age of Recording*; Katz, *Capturing Sound*; Dorottya Fabian, "Classical Sound Recordings and Live Performances: Artistic and Analytical Perspectives," in *Philosophical Reflections on Sound Recordings*, ed. Mine Doğantan-Dack (London: Middlesex University Press, 2008), 232–60; Anthony Gritten, "Performing after Recording," in Doğantan-Dack, *Philosophical Reflections*, 82–99; Leech-Wilkinson, *The Changing Sound of Music*, (http://www.charm.kcl.ac.uk/studies/chapters/intro.html); Peter Johnson, "Illusion and Aura in the Classical Audio Recording," in *Recorded Music: Performance, Culture, and Technology*, ed. Amanda Bayley (Cambridge: Cambridge University Press, 2010), 38–51; Leon Botstein, "The Eye of the Needle: Music as History After the Age of Recording," in *The Oxford Handbook of the New Cultural History of Music*, ed. Jane F. Fulcher (Oxford and New York: Oxford University Press, 2011), 523–50; Cook, *Beyond the Score*.

29. For a detailed discussion of these issues, see my "Live Performance—Studio Recording."

30. Glenn Gould, *The Glenn Gould Reader*; Susan Tomes, "A Performer's Experience of the Recording Process," in her *Beyond the Notes: Journeys with Chamber Music* (Rochester, NY: The Boydell Press, 2004), 140–50; Alfred Brendel, "A Case for Live Recordings," in his *On Music: Collected Essays* (London: JR Books, 2007), 345–51; Michael Haas, "Studio Conducting," in *The Cambridge Companion to Conducting*, ed. José Antonio Bowen (Cambridge: Cambridge University Press, 2003), 28–39; John Rushby-Smith, "Recording the Orchestra," in *The Cambridge Companion to the Orchestra*, ed. Colin Lawson (Cambridge: Cambridge University Press, 2003), 169–79; Andrew Hallifax, *The Classical Musician's Recording Handbook* (London: SMT, 2004); Jonathan Freeman-Attwood, "Still Small Voices," in Cook et al., *The Cambridge Companion to Recorded Music* (Cambridge: Cambridge University Press, 2009), 54–58.

31. Philip, *Early Recordings and Musical Style*; David Milsom, *Theory and Practice in Late Nineteenth-Century Violin Performance: An Examination of Style in Performance, 1850–1900* (Aldershot: Ashgate, 2003); Day, *A Century of Recorded Music*; Leech-Wilkinson, *The Changing Sound of Music* (http://www.charm.kcl.ac.uk/studies/chapters/intro.html); Cook, *Beyond the Score*; Katz, *Capturing Sound*; Philip, *Performing Music in the Age of Recording*; Cook et al., *The Cambridge Companion to Recorded Music*; Amanda Bayley, ed., *Recorded Music: Performance, Culture and Technology* (Cambridge: Cambridge University Press, 2010); Mine Doğantan-Dack, ed., *Recorded Music: Philosophical and Critical Reflections* (London: Middlesex University Press, 2008); John Rink, ed., *The Practice of Performance: Studies in Musical Interpretation* (Cambridge: Cambridge University Press, 1995); John Rink, ed., *Musical Performance: A Guide to Understanding* (Cambridge: Cambridge University Press, 2002); Simon Frith and Simon Zagorski-Thomas, eds., *The Art of Record Production: An Introductory Reader for a New Academic Field* (Aldershot and Burlington, VT: Ashgate, 2012); Simon Zagorski-Thomas, *The Musicology of Record Production* (Cambridge: Cambridge

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University Press, 2014); Michal Chanan, *Repeated Takes: A Short History of Recording and its Effects on Music* (London: Verso, 1995; repr. 2000); Evan Eisenberg, *The Recording Angel: Music, Records and Culture from Aristotle to Zappa* (New Haven and London: Yale University Press, 2005; first publ. 1987).

32. Gracyk, "Listening to Music: Performances and Recordings;" Godlovitch, *Musical Performance*; Davies, *Musical Works and Performances*.

