'THE PRACTICALITY OF THE IMPOSSIBLE':
STUDIES IN 20th- and 21st- CENTURY PIANO ÉTUDES

Naomi Meghan Jia-Ling Woo

Faculty of Music

University of Cambridge

This dissertation is submitted for the degree of

Doctor of Philosophy

Clare College

July 2019

soyez réalistes, demandez l'impossible

DECLARATION

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration. It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution. I further state that no substantial part of my dissertation has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution. It does not exceed 80,000 words.

Naomi Woo 2019

ABSTRACT

'THE PRACTICALITY OF THE IMPOSSIBLE': STUDIES IN 20th- and 21st-CENTURY PIANO ÉTUDES

NAOMI MEGHAN JIA-LING WOO

This thesis examines piano études by John Cage, György Ligeti, Conlon Nancarrow, and Nicole Lizée that push the limits of the human body in performance. The thesis opens with an account of the origins of the piano étude in the works of Chopin and Liszt, situating it within the political, economic, and aesthetic conditions of the 19th century. Subsequently, sets of études by Cage, Ligeti, Nancarrow, and Lizée are studied, each using a different body of theoretical literature—including utopian thought, queer theory, and posthumanism—to understand how this limit manifests in musical works. These analyses enrich understanding by bridging gaps between musical performance studies and other areas of knowledge. For example, the chapter on Cage's *Études Australes* addresses the notion of the limit using the utopian aesthetic philosophy of Ernst Bloch, thereby demonstrating novel correspondences between Bloch studies and performance studies. The thesis concludes by describing new forms of virtuosity that have emerged in the 20th and 21st centuries, and ties together the divergent modes of analysis used in each section.

Theoretical investigations are interspersed with case study demonstrations from piano études, which draw on scores, recordings, and my personal experience as a pianist. This approach advocates the importance of embodiment, phenomenology, and performance research as key ways of knowing, and contributes to the growing field of artistic research at the piano.

The project offers an original exploration of the performing body at its limits and presents a theory of contemporary virtuosity. In the process, it makes a multi-faceted contribution to scholarly work in musical performance and offers ways of thinking about musical aesthetics applicable to other genres and areas of study.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

TABLE OF FIGURES

INTRODUCTION

This project examines the limits of the body in musical performance in 20th- and 21st-century piano etudes by John Cage, György Ligeti, Conlon Nancarrow, and Nicole Lizée. This exploration presents a novel account of the étude, suggesting that it operates at the limits of bodies, genres, and ideas. By tracing the experimental notions of virtuosity explored in these contemporary études to the historical origins of the étude in the 19th century, the thesis both finds continuity in the experimental étude-thinking across 200 years of études, and also suggests that new forms of post-transcendental virtuosity have emerged in the late 20th century.

The underlying assumption that grounds the research is the importance of centring the body in musical discourse. The presence of the body in musical events is an increasingly important subject of contemporary musical research. Its study within musicology relates to the growing interest in embodiment in humanities scholarship in general, often drawing on literature from phenomenology, cognitive science, and theatrical performance studies. The originality of this particular approach is its attempt to integrate other disciplines into the study of musical performance, to treat performance not only as an event or activity, but also as a fundamental way of knowing and understanding, and to explore a subject that is by nature liminal, attending to the fluidity of the performance event itself. It is also a contribution to a growing understanding of the body in performance as conditioned and produced by social relationships and material conditions.

The study of music is often interested in the exploration of limits. Music criticism tends to focus on pieces that are deemed extreme or exceptional, rather than those that

are ordinary. The history of music is often interested in transitions, from one era to the next, and 'watershed moments' in which a set of conditions produce a musical event that—by breaking past a pre-existing limit—alter the course of future artistic endeavours. Even efforts to define and understand 'music' itself often take the form of seeking to define the line between music and non-music. Attali's *Bruits*, for example, is an important exploration of music through the lens of 'noise'.[1]

The extremes of embodiment in musical performance, however, have not yet been the subject of extended study within musicology. This is in spite of the fact that physically extreme musical performances are so common. From the 19th century virtuoso, to hypercomplex music in the 20th century, to technically masterful concert soloists and competition winners, challenging and pushing the body is a common feature of Western classical music. However, studies of musical virtuosity have generally focused on historical accounts of virtuoso performers and aesthetic considerations of virtuosic materials, rather than on the questions of embodiment that virtuosic performance poses.[2] As Antoine Hennion notes, even the notion of virtuosity itself, despite its ever-presence in musical composition and performance, has been largely pushed to the margins of analysis and musicological discourse. This lack stems from a long-standing hierarchy of mind over body, with a legacy in both Romantic and Modernist conceptions of musical aesthetics, by which logic virtuosity is 'stripped [...] of any aesthetic value.'[3]

The primary exception to this lack is the emerging and important field of musical

---

[1]Attali (1977).

[2]These include the investigations of virtuosity in the 19th century that I will discuss later in this thesis: Susan Bernstein's *Virtuosity of the Nineteenth Century: Performing Music and Language in Heine, Liszt, and Baudelaire* (1998), Paul Meztner's *Crescendo of the Virtuoso: Spectacle, Skill, and Self-Promotion in Paris during the Age of Revolution*, and Jim Samson's *Virtuosity and the Musical Work: The* Transcendental Studies *of Franz Liszt* (2004).

[3]Hennion (2012), 133.

disability studies, such as Joseph Straus' 2011 *Extraordinary Measures: Disability in Music*.

Straus' title is borrowed from Rosemarie Garland Thomson's seminal disability studies

text, *Extraordinary Bodies: figuring physical disability in American culture and literature*, from

1997. Her use of the 'extraordinary body' to expand our understanding of bodily

difference—as a feature of social relationships rather than an inherent property—offers an

example for musicologists to consider the production and understanding of 'unusual'

bodies in music. This model has been taken up and expanded by scholars of musical

disability studies, including in the recently published *Oxford Handbook of Music and*

Disability Studies, edited by Blake Howe, Stephanie Jensen-Moulton, Neil Lerner, and

Joseph Straus, and containing particularly relevant contributions on performance from

Jennifer Iverson (on the construction of cyborg bodies in Björk's music) and Blake Howe.[4]

The questions of embodiment, subjectivity, and normativity that disability studies raises

are important inspirations for my own work. I endeavour to take these assumptions

seriously, even in contexts in which disability *per se* is not the subject of research.

My decision to study the limits of the body stems from a belief that the most useful

and telling cases come from the extremes rather than from the average. In order to

understand a phenomenon, boundary cases help us to determine what is essential about

this phenomenon in particular, and what remains outside of it. The extremes and limits

show us with clarity what quotidian examples cannot so starkly reveal. The experience,

presence, and role of the body is no exception. It is at the body's limits that we might

better understand how it operates.

This is certainly true in other forms of embodied research. In medicine, advances in

understanding are made when bodies fail and reach breaking points. In sports, new

supportive technologies and ergonomic advances develop only when existing physical

skills are pushed to their extremes. These points are made especially clear in research on

---

[4]Blake Howe, 'Disabling Music Performance' (2016)

differently-abled bodies, which demonstrate the ways in which the limit-behaviour of bodies with different abilities allow us to better understand the limitations of all human bodies, regardless of ability. As Judith Butler describes, going on a walk with disabled artist Sunaura Taylor allows an opportunity to reflect on the ways in which all human bodies rely on significant aids for everyday pedestrian activity—from sidewalks, to streetlamps, to wheelchairs.[5]

In order to clearly define the kind of physical limit in which I am interested, I focus in particular on experiences of the 'impossible'. I am inspired by this word as both a provocation and a paradox, and consider the impossible to be a threshold rather than a fixed inaccessible space. The idea of the impossible with the respect to the human body—the physically, bodily impossible—also implies the possibility of extension. As different-abled bodies of all kinds demonstrate, the impossible of the body is contingent on specific bodies, dependent on tools and technical supports, and varies across time and space. Activities that are beyond the limits of one body may not be impossible for another. What is possible for even a given body will change over time. This is why I choose not to see 'impossible' in opposition to the more positivistic term 'possible', but instead recognize that 'impossible' extends across a much wider and more slippery terrain. Its embeddedness in specific bodies renders it a useful site for the study of performance, just as practice-based methods are essential for its study.

The specific focus of my dissertation is the way that keyboard études, in particular, attempt to transcend, alter, or question the body's limits. I have focused on sets of études by John Cage, György Ligeti, Conlon Nancarrow, and Nicole Lizée, all of which date from the second half of the 20th century onwards. As a genre, études composed in the last century pose especially interesting problems. On the one hand, the genre seems an outdated relic of 19th century romantic pianism and virtuosity, tied to its origins in the

---

[5]Astra Taylor, *Examined Life* (Canada: Zeitgeist Films, 2008).

concert études—or Grandes Études—of Fryderyk Chopin and Franz Liszt. On the other hand, contemporary études often offer a subversive take on technique, the instrument of the piano, performance practice, and musical institutions. This tension lies at the heart of the étude, a genre whose origins amidst Romanticism and modernity reveal a complicated relationship to the social conditions in which it arose. Indeed, I will suggest that the étude questions and reshapes our very understanding of genre, by focusing on physicality and practice as its most defining characteristic.

Methodologically, one of the contributions that I seek to make in this thesis is to incorporate a range of approaches—often disparate—that allow me to interrogate themes of impossibility, embodiment, and liminality without ascribing to fixed or even conventionally related schools of thought. I have chosen these approaches for different reasons, but in many cases it would be more appropriate to say that the approaches have chosen me; or, more accurately, that they have chosen each other, and chosen the topic. In this approach, I am inspired especially by Shoshana Felman, whose *Scandal of the Speaking Body* links the discourses of (Lacanian) psychoanalysis and J. L. Austin's theory of linguistic performativity. She allows the two fields to be linked according to the logic of coincidence, in the literal senses of the word as both 'spatial-geometrical (two superimposed figures) and temporal-historical (two simultaneous elements—events that happen together through a convergence of circumstances apparently due to chance)'.[6] The adherence to coincidence is—fittingly to the material that I will discuss—very Cagean, allowing for the aleatory to wield aesthetic and conceptual power. For Felman, though, it is through a psychoanalytic lens that such coincidences can be taken to have analytical power and legitimacy, governed by the logic of the unconscious.[7] It is also psychoanalysis

---

[6]Felman (2002), 58.

[7]Felman asks provocatively: 'Psychoanalysis teaches us, however, that coincidences, in the history of the subject, are governed not by chance, but by another kind of logic, specifically that of the unconscious. Would the same thing not hold true for the overall history of ideas? Might not the history of thought

that Felman claims to be 'seduced' by theories such as Austin's, as I am by many of the methodological vantage points which I employ in this thesis. The logic of psychoanalysis—with its assumption of a divided and unruly subject and location of meaning at the limits and recesses of understanding—thus also underpins many of the ways in which I work through and with the ideas of the thesis.

Especially insofar as the performance-based aspects of my research are concerned, phenomenology forms another underlying methodological principle throughout the thesis. This broadly phenomenological approach has inspired me to treat impossibility and performance as the subject of the study, rather than a passive object. Although performance is an important part of this research, I have avoided the use of many common forms of musical performance research, such as video, interviews and recording analysis. This is largely due to my attempt to attend to the inscrutable *thrownness* (*Geworfenheit*) of the performance experience, rather than to seek more 'objective' forms of performance analysis.[8] Given the slippery nature of the topic, it is my belief that conducting interviews, for example, would too significantly attempt to pin down concrete facts of performance. Thus, instead of observing performance at a distance and describing it, I try to account for the fact that performance is inevitably and fundamentally the lens through which I understand music. I have let performative impulses guide everything from repertoire choices to research methodologies. I have practised the repertoire I discuss until it becomes part of my body, and thus take the fact of performance as an assumption in ways that are both conscious and unconscious in my work. At times, I have attempted to gesture toward my own experience of performance, such as in the Case Study on John Cage's Etude Australe VIII (coincidentally, Étude 8).

itself be governed in its turn by a logic of the analytic type, of which "coincidences" would be both symptoms of signs?' Felman (2002), 58.