33. Katz finds these theoretical comparisons unsatisfying: "It is not enough to compare the two solely in value-laden terms, as is often the case. While some say that CDs sound better or are more aesthetically satisfying than live concerts, and others insist exactly the opposite, such arguments tell us little about the impact of the technology. Instead of asking which is better, the more revealing question is this: How are live and recorded music different?" Katz, *Capturing Sound*, 4. See also Leech-Wilkinson, *The Changing Sound of Music*, chap. 3.7, para. 107. Cook addresses these and related issues in chapters 11 and 12 of *Beyond the Score*. He writes "Yet even in the twenty-first century there is a continuing reluctance on the part of musicologists to accept recorded music as a musical phenomenon in its own right rather than an ersatz form of something else" (353–54).

34. Adorno, "The Form of the Phonograph Record," 277, 278.

35. Adorno, "Opera and the Long-Playing Record," 283–87.

36. Benjamin, "The Work of Art," 223.

37. Forster, "The Machine Stops".

38. Lambert, "The Mechanical Stimulus," 205–6. Other references to canned music include Fred Gaisberg quoting Bruno Walter as saying, "canned music tastes a little of the metal that preserves it. It is not fresh fruit, but even so, it is a great blessing" (*Music on Record*, 151, cited in Day, *A Century of Recorded Music*, 40). Auslander and Gritten both quote Jacques Attali: "A concert is a representation, but also a meal à la carte in a restaurant; a phonograph record or a can of food is repetition" (Auslander, *Liveness*, 26; and Gritten, "Performing after Recording," 85).

39. Britten, *On Receiving the First Aspen Award*, 19–20.

40. Hans Keller, cited in Eric Clarke, "Listening to Performance," 194. The reference is to Keller's "The Gramophone Record," in *The Keller Column: Essays by Hans Keller*, ed. Robert Matthew-Walker (London: Alfred Lengnick, 1990), 22–25.

41. Small, *Musicking*; Philip, *Liveness*, i; Fabian, "Classical Sound Recordings and Live Performances," 236. Ananay Aguilar and Terrance Curran have completed doctoral theses on these issues. Curran's was completed at Oxford and he also wrote and presented a BBC documentary on the subject, *Performing to the Red Light*, BBC Radio 4, aired on 2 and 9 June 2009. Ananay Aguilar's thesis, "Recording Classical Music: LSO Live and the Transforming Record Industry" (Royal Holloway, University of London, 2011) focuses on the subject of classical recording practices and how they "construct and perpetuate the culture of classical music."

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42. Gritten, "Performing After Recording," 82, 92.

43. Clarke, "Listening to Performance," 194.

44. Johnson, "Illusion and Aura in the Classical Audio Recording," 37, 39, 48.

45. Botstein, "The Eye of the Needle," 529, 535, 530, 538.

46. Tomes, "A Performer's Experience of the Recording Process", 141–42.

47. Rosen, *Piano Notes*, 184.

48. Gould, "The Prospects of Recording," 331–53 and "Music and Technology," 353–57. He defends editing, saying that "you cannot ever splice style" ("The Prospects of Recording," 338), going so far as to conduct listening tests to prove these edits are for the most part imperceptible. See his "The Grass is Always Greener in the Outtakes: An Experiment in Listening," in *The Glenn Gould Reader*, 357–68.

49. Rushby-Smith, "Recording the Orchestra," 177.

50. Eisenberg, *The Recording Angel*, 93.

51. Haas, "Studio Conducting," 28, 35. He goes on to say, "A conductor should be able to use the studio as an expressive aid" (31). However, he continues: "The days of allowing an orchestra and conductor to create in the studio are slowing down and could conceivably disappear altogether. Sales of orchestral repertoire are lower than virtually any other genre, yet remain the most expensive to make (apart from opera) . . . recording sales do not justify the money spent" (39).

52. For discussions of how people listen to recordings, see Tia DeNora, *Music in Everyday Life* (Cambridge: Cambridge University Press, 2000); Clarke, "Listening to Performance;" Fabian, "Classical Sound Recordings and Live Performances;" Arild Bergh and Tia DeNora, "From Wind-Up to iPod: Techno-Cultures if Listening," in Cook et al., *The Cambridge Companion to Recorded Music*, 102–15; Johnson, "Illusion and Aura in the Classical Audio Recording."