[8]To use Heidegger's term for the 'that-it-is' of *Da-sein* (being), the arbitrary nature of its 'whence and wither'. Heidegger (1996), 127.

However, I also treat this aspect of the research as ephemeral and inherently 'subjective' and employ 'subjectivity' as a form of access into the nature of experience, rather than a hindrance to be avoided.

In addition to these foundational methodological presuppositions, three more specific theoretical frameworks guide my study of the études by Cage, Ligeti, Nancarrow, and Lizée. I have chosen these in order to focus on particular issues raised by each composer's sets of études. In my discussions of John Cage's *Études Australes*, I focus on utopian studies, drawn largely from literary criticism and the writings of Fredric Jameson and Ernst Bloch. This offers a novel contribution to music studies particularly because I apply the musical philosophy of Ernst Bloch—whose works have only recently been taken account of in musicology—to the discipline of performance studies.

The sections of my thesis which pertain to Ligeti's *Études pour piano* draw on literature about failure, which I take from various sources in queer theory, theatre studies, and psychoanalysis. This analysis furthers research on the relationship between failure and modernism, as described by theorists such as Seth Brodsky,[9] while also attempting to understand Ligeti as an avant-garde composer, in relationship to his own experiments with Fluxus and in conversation with experimental and post-modern approaches to an aesthetics of failure.[10] Equally, it reframes Ligeti's impossible requests of the performer to notice a way in which failure is always a facet of live musical performance, and in the process expand our understanding of musical performance studies and bring it closer to contemporary discourses from theatre and live art.[11]

---

[9]Seth Brodsky (2017) describes the logic of European musical modernism as 'an axiom of failure'. Brodsky (2017), 17.

[10]Ligeti's Fluxus experiments are documented in Eric Drott's 2004 article on the subject, 'Ligeti in Fluxus', which offers a thorough account of this period in Ligeti's composition and its resonances in the rest of his output.

[11]In theatrical performance studies, failure is an important theme. The chapter draws also on this literature,

The final distinct methodological approaches that I use are posthuman thought and feminist new materialism, primarily taken from the works of Katherine Hayles and Rosi Braidotti. Through posthuman thought, I examine how the limits of the body change and are reconfigured in interaction with machines; new materialism guides my interpretation of this interaction as driven by material composition and, indeed, embodiment. I use these theories to study two sets of extremely different études. The first set, by Conlon Nancarrow, is written not for live pianist but instead for player piano. This non-human instrument thus challenges the very nature of the étude as a training piece for the human body, while recognising the inherent interactions and continuities between body and machine. By contrast, the études of Nicole Lizée are multi-media études for piano, electronics, and video. They thus extend the human body by adding technology as both a prosthetic and collaborator. In this repertoire, both composers attempt to accomplish the impossible through technology in novel posthuman ways. I am drawn to these new materialist and posthuman thinkers because of their methodological overlaps with the concerns of performance studies, especially as far as integrating the contingent, fallible materials of both bodies and machines into theoretical discourse is concerned.

On the whole, this project aims to offer the following contributions to musicological discourse, to performance studies, and to interdisciplinary artistic research:

1. An account of the étude as an experimental genre, pushing at the limits of the body and the possible. This account thus reframes what might otherwise seem a backward-looking genre, and incorporates discourses generally reserved for more extreme forms of experimentation into traditionally notated musics.

2. An emerging theory of virtuosity, the impossible, and the limits of the body in the 20th and 21st century, at the intersection of musical performance and its cultural context.

---

focusing on Sara Jane Bailes' *Performance Theatre and the Poetics of Failure* (2011).

3. A comparison of four composers who are generally considered to come from separate traditions of musical composition, which discovers surprising common themes in their work based on their shared interest in the keyboard étude.

4. An argument for the importance of embodiment in areas of musicological study that have often neglected it, such as genre theory; in the process, the thesis offers a new way of thinking about genre that expands current accepted models.

5. A contribution to various areas of interdisciplinary research in musicology, such as:

   • A contribution to the emerging field of Ernst Bloch studies, offering an initial account of how Bloch's musical philosophy might be especially valuable for the field of performance studies.

   • A contribution to existing historical and aesthetic studies of musical failure by linking them with performance research, and by combining this literature with work from theatre studies.

   • A contribution to an understanding of the intersection of the body and technology in musical performance, using a combination of posthumanism, materialism, and disability studies.

Musical Examples

The specific pieces that I examine in depth in this dissertation are four sets of études: the *Études Australes* (1974) of John Cage, the *Études pour Piano* (1985-2001) by György Ligeti, the Studies for Player Piano (1949-1989) by Conlon Nancarrow, and Nicole Lizée's *Hitchcock Études* (2010). The composers have little in common by conventional modes of analysis or historical genealogies. Nonetheless, they are drawn together not only by their penchant for études, but also by conceptual links that I will thread through the dissertation. In particular, each is interested—both explicitly in writing

and in their musical language—in the question of the 'impossible'. They explore this topic both by challenging bodies to accomplish impossible tasks and by redefining how possibility is defined in performance. Many of them combine their musical ideas with political ideology, a theme that will be important throughout the project. Equally, all of the works offer challenges to dominant narratives of virtuosity, pedagogy, and possibility—contributing and responding to a changing sense of what the étude might be.

The composers are also drawn together by the logic of performance. The examples in this thesis are curatorially interesting, fitting together as a set of pieces might in a musical programme. Hans Ulrich Obrist's book *A Brief History of Curating* features Anne d'Harnoncourt's advice for curators: 'to look and look and look, and then to look again, because nothing replaces looking.... I mean to be with art.'[12] Being-with this repertoire as a listener and performer is a large part of what has inspired me to synthesise it in my research and is indicative of the phenomenological underpinnings of my methodology.

Although my research focuses on these specific examples, I acknowledge that the features, innovations, and analyses I discuss are applicable to a much broader range of repertoire, including to many forms of music production that are not called or considered to be études. Rather than offering a challenge to the project, this is in fact an essential component of my understanding of the étude itself. These pieces, and études in general, are critically amplified examples of what happens when the body is pushed to its limits or destined to fail. However, forms of étude-thinking can occur in any music. In fact, perhaps aspects of the étude are present in all forms of music-making. As will become clear throughout the project, this is inherent in the very nature of the étude from its earliest origins, as its emergence as a pedagogical genre positions it as both a stepping-stone to other repertoire and a reflection of existing music and performance.