53. Brendel, "A Case for Live Recordings," 345–46.

54. Ibid.

55. Interview (2) with Sir Charles Mackerras, 14 December 2006.

56. Informal discussion (2) with Andrew Hallifax, independent recording engineer, October 2007. Hallifax has worked with Decca, Deutsche Grammophon, Hyperion, Linn, Virgin Classics, and King's College London.

57. Interview with James Mallinson, independent record producer, 19 January 2007. Mallinson has worked with Decca, EMI, Telarc, Sony, Chandos, and LSO Live.

58. Hallifax, *The Classical Musician's Recording Handbook*, 41. Hallifax is quoting from John Culshaw, *Putting the Record Straight* (London: Secker and Warburg, 1982), a source also quoted by Day when describing how recording can be independent and creative in its own right (*A Century of Recorded Music*, 31). Patmore and Clarke have written about Culshaw's studio techniques in "Making and Hearing Virtual Worlds:

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John Culshaw and the Art of Record Production," *Musicae Scientiae* 9, no. 2 (Fall 2007): 269–93.

59. Interview with Campbell Hughes, balance engineer, BBC Radio 3, 4 April 2007.

60. All quotes are from interviews conducted with Tear, Mackie, Beznosiuk, and Clark (see note 10 for full details).

61. Suvi Raj Grubb describes Klemperer's reactions in the recording studio: "The technical processes of recording were a complete mystery to him. On one occasion when he wanted to repeat a complete movement because of a momentary inaccuracy, I explained to him the advantages of tape editing—that I would cover the passage from a previous take. When at last it dawned on him that the final master would not be of one complete take but made up of sections of various takes he was outraged: 'you mean the performance is not by me?' he asked indignantly. I assured him that of course it was but he would not be consoled and turning to his daughter he said in the most melancholy tones, 'Lotte, ein Schwindel !'" (translates as "deception" or "swindle"). *Gramophone* (August 1973), 18; and also in Suvi Raj Grubb, *Music Makers on Record* (London: Hamish Hamilton, 1986), 93. I am grateful to Daniel Leech-Wilkinson for bringing this quote to my attention.

62. Botstein, "The Eye of the Needle," 530, 546; Georgina Born, "Afterword: Recording: From Reproduction to Representation to Remediation," in Cook et al., *The Cambridge Companion to Recorded Music*, 287; Norman Lebrecht, *Maestros, Masterpieces, and Madness: The Secret Life and Shameful Death of the Classical Record Industry* (London: Penguin, 2007), 130–40.

63. See the discussions in Haas, "Studio Conducting," and David Patmore, "Selling Sounds: Recordings and the Record Business," in Cook et al., *The Cambridge Companion to Recorded Music*, 120–39, esp. 134.

64. Interview with Jonathan Stokes, sound engineer, Classic Sound, 18 August 2009. Stokes also works with Chandos, LSO Live, and Philharmonia Live.

65. Interview with Mackie.

66. On the sense of crisis among orchestral players, see Richard Morrison, *Orchestra—The LSO: A Century of Triumph and Turbulence* (London: Faber and Faber, 2004), 233.

67. Nick Clarke, "British Orchestras Are in Danger of Losing Top Billing Despite Rising Ticket Sales," *Independent*, 26 January 2014, http://www.independent.co.uk/arts- entertainment/classical/news/british-orchestras-are-in-danger-of-losing-top-billing-despite-rising-ticket- sales-9085502.html; David Pountney, "Austerity and the Arts: The Hidden Cuts that are Bad for Our Cultural Health," *The Guardian*, 21 April 2015, http://www.theguardian.com/music/2015/apr/21/david-pountney-arts-funding-bad-for-our-cultural-health, last accessed 20 August 2020.