---

[12]Obrist (2008), 4.

A Thesis in Two Books

The dissertation is divided into three sections. I have called the first two sections Books I and II, following the convention of étude titles used by both John Cage and György Ligeti, both of whom follow the études of Claude Debussy—who published his 12 études together as '*Livres*' of six studies each. In Book I, I lay the groundwork for my investigations by examining the origins of the étude genre. The Book is comprised of six short études, which introduce ideas pertinent to the étude genre in the 19th century. The first five examine various social and cultural aspects surrounding the birth of the concert étude genre in the hands of Franz Liszt, Fryderyk Chopin, and their contemporaries, providing an overview of the cultural and musical conditions under which the étude came to become an important genre in performance, pedagogy, and composition. These short études are designed neither to be comprehensive or conclusive, but rather to offer an introduction to relevant features of the étude genre and the emergence of virtuosity in the 19th century. Each of these themes—virtuosity, the work of art, the bourgeois subject, pedagogy, the embodiment of genre—will be returned to repeatedly throughout the later discussions of études in the 20th and 21st century.

The sixth étude is a performance-based Case Study, in which I use Chopin's Étude Opus 10 no. 3 to illustrate the theoretical points from one of the previous études—specifically, to articulate my theory of genre as a form of embodied practice. This 'case study' genre recurs throughout the dissertation. In these studies, I use performance-based methods to explore the theoretical ideas presented in the preceding chapters. This approach allows me to explore the different registers of discourse and modes of exposition that are often necessary for attending to the contingencies of practice, while still connecting this with rich theoretical tools.

In Book II, I proceed to the study of contemporary études. This section consists instead of seven études, which are significantly more expansive. Étude 7 takes the example of utopian thought in literary science fiction as an example of impossibility. This

theoretical background is used as a way of thinking about John Cage's *Etudes Australes.* Étude 8, meanwhile, uses another practice-based Case Study to examine the utopian impulse in Cage's *Étude Australe* no 8. Étude 9 turns to György Ligeti's *Études pour piano,* which it analyses using theory about failure from psychoanalysis and queer theory; Étude 10 then explores some of this theory from a performance perspective, focusing on Pierre-Laurent Aimard's online project 'Inside the Score'. The final three études all examine the limits of the body between human and machine, and turn to posthuman studies, with quite different examples. Étude 11 focuses on Conlon Nancarrow's *Studies for Player Piano* (which explore impossible themes without the presence of a human pianist), while Étude 12 turns to Nicole Lizée's *Hitchcock Études*, for piano, electronics and video. Étude 13 offers a final performance-based case study, which looks at pedagogical aspects of Lizée's *Hitchcock Études.*

Finally, the thesis concludes with a 'Coda'. It is in this section of the dissertation that I put the études in conversation with each other. This investigation allows me also to assess what these pieces—and the diverse theoretical modes that I have used to study them—have in common. I argue that they are linked especially by their shared attempts to explore the impossible in performance and to challenge the limits of the body: whether by extending, challenging, or reframing the boundaries of those limits. In the coda, I also examine ways in which these works of music that might seem to be purely abstract, academic, or apolitical, should be thought of as subversive and experimental.

The Coda is also where I return most significantly to the ideas introduced in Book I, in order to reflect on continuity in the étude over time as well as on the novel ideas explored by the four composers in my case studies. In both continuity and change, the rich relationships between the genre, performance, virtuosity, and social conditions at the étude's origins lend important insight into the ways in which the étude has developed in the 20th and 21st centuries. Perhaps the coda is also a manifesto of sorts, or at least a message of hope, that if—as Cage says—pianists can accomplish 'the practicality of the

impossible', perhaps we can keep trying to understand, to theorise, and hopefully also to

accomplish the impossible in many other ways, on and off the stage.

BOOK I

As I have suggested in the Introduction, the genre of the étude is slippery and surprising. Its first connotations and earliest origins are in training and pedagogy. The word étude, of course, means 'study', and the étude genre began as didactic pieces from which students might learn and improve. Études have also functioned as sketches and compositional models for composers. For Debussy, they were often compositional explorations of specific intervals or melodic features; for Messiaen, of rhythmic modes. Equally, as the genre has developed since the 19th century, keyboard études have become much more than 'exercises', and form an important part of the performance canon. The genre of the concert étude emerged as the notion of the 'work of art' was also coming to prominence, and exercises morphed into concert études in part by assuming the characteristics of *Werktreue*.

Even the most work-oriented études, though, maintain a relationship to performance. The predominant trait of the étude is virtuosity—a property that emerges in the performer's body, and in relationship to the audience. Furthermore, the original purpose of the étude as a device for training still lingers over the genre for composers and performers. As a result, études always ask performers to push at the limits of their own bodies: to use them as opportunities to learn, change, and grow in practice and performance. In this respect, the étude always proposes a difficult—perhaps impossible— challenge or problem. With it comes the responsibility and desire of the performer to work through and solve such a problem with their body. Perhaps this is what John Cage meant when he referred to 'an étude period of history, in which... what we have to do appears to many to be the impossible....'[1]

The purpose of this section—which I organise as a 'Book' of six short études—is to understand the historical genre of the étude, in order to later contextualise its 20th and 21st century manifestations. I focus on the emergence of the étude in the 19th century,

---

[1]Cage and Kostelanetz (1987), 296.

especially in the concert études of Chopin and Liszt. The étude, I will argue, is a genre uniquely at the intersection of performance, politics, and aesthetics. This is partly due to its close connections with virtuosity. As other scholars have discussed, virtuosity is a unique musical property: manifested in performance but closely connected with literature (Susan Bernstein), industrialisation (Richard Leppert), and the work of art (Jim Samson). The genre's further associations with pedagogy also contribute to its close connection with its social and cultural context. The étude as a subject of research also allows me to reflect critically on the concept of genre more broadly. The étude offers challenges to genre theory in general that help to refine our understanding of genre more explicitly in terms of performance and embodiment. Equally, the composition of études by the most established composers of the century and the use of études in performance to amplify the talents of specific performers make it impossible to discuss the étude without attending to the notions of individual subjectivity that were also nascent in the 19th century.

These facets of the étude do not present a coherent picture of a clearly defined genre, but rather emphasise the fact that the étude itself poses problems. It is a genre of oppositions: between virtuosic performance and W*erktreue*, between training and display, between admiration and suspicion, between the individual virtuosos and the anonymous diligent student. Not only does it occupy a liminal space between different poles, but also exists at the limit of the human body: études are designed to challenge individual performers to accomplish previously impossible tasks, as well as to challenge performance and composition in general to strive towards new goals.

This Book itself is organized into six short Études, each of which offers specific insight into one aspect of the étude genre in its historical development. Like musical études, these are each relatively focused on a specific problem. They are designed, similarly, to push that problem in a new direction in a focused way. However, they are neither progressive nor strictly chronological. Echoing the modular form of the étude,

they may seem more repetitive and less linear than would be traditionally expected for a series of sections. Equally, they are intended as short introductions, rather than comprehensive explorations. The first five of these Études investigate the topics of virtuosity, the work of art, the subject, pedagogy, and genre.

Rather than focusing on theoretical and historical problems at the heart of the étude, the final Étude of this Book is rather a more extensive case study on Chopin's Étude Opus 10 no. 3, focusing on the topic of genre. Here, I use performance-based methods to explore genre in a personal, practical, and performance-based way. I focus on analysis by two performers, John Rink and Alfred Cortot. At the same time, my observations as a pianist allow me further access to the ways in which musical events, human interaction, and embodied knowledge are contained within the works. It is also a form of what Diana Taylor refers to as the 'repertoire' of history; a kind of historical engagement that goes beyond the limited nature of what can be found in the archive.[2]

---

[2]Taylor (2003), 1-4.

Étude 1: Virtuosity

> For the virtuoso, musical works are in fact nothing but tragic and moving materializations of his emotions; he is called upon to make them speak, weep, sing and sigh, to recreate them in accordance with his own consciousness. In this way he, like the composer, is a creator, for he must have within himself those passions that he wishes to bring so intensely to life.[3]

An essential component of the étude genre in the 19th century was the display of virtuosity. As Dana Gooley describes, 'the musician, the athlete, and the magician are potentially virtuosos as soon as they cross a limit—the limit of what seems possible, or what the spectator can imagine.'[4] Although today, the idea of virtuosity and the figure of the 'virtuoso' are almost entirely associated with music and musicians, it was originally a more all-encompassing term. In *The Crescendo of the Virtuoso: Spectacle, Skill, and Self-Promotion in Paris during the Age of Revolution*, Paul Metzner explains that in a variety of fields other than music, including public chess, cooking, and automaton-building, the late 18th century saw in Paris a rise of virtuosos, which he defines in his book as people 'who exhibit their talents in front of an audience, who possess as their principal talent a high degree of technical skill, and who aggrandize themselves in reputation and fortune, principally through the exhibition of their skill'.[5]

In all of these fields, virtuosity became a matter of public attention and recognition. Many scholars have noted the way in which virtuosic performance—and virtuosic musical

---

[3]Liszt, cited in Huneker (1911), 303.

[4]Gooley (2004), 1.

[5]Metzner (1998), 3.

performance in particular—defined the era. In an age of individualism, of industrial

capitalism, and of a growing bourgeoisie, virtuosity came to represent and be supported

by many of the defining values and conditions of the age. Susan Bernstein's account of

virtuosity notes the way it intersects with a new preoccupation with music, over

language, as the defining artistic medium, with the most unmediated access to individual

subjectivity and inner expression. Inner expression, in turn, was the very signal of

bourgeois identification.

The attention accorded to virtuosity was not, however, uncomplicated or

unequivocally positive. Public fascination encompassed suspicion as much as admiration

in the public reception of virtuosic performance. Susan Bernstein's work on virtuosity

considers some of the conditions and origins of this suspicion by drawing a link between

virtuosity and journalism. With the increase of journalistic practices and discourse

following the rise of print, journalism became an easy symbol of the 'instrumentalisation

of language and the waning dream of communicative expression'.[6] The critique of

journalism carried with it suspicion about both medium and content—about the linguistic

and communicative quality of the writing and about the authenticity and veracity of the

statements professed. The close relationship between gossip and journalism in the 19th

century contains both of these suspicions. Both virtuosity and journalism are tinged with

the possibility of deceit.

In this respect, suspicion is also related to the excess of the virtuoso. As Bernstein

describes, virtuosic surplus is 'the distance between performance and the reality to which

it relates'.[7] When the performer surpasses the limits of what seems possible at the piano,

exceeding the limits of the body, they are distancing their act from a stable reality. This is

much like the act of gossip, which also enacts a distance between performative utterance

---

[6]Bernstein (1998), 11.

[7]Bernstein (1998), 85.

and factual reality. The suspicious element of virtuosity, at its most extreme, led to associations between virtuoso performers and artists with the supernatural. Maiko Kawabata, for example, has effectively described the physical, visual, and technical virtuosic aspects of Paganini's playing that directly contributed to his depiction as 'demonic', noting especially his 'performance of seemingly impossible feats, and, beyond that, from the spectacle of his bravura showmanship.'[8]

The relationship between gossip and virtuosity also extended to the immediacy and presence of the performance experience. It was tied to the specificity of a particular, ephemeral moment, and attached to the body of a particular human performer. As such, virtuosity made itself apparent to the listeners who were present in that moment; however, it could not be conveyed or communicated. This is both part of its danger and its appeal. In order to experience the virtuoso, you must hear and see them live—'you had to be there'—and yet for that very reason, one cannot trust accounts (especially not journalistic accounts) of virtuosic performances. Much of the discourse around virtuosity, then, is limited to 'hearsay'. The public may be suspicious not only of the virtuoso himself, whose talents seem to be accrued from a dangerous source, whose powers are deceptive illusions, but also of those who wish to sing the virtuoso's praises, and especially the medium by which they do so.