68. Katie Allen, "Piracy Continues to Cripple Music Industry as Sales Fall 10%," *The Guardian*, 21 January 2010, http://www.theguardian.com/business/2010/jan/21/music-industry-piracy-hits-sales; Mark Vanhoenacker, "Requiem: Classical Music in

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America is Dead," *Slate*, January 2014, http://www.slate.com/articles/arts/culturebox/2014/01/classical-music-sales-decline-is-classical-on-deaths-door.html, last accessed 20 August 2020. See also Lebrecht, *Maestros, Masterpieces, and Madness*, 131, 140.

69. The official company names have shifted as the industry shifts, but at the moment are known as Universal Music Group, Warner Music Group, and Sony Music.

70. Lebrecht, *Maestros, Masterpieces, and Madness*, 130–40.

71. Interview with Stokes.

72. Patmore, "Selling Sounds," 134.

73. Pekka Gronow and Ilpo Saunio, *An International History of the Recording Industry* (London and New York: Cassell, 1998); David Kusek and Gerd Leonhard, *The Future of Music: Manifesto for the Digital Music Revolution* (Boston: Berklee Press, 2005); Lebrecht, *Maestros, Masterpieces, and Madness*; Patmore, "Selling Sounds," 120–39; Jim Rogers, *The Death and Life of the Music Industry in the Digital Age* (London: Bloomsbury, 2013).

74. IFPI (International Federation of the Phonographic Industry) figures, as quoted by Gronow and Saunio, *An International History of the Recording Industry*, 193; and Rogers, *The Death and Life of the Music Industry in the Digital Age*, 51.

75. Gronow and Saunio, *An International History of the Recording Industry*, 193. There are various sources for the figures discussed here, as reported statistics by the IFPI seem to differ slightly from source to source. However, the general trend represented is consistent: decline. The IFPI's digital music report does not report the statistics in a straightforward way, and they certainly do not report the full statistics. More thorough information can be found in the "Recording Industry in Numbers" publication, which is freely available online for 2010 and 2011 at http://www.snepmusique.com/wp-content/uploads/2014/01/rin2010.pdf and http://www.snepmusique.com/wp-content/uploads/2013/01/RIN-2012-SNEP-copie.pdf, last accessed 20 August 2020. However, later editions are only available at cost: £750, or £375 for academic use.

76. Lebrecht, *Maestros, Masterpieces, and Madness*, 137. IFPI figures in Rogers, *The Death and Life of the Music Industry in the Digital Age*, 32; IFPI,"Recording Industryin Numbers, 2010"; IFPI Digital Music Report 2015, http://www.snepmusique.com/wp-content/uploads/2013/01/RIN-2012-SNEP-copie.pdf; and IFPI website, http://www.ifpi.org/global-statistics.php, last accessed 20 August 2020.

77. For these arguments, see in particular Gronow and Saunio, *An International History of the Recording Industry*; Kusek and Leonhard, *The Future of Music*; Lebrecht, *Maestros, Masterpieces, and Madness;* Patmore, "Selling Sounds"; Rogers, *The Death and Life of the Music Industry in the Digital Age*; and Cook, *Beyond the Score*, esp. 348–405; as well as any article in the mainstream press.

78. Lebrecht, *Maestros, Masterpieces, and Madness*, 132. Kusek and Leonhard go so far as to say that the big record companies have acted as a cartel; Kusek and Leonhard, *The Future of Music*, 7.

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79. Lebrecht, *Maestros, Masterpieces, and Madness*, 133; and Haas, “Broadening Horizons,” 59–62.

80. Rogers, *The Death and Life of the Music Industry in the Digital Age*, 16.

81. Nicholas Cook, “The Economics and Business of Music,” in *An Introduction to Music Studies*, eds. J. P. E. Harper-Scott and Jim Samson (Cambridge: Cambridge University Press, 2009), 280.

82. IFPI figures, in Gronow and Saunio, *An International History of the Recording Industry*, 193; Rogers, *The Death and Life of the Music Industry in the Digital Age*, 16.