It is perhaps ironic that the suspicious medium of journalism is among the only sources of information that we have about the content of virtuosic performance. It is easy—and not altogether uncommon—for concert reviews to be treated as unmediated sources of information about musical events of the past. We should, however, be suspicious of these, and not only because of the suspicion with which they were accorded in their own time. For example, Katharine Ellis has observed the ways in which Maurice Schlesinger, editor of the *Revue et gazette musicale de Paris*, was under economic

---

[8]Kawabata (2007), 101.

and societal pressures that skewed the editorial contents of the paper.[9]

Many of the existing studies of virtuosity in the 19th century have focused on the pianist and composer Franz Liszt, who is—along with violinist Niccolo Paganini—almost synonymous with the idea of the romantic virtuoso. These have attempted to deal with the limitations of sources and attend to the question of 19th century virtuosity in different ways. Dana Gooley notes that by observing trends and motifs in writings about Liszt, rather than taking the opinions of individual writers for granted, he is able to avoid some of the perils of using periodicals as sources, by de-centering individual writers in favour of 'a more general cultural interpretation of Liszt'.[10] Another account of Liszt and virtuosity in the 19th century is that of Richard Leppert, who attempts to situate the virtuoso amidst the broader cultural and social issues of modernity.[11]

Meanwhile, Jim Samson attempts to recover a 19th century concept of virtuosity less from *accounts* of performances and more from the content of Liszt's compositions: focusing in particular on Liszt's études. Concert études are fundamentally tied to the property of virtuosity. Designed to develop and showcase specific technical skills, études necessitate live, public performance and the virtuosic display of a talented performance. In order to understand the role performance and virtuosity play in these works, he focuses on Liszt's *Études d'exécution transcendante*, as well as his two earlier published versions of these études. With this approach, Samson treats performance as one among many recompositions that Liszt might have undertaken, and understands that—in the étude—performance is an emergent property of musical composition, contained within the notes themselves rather than a separate phenomenon. His focus on the étude genre for understanding virtuosity and performance relies on the assumption that the genre

---

[9]Ellis (1995).

[10]Gooley (2004), 6.

[11]Leppert (2002).

'exemplified an aspect of practice'[12] without which these pieces could not be studied.

Evidently, virtuosity in the 19th century both enabled the emergence of the étude and shaped its development and remains a consistent feature of the genre. The nature of virtuosity in the 19th century thus points to the close relationship between the étude genre and contemporary society, given the pervasiveness of virtuosity in practice and in discourse during the era. Equality, the slippery nature of the concept itself and essential liveness of the experience of virtuosity make the étude a complicated phenomenon to investigate. Samson's excellent analyses—finding the nature of Liszt's virtuosity in the musical scores of his études—provide useful examples for understanding the genre. However, his work also gestures toward the fact that virtuosity must also inevitably be understood through and with the body. It is in the body that the phenomenon of crossing 'the limit of what seems possible, or what the spectator can imagine'[13] is produced in the études, a fact that will be important throughout this research. At the same time, virtuosity is by no means the only important characteristic of the étude in the 19th century. In fact, its influence on the étude is in almost direct contradiction to the subject of Étude 2: the work of art.

---

[12]Samson (2003), 32.

[13]Gooley (2004), 1.

Étude 2: The Work of Art

Jim Samson claims that treating the content of Liszt's études in terms of 'virtuosity' 'brings into sharp focus the relationship between music's object-status and its event-status'.[14] Part of the reason for his focus on the presence of virtuosity in musical scores is the central opposition that he draws in his work between the concept of virtuosity and the 'work of art' . These two concepts, which emerge and gain importance almost simultaneously throughout the 19th century, operate—in Samsons' words—as a kind of 'dialectic'.

Although the concept of Romantic virtuosity that we hold today—dating from the 19th century—is a strictly performative concept, Lydia Goehr notes that prior to 1800 the 'virtuoso' in music also included skill in composition and improvisation. In particular, she notes 'the respect accorded to eighteenth-century composer-performer virtuosi, who were able to demonstrate their talents most immediately in extempore performance.'[15] The change that shifted the notion of virtuoso to its current meaning of a strictly performative quality is a change in the way music was conceived, and in particular, the emergence of the idea of the 'work of art'. In her iconic book, *The Imaginary Museum of Musical Works*, Goehr writes:

> Things had begun to change in significant ways in the 1770s (if not before), numerous changes occurred around 1800, and many if not all the changes stabilized during the course of the nineteenth century. All these changes shared a common aim. They marked a transition in practice, away from seeing music as a means to seeing it as an end. More specifically, they marked a move away from thinking about musical production as comparable to the extra-musical use of a general language that

---

[14]Samson (2003), 2.

[15]Goehr (1992), 189.

does not presuppose self-sufficiency, uniqueness, or ownership of any given expression. In place of that, musical production was now seen as the use of musical material resulting in complete and discrete, original and fixed, personally owned units. The units were musical works.

As a result of this change, the role of the performer thus shifted from a collaborative creator—whose contribution to the creation of music might include extemporaneous practices—to an executor of pre-existing, imaginary works. As a result, virtuosity—and especially, improvisatory virtuosity above and beyond the text of the music—gained additional suspicion in its challenge to this notion of the work. According to Goehr, 'extemporization was not now generally thought to approximate to the condition of composition "proper" and less respect was gradually given to the virtuoso performer, who had quickly come to be associated more, as it was said, with 'charlatanism' than with 'the legitimate objects of art.'[16] Though performative virtuosity and the work concept emerged partly in parallel, they are conceptually opposed. The persistence and popularity of performative virtuosity throughout the 19th century thus offered a further subversive challenge to the novel idea of the music work.

If the work-concept and virtuosity are in constant tension, the genre of the concert étude holds a somewhat paradoxical place between these dialectical poles. On the one hand, the genre of the étude emerged alongside and in tandem with the work of art. The composition of Chopin's *Études Opus 10* (dedicated to none other than Franz Liszt) in 1833 was a major step in the development of the étude genre as a genre of great works. Chopin was not the first to write études for piano, as his contribution built on and referred to pre-existing didactic pieces, which existed under the names of *studien*, *exercices*, *Etüden*, *schulen*, and more. However, scholars and pianists agree that Chopin's études have a special role in the emergence of the concert étude as a specific genre.