83. Botstein, “The Eye of the Needle,” 530. Michael Church, “Classical: An Industry in Crisis? Not Quite,” *The Independent*, 21 August 1998, http://www.independent.co.uk/arts-entertainment/classical-an-industry-in-crisis-not- quite-1173062.html; Martin Kettle, “The Classical Recording Industry is in Crisis. Norman Lebrecht Has Even Pronounced It Dead. Is He Right? And If So, Should We Mourn?” *The Guardian*, 3 April 2007, http://www.theguardian.com/music/2007/apr/03/classicalmusicandopera.martinkettle; and Martin Buzacott, “Death and Transfiguration: The Classical Music Recording Industry in the Digital Age,” 12 May 2015, http://www.abc.net.au/radionational/programs/earshot/the-classical-music-recording-industry/6463312, last accessed 20 August 2020.

84. This echoes Stephen Cottrell’s analysis of the cultural capital versus the economic capital (using Bourdieu’s terms) of music making in “Music as Capital: Deputizing among London’s Freelance Musicians,” *British Journal of Ethnomusicology* 11, no. 2 (2002), 61–80, specifically 69–73.

85. There is more freedom in a chamber session, whereas orchestral sessions are highly regulated. The Musicians’ Union regulations, which guide the UK’s professional musical community’s activities, state that recording sessions should be no longer than three hours, with a fifteen-minute break approximately half-way through. Sessions must start and finish exactly on time or overtime charges are incurred, and permission has to be sought and agreed upon before the session. See the Recording Session Agreement document between The British Phonographic Industry and the Musicians Union, 2007. I am grateful to the Musicians Union for providing their Orchestral Agreement details.

86. Johnson’s description of performers’ involvement in the editing process seems representative of the extent to which performers are kept out of it. See “Illusion and Aura,” 42 and associated footnote.

87. Philip, *Performing Music in the Age of Recording*, 12–13, 25.

88. Andrew Keener quoted in Philip, *Performing Music in the Age of Recording*, 56.

89. Day, *A Century of Recorded Music*, 48.

90. Adorno, “On the Fetish Character in Music and the Regression of Listening,” 301.

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91. Auslander, *Liveness*, 2–3, 11, 57, and 23–38; and Pierre Bourdieu, *Language and Symbolic Power* (Cambridge: Polity, 1991), 203.

92. Jacques Attali, *Noise: The Political Economy of Music* (Minneapolis: University of Minnesota Press, 1977/2009), 85.

93. Katz, *Capturing Sound*, 26.

94. Botstein, "The Eye of the Needle," 523, 530–31, 533.

95. Leech-Wilkinson, *The Changing Sound of Music*, chap. 2.1, paras. 6–7.

96. For instance, we could consider how musicians find themselves needing to turn to medication to deal with performance anxiety, or the level of competitiveness and stress exhibited by musicians auditioning for the Berlin Philharmonic in a 2009 documentary. There is a growing body of research on performance anxiety and the pressures put on the health of musicians by the demands of high-level performance expectations: see Raluca Matei and Jane Ginsborg, "Music Performance Anxiety in Classical Musicians – What We Know about What Works," *British Journal of Psychiatry International* 14, no. 2 (May 2017): 33–35, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5618811/; see also Andrew Steptoe, "Negative Emotions in Music Making: The Problem of Performance Anxiety", in Patrick N. Juslin and John A. Sloboda, *Music and Emotion: Theory and Research* (Oxford: Oxford University Press, 2001), 293–307; Blair Tindall, "Just One More to Calm the Nerves," *The Guardian*, 5 June 2008, last accessed August 2020, http://www.guardian.co.uk/music/2008/jun/05/classicalmusicandopera.news, last accessed 20 August 2020; and Thomas Grube, *Trip to Asia: The Quest for Harmony* (a documentary about Sir Simon Rattle's tour with the Berlin Philharmonic Orchestra) (Axiom Films, 2009).

97. Johnson, "Illusion and Aura," 44.

98. Dorottya, "Classical Sound Recordings and Live Performances", 244.

99. Recorded for the Chandos label, sponsored by the Sir Peter Moores Foundation (recorded at the Colosseum in Watford Town Hall, January 2007). I attended six of the sessions during which twenty numbers were recorded. The record was produced by James Mallinson.

100. For a more detailed list of comments, see the Appendices in my "Live Performance—Studio Recording"

101. Tony Pay in André Previn, ed., *Orchestra* (London: Macdonald and Jane's, 1979), 191.

102. Bill Lang in André Previn, ed., *Orchestra* , 187–88.

103. From interviews with Mackie and Clark.

104. Brendel, "A Case for Live Recordings," 347.

105. Rushby-Smith, "Recording the Orchestra," 177–78.

106. Brendel, "A Case for Live Recordings," 347, 349.

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107. Emanuel Ax in Harvey Sachs, "Six Famous Ears: Emanuel Ax, Alfred Brendel, and Andras Schiff Tell How They Listen," interviews for the Orpheus Instituut, Ghent, Belgium, and presented at the "The Musician as Listener" conference, May 22–23, 2008.

108. Informal discussion with Stephen Johns, independent record producer (formerly vice-president of EMI Classics, responsible for artists and repertoire) and Ben Connellan, an independent recording engineer who works with the Chandos and Hyperion labels, among others, October 2011.

109. Interview with Stokes; Rushby-Smith, "Recording the Orchestra," 178.

110. Tony Pay, cited in Previn, ed., *Orchestra*, 191.

111. Fabian, "Classical Sound Recordings and Live Performances," 242.

112. Anonymous production team member.

113. Tony Pay, cited in Previn, ed., *Orchestra*, 191.

114. Cook, *Beyond the Score*, 357–72.

115. The term "mediatized" is taken from Auslander, *Liveness.*

116. Haas discusses this in "Studio Conducting", (28), and in "Broadening Horizons: 'Performance' in the Studio" (60). For a more thorough look at film and theater, see Susan Sontag, "Film and Theatre," *The Tulane Drama Review* 11, no.1 (Fall 1966): 24–37.

117. See Sterne, Jonathan, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham and London: Duke University Press, 2003), 218, 284; and also Born, "Afterword: Recording: From Reproduction to Representation to Remediation," 290. I am also grateful to Lindsay Wright for raising the issue of actors specializing in film or theater.

118. Philip, *Performing Music in the Age of Recording*, 54–55.

119. Nicholas Cook, "Methods for Analysing Recordings," in Cook et al., *The Cambridge Companion to Recorded Music*, 243. See also his *Beyond the Score*, 366–68.

120. This term is used widely in recordist circles (producers and sound engineers), and has been adapted by Nicholas Cook as a concept he calls the Best Seat in the House (or BSH) paradigm. Cook, *Beyond the Score*, 376.

121. Cook, *Beyond the Score*, 385, 390.

122. Sontag, "Film and Theatre," 33.

123. Freeman-Atwood, Cook, Born, Patmore, Johnson, Gronow and Saunio. Even in 1969 Adorno was dismayed that even as late as 1934 the record hadn't given rise to anything unique to it. Adorno, "Opera and the Long-Playing Record," 283.

124. Some of these issues are echoed by Johnson, "Illusion and Aura," 39, 48.

125. This argument is based on my experience of teaching the "Studio Performance" postgraduate course offered at the Royal Academy of Music.

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Postgraduate students are regularly instructed, both through seminars and recording sessions, in the implications and practicalities of the studio. They are encouraged to reflect on how the adrenaline of a live performance can be recreated in the "controlled" environment of the studio and that even without an audience, a recording is no less "live." The principal, Jonathan Freeman-Attwood, who is not only a performer but also a producer, asserts that every take has to be treated as a live performance: "A recording constitutes many live performances, many inflections, messages, nuances, with the chance to do your best every time. This leads to a range of artistic possibilities quite different from the 'spur of the moment' events in the concert hall." Personal communication, 15 November 2005. My assertions are also based on research undertaken whilst teaching "Studio Experience" at the Royal College of Music from 2011–14; the findings have been published in my article "The Studio Experience: Control and Collaboration," in *Proceedings of the International Symposium on Performance Science* (Vienna, August 2013), 693-98. ISBN978-2-9601378-0-4, http://performancescience.org/wp-content/uploads/2018/08/isps2013_proceedings.pdf, last accessed 20 August 2020. The article makes the point that this kind of training is certainly needed. The negative attitude toward recordings is not limited to an older generation of professional musicians, even today's cohort of technologically savvy conservatory students share it. At the beginning of the course, a group of postgraduate performers taking the course responded to the question "What is the first word that comes to mind when you think about recording," with words such as: "Perfection; permanent; clean, tidy; exposing flaws; not natural; clinical, tiring; self-criticism; experimental; imaginative; no audience; daunting." Asked again after the course, they responded that recording now meant "experimenting, trying different ways of doing something; stress, good stress; pressure; layers of detail; a lot more fun than expected; good intensity, stressful and fun; more creative than I was expecting." I am grateful to my students for their input and insights, and for their permission to use these quotes. The course has also been studied and written about by Aguilar, "Recording Classical Music," chap. 2.