---

[16]Goehr (1992), 233.

Donald Tovey, writing in 1900, describes them as 'the only extant great works of art that really owe their character to their being Etudes'.[17]

As both Jim Samson and Simon Finlow have described, despite his evident influence from early composers including Cramer (1804), Field (1816), Moscheles (1826) and Czerny (1830), Chopin's innovation was largely in effectively fusing technique and form. A distinctive feature of the étude—in both Chopin's antecedents and in his own work—is its reliance on limited technical and compositional means for an entire piece. Its defining characteristic for Chopin, though, is the use of innovative solutions for resolving 'the unique creative problems that attach to constructing convincing musical statements exclusively from such material'.[18] In other words, while earlier études simply reduced a work to the repetition and elaboration of a technical idea, Chopin found ways to transform a technical idea into the content of a convincing work of music. The capacity to transform a technical problem into the material for a musical work—to transform technique from simply the medium of a work to its very content—speaks to the special role the 'work of art' plays in the development of the étude. A distinguishing feature of Chopin's études in comparison to earlier 'exercises' is their coherence, and the cleverness with which this transformation is effected. This is clearly indebted to the idea of musical form as autonomously generated and organic.

At the same time, the étude pushes against many of the tenets and conventions of the emerging work-concept. First of all, its reliance on virtuosic content already puts it in tension with the work. The fact that, for example, Liszt 'conceived his musical works with his own public performance of them very much in mind'[19] at the height of his virtuosic years (roughly 1835-1847)—including his *Études d'exécution transcendante d'après Paganini*

---

[17]Tovey (1944), 156.

[18]Finlow (2011), 56.

[19]Samson (2003), 84.

(1838), later published as the *Grandes Études de Paganini* (1851), and the *Douze Grandes Études* (1837), later published as the *Études d'exécution transcendante* (1852)—is testament to this blurring. Although Liszt's études, too, are notable for their adherence to a work-character rather than being merely exercises, Liszt actively subverted the idea of the work by composing them with his own performances in mind, and, indeed, changing them from performance to performance. There is much evidence of this in the historical record, but perhaps the most conclusive is the changes Liszt made to these works in between their earliest appearances and their final publication. The *Douzes Grandes Études* were in fact revisions of an even earlier work, the *Étude en douzes exercises.* Samson's attentive accounts of the differences between these versions has demonstrated the many aspects of the performing Liszt that can be found between the revisions, and that demonstrate an attitude toward the pieces in which performance and ephemeral experience is evidently prioritized over a static concept of music-as-work. Roger Moseley also makes this point in his discussion of the contentiousness of fingering the opening of Chopin's op. 25, no. 6, in which 'the performer's task is not merely to play the notes, but to transform the jagged edges of their bitmapped information into vectors at the keyboard by the co-ordination of a supple wrist and precise digital motions.'[20] The choice of fingers is of course not the only way in which a performer transforms the notes of the score, but is a particularly telling one in the context of Chopin, for whom there are 'as many different sounds as there are fingers'.[21] It is in the translation of these notes to fingers at the keyboard that the études come alive.

The formal simplicity of many concert études generates further challenges to the work concept and the idea of complex, organic forms. The structures generated by the use of technique itself as musical material are often painfully straightforward, even as the

---

[20]Moseley (2015), 18.

[21]'Autant de différents sons que de doigts.' Chopin, Ésquisses pour une méthode de piano, 74; F.-Henry Peru, quoted and trans. in Eigeldinger (1988), 32

'surface' technical material is anything but simple. A particular striking example is Liszt's *12 Grandes Études no. 1*, which Jim Samson compares to its early predecessor in the *Etude en forme de 12 exercises no. 1*. Samson notes that in this case—and in other similar transformations—as Liszt expands the technical material and adds further layers of technical details and difficulty, rather than correspondingly expanding the harmonic and structural underpinnings, these instead become simpler. As he writes, 'The work character of the exercise, predicated on conventional formal symmetries, has been replaced by a single anacrustic, performance-orientated gesture. In a word, a piece has been replaced by a flourish.'[22]

At the edges of the work-concept, études play a unique role within the context of keyboard music in general. As others have noted, the technical figurations on which Chopin's études are based are often elaborations of figures that appear in Chopin's other works, and the keyboard works of other composers.[23] These figurations also relate to the kinds of technical concerns explored by other étude composers of the time. Moreover, the title of étude suggests that the pieces serve some ulterior goal for the pianist, beyond simply their own performance. In an article in 1836, Schumann includes Chopin's recently published opus 10 études in his elaborate list of 'The piano studies, ordered according to their goals'.[24] He categorizes 350 individual études and exercises—by Chopin, Moscheles, Hiller, and more—according to such technical problems as repetitions, octaves, trills, leaps, extensions, and so on. The first étude in C Major, for example, Schumann lists under '*Spannungen, rechte hand*'. Chopin himself evidently saw the pieces in this way: as tools that would alter and affect the performer's body, and assist them in the performance of other works of music. Of the same piece, Madame Streicher recalls in her

---

[22]Samson (2003), 92.

[23]See Simon Finlow's discussion of the four-note figure in Chopin's op. 10, no. 4 in comparison to a similar passage in Hummel's Piano Concerto Opus 84. Finlow, 54.

[24]'Die Pianoforte-Etuden, ihren Zwecken nach geordnet.' Schumann (1836), 45.

diary that Chopin told her that to play it slowly every morning 'would do you good. If you study it the way I intend, it broadens the hand'.[25] The idea that the work exists in order to do the performer good—rather than the performer acting in service to the music—emphasises that the étude genre is unusual in the context of the 'work of art'. The translation of notes on the page to fingers on the keyboard—an essential and subversive component of these works—thus not only renders them intelligible but also profoundly *purposeful.*

In the genre of the étude, then, many elements remain in play at once. It is easy to assume that by creating 'convincing musical statements' out of technical figurations, composers such as Chopin 'transcend' their technical bases. Equally, one might think that because of their evident didactic utility and reliance on repetitive technical formulations, they are reducible to 'large exercises'.[26] Instead, the interpretation given by Finlow is accurate: 'these etudes are discrete works of art in which the musical ideas constitute an embodiment of technical material, in which the music *is* technique'.[27] Embedded in this claim is an important point about the relationship between material, embodiment, and work. Although Finlow describes musical ideas as 'an embodiment of technical material', we must not forget that technical material *itself* is embodied, and is 'material' not only in the metaphorical sense of the word. A figuration becomes technically difficult or useful—appropriate for an étude—only through the engagement of a body in relationship to the affordances of the material instruments. From its origins, the étude genre emerges both by strengthening an abstract concept of the musical work, and also by maintaining ties to the material conditions of performance, including instruments and bodies.