126. For example, I have been asked to develop a post-Masters course at the Royal Academy of Music, a Professional Diploma in Collaborative Recording Production, a year-long course which will prepare high-level performers to curate their own recorded output. They will be instructed about all aspects of the process, encouraged to collaborate more closely with their production teams, make their own decisions about takes, complete their own editing, as well as deal with the marketing and distribution of their recording. Record companies such as Linn Records, amongst others, are already working with performers who engage in more collaborative working practices. Linn records, https://www.linnrecords.com/about. Avie publicizes its "unique, artist-ownership model", https://www.chandos.net/labels/Avie_Records/45. Deux-Elles states that "We believe that music is more than just a series of sounds—it's a performance too. We therefore make recordings that are engaging and exciting to listen to and which preserve the real-life ambience, continuity and musicality of the performance. . . . We encourage our artists to select their own programme material and to participate actively in the production process." https://deux-elles.co.uk/about-us/.

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127. Freeman-Attwood, "Still Small Voices," 56–57. Freeman-Attwood works with companies such as Linn, Naxos, BIS, Chandos, Hyperion, Harmonia Mundi USA, Channel Classics and AVIE. Several of his productions have won major awards.

128. For further exploration of these issues, see Amy Blier-Carruthers, "The Influence of Recording on Performance—Classical Perspectives," *The Bloomsbury Handbook of Music Production*, eds. Simon Zagorski-Thomas and Andrew Bourbon (London: Bloomsbury, 2020).

129. Born, "Afterword: Recording: From Reproduction to Representation to Remediation," 296.

130. Freeman-Attwood, "Still Small Voices," 54.

131. Ibid., 57.

132. Cook, *Beyond the Score*, 377. Zagorski-Thomas similarly highlights that this team of collaborators is more readily accepted in film than in music recording (*The Musicology of Record Production*, 74–75). See also Freeman-Attwood, "Still Small Voices"; Blake, "Recording Practices"; Steve Savage, "It Could Have Happened?: The Evolution of Music Construction," in Cook et al., *The Cambridge Companion to Recorded Music*, 32–35.

133. Personal communication, Mallinson. This term is widely applied by production team members.

134. Cook, *Beyond the Score*, 374–413.

135. Gould is shown experimenting with different microphone placements and editing options in the film *Glenn Gould: The Alchemist* (EMI Classics, IMG Artists, Idéale Audience International, 1974, Bruno Monsaingeon, dir.) at 32:00 and 39:40 minutes in. A few moments of this footage—Gould mixing Scriabin—can be seen on YouTube: https://www.youtube.com/watch?v=JllD47HIees and https://www.youtube.com/watch?v=chHJdmyIiRk. The recordings, which were not released in Gould's lifetime, have more recently been re-mixed by Paul Théberge and released as *Glenn Gould: The Acoustic Orchestrations, Works by Scriabin and Sibelius*, recorded in 1970 by Glenn Gould and unknown sound engineer (possibly Fred Plaut), produced and mixed in 2012 by Paul Théberge (Sony Classical, 88725406572, 2012).

136. Richard Wagner, *Der Ring des Nibelungen*, cond. Sir Georg Solti, Wiener Philharmoniker, Wiener Staatsopernchor, originally released in 1959, 1963, 1965, and 1966, produced by John Culshaw, with Gordon Parry as the lead sound engineer (Decca, 455555-2, 1997). Culshaw wrote about his work on these landmark recordings in *Ring Resounding: The Recording of "Der Ring des Nibelungen"* (London: Pimlico, 1967/2012). See also Patmore and Clarke, "Making and Hearing Virtual Worlds."

137. These experiments are variously cited by Patmore, Botstein, Clarke and Patmore, Freeman-Attwood, Johnson, Lebrecht, Gronow and Saunio, among others.

138. Lebrecht, *Maestros, Masterpieces, and Madness*, 136.

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139. It seems strangely symptomatic of one of the problems discussed here—recording as a hidden process, a dark art—that the most renowned UK record review publication presents us almost exclusively with the *fait accompli* of the final recorded performance, with the recordists' work largely unrepresented. This has improved slightly in recent decades, but evidence of the work that goes on in the studio is still strikingly scant.

140. A. P. (probably Andrew Porter, though might have been Anthony Pollard), *The Gramophone* 36, no. 430 (March 1959): 472–73.

141. A. R. (probably Alec Robertson), *The Gramophone* 42, no. 504 (May 1965): 541–44.

142. Award mentions quoted in the Decca advertising, *The Gramophone* 42, no. 511 (December 1965): 304; and also in Culshaw, *Ring Resounding*. Reviewer quote: A.R. (probably Alec Robertson), *The Gramophone* 44, no. 520 (September 1966): 175–77.

143. Culshaw, *Ring Resounding*, 24–25.

144. Re-released in September 2014, and discussedin Cook, *Beyond the Score*, 380.

145. Cook, *Beyond the Score*, 390.

146. A broader research project will focus on what performers and production teams would like to try instead. We are already conducting some experiments as part of the AHRC Classical Music Hyper-Production and Practice-As-Research project, led by Simon Zagorski-Thomas at the University of West London; https://gtr.ukri.org/projects?ref=AH%2FM010155%2F1.

147. Patmore, "Selling Sounds," 135.

148. He thinks that "CDs offer only 15 percent of the recorded information contained on the master tracks"; once converted to MP3s, "you've lost a great deal of richness and complexity." Michael Calore, "Why Neil Young hates MP3s - and what you can do about it," *Wired*, 3 February 2012, http://www.wired.co.uk/news/archive/2012-02/03/neil-young-hates-mp3s.

149. BBC announcement, http://www.bbc.co.uk/news/entertainment-arts-32251994. Official Charts Company, http://www.officialcharts.com/charts/vinyl-albums-chart/.

150. David Greenwald, "Does Vinyl Really Sound Better? A Sound Engineer Explains," http://www.oregonlive.com/music/index.ssf/2014/11/does_vinyl_really_sound_better.html; Mark Richardson, "Does Vinyl Really Sound Better?" https://pitchfork.com/thepitch/29-does-vinyl-really-sound-better/; Andrew Mellor, "The Return of the LP: The Vinyl Revolution," *The Gramophone* (May 2016): 10–15.

151. Patmore, "Selling Sounds," 136; Bergh and DeNora, "From Wind-Up to iPod," 111, 115. See also Ola Stockfelt, "Adequate Modes of Listening," Audio Culture: Readings in Modern Music, eds. Christoph Cox and Daniel Warner (London: Continuum, 2004), 88–97.

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152. Cook, *Beyond the Score*, 403.

153. Ananay Aguilar's doctoral thesis focuses on the phenomenon of "LSO Live," the LSO's "live" recording label. Aguilar, *Recording Classical Music*.

154. Personal communication, Hallifax.

155. Leech-Wilkinson, *The Changing Sound of Music*, chap. 3, para. 3.3.

156. Patmore, "Selling Sounds," 135; Mellor, "The Return of the LP."

157. Gaisberg, *Music on Record*, 40–41 and 51.

158. John Culshaw, "On Having Recorded *The Ring*", *The Gramophone* 44, no. 520 (September 1966): 145–46.

159. Nicholas Kenyon, "Arts Cuts: Time to Stage a Revolution," *The Independent*, 22 September 2010, http://www.independent.co.uk/arts-entertainment/arts-cuts-time-to- stage-a-revolution-2085596.html#.

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