---

[25]'"Cette etude vous fera du bien," he said. "Si vous l'etudiez comme je l'entends."' In Niecks (1902), 1690.

[26]Finlow (2011), 59.

[27]Finlow (2011), 60.

Étude 3: The Bourgeois Subject

> The nineteenth century was intensely preoccupied with the self, to the point of neurosis.
>
> --Peter Gay[28]

Of course, both the concept of the work of art and the genre of the étude emerged within a rich and varied cultural context in the late 18th and early 19th century, and amidst the changing landscape of industrial capitalism, the appearance of a bourgeois class, and the wake of the French revolution (and impending revolution of 1848). Among the important social trends that permitted the proliferation of the concert étude genre and a public interest in virtuosity was an increasing sense of the 'individual' in society. This concept of the self was directly related to the changing nature of individual subjectivity after the Enlightenment and extended to many other areas of society. For example, Metzner notes the emergence of the term 'égoïsme' in France from the mid-18th century, and the proliferation of writing about the self, dating from the same period.[29] Or, as Peter Gay opens volume four of *The Bourgeois Experience*: 'The nineteenth century was intensely preoccupied with the self, to the point of neurosis.'[30]

The relationship between individual subjectivity and the virtuoso has been thoroughly explored, in particular by Liszt scholars. The medium of virtuosity became, in the hands of Franz Liszt, the solo piano recital. Despite its ubiquity now, the notion of a

---

[28]Gay (1995), 3.

[29]Metzner (1998), 174.

[30]Gay (1995), 3.

single pianist performing alone for an entire concert was foreign at the time Liszt and other contemporaneous virtuosos first began to explore it. Kenneth Hamilton notes, Fanny Mendelssohn once complained that Clara Wieck's programmes contained too many bravura solo works in comparison to chamber music.[31] Liszt gave his first entirely solo piano recital in Rome in 1839, under the title *monologues pianistiques* (previously he had attempted, in a letter 'musical soliloquies', adding '(I do not know what other name to give to this invention of mine)'). Meanwhile, the first use of the term 'recital' was the following year, at Liszt's concert at the Hanover Square Rooms in London as part of his tour of England in 1840, during which he performed in over 50 cities, in recitals that were well-attended and closely attended to by critics, musicians, and the wider bourgeois public. This radical, self-interested move—of which he famously wrote to his friend Princess Belgiojoso, in a line often (including here) taken out of context, *'Le concert—c'est moi!'*—was made possible only by the a growing culture of individualism and sense of individual subjectivity in society. The rise of the virtuoso required an interest in seeing individual performers operate at the limits of their ability and display technical skill, and an interest in the individuality and unique subjectivity of these specific performers. The solo recital was an important venue for the emergence of the concert étude as a genre; it was in recitals that Liszt both performed and revised his sets of études, and it was the recital that distinguished concert études from other études that were simply exercises not designed to be performed.

Equally, the economic conditions of industrial capitalism—and the rise of the middle class—create a changing sense of public space which is also a necessary precondition to the emergence of romantic virtuosity. The phenomenon of the virtuoso—both within and outside music—required display in front of an audience. As numerous scholars have described, most notably Jürgen Habermas, the rise of bourgeois society in the late 17th and 18th centuries cultivated and upheld the notion of a public sphere (*Öffentlichkeit*).

---

[31]Hamilton (2008), 40.

Habermas' theorisation of the public sphere is largely literary and discursive. He includes journalism, Parision *salons,* and London coffee houses in his discussion, and is especially interested in the public sphere as not only a physical location but also a venue of public opinion, accessible to all. However, the concert hall is equally an example of an emerging and growing public sphere, and is especially connected with capitalist commodification and bourgeois identification. Of the concert hall, Habermas writes: 'admission for a payment turned the musical performance into a commodity; simultaneously, however, there arose something like music not tied to a purpose. For the first time an audience gathered to listen to music as such—a public of music lovers to which anyone who was propertied and educated was admitted.'[32] The concert étude required both of the these changes: the presence of a physical and metaphorical space in which a public could gather to observe the performer, and a notion of listening to 'music as such', without other purpose.

The concert étude's ability to flourish in the bourgeois concert hall in the 19th century is also connected with other aesthetic and cultural shifts, including those already discussed. For example, the idea that music could be a commodity *not tied to a specific function* is inherently related to the idea of the musical work. As Naomi Miyamoto writes, 'a demand for serious listening can be viewed as a compliment to these new aesthetic [of autonomy]'.[33] Equally, this concept is also connected to capitalism and commodification. As a commodity, art is beholden only to the choice and preferences of individuals. As Habermas continues, 'released from its functions in the service of social representation, art became an object of free choice and changing preference.'[34] On the one hand, this economic change is one of the factors that permits the emergence of the 'work concept'. 'Instead, musicians—especially the composers amongst them—were sharing in the

[32]Habermas (1992), 39-40.

[33]Miyamoto (2013), 112.

[34]Habermas (1992), 39-40.

revolutionary freedom claimed by a rising professional middle class, and gradually, through their liberation, were coming to be seen as independent masters and creators of their art.'[35]

Richard Leppert notes that 'the virtuoso was a troublesome paradox: he was the literal embodiment of extreme individuality, but one that ran the risk of exceeding the demands of bourgeois decorum, reserve, and respectability'.[36] At the same time as Liszt's individualism emerged in the context of bourgeois subjectivity, and his platform for virtuosity relied on the changes in public space and the emergence of a bourgeois public with the means to attend concerts and pay for tickets, he was also prone to scandalizing audiences with excess. Furthermore, he scandalized audiences by the very fact of his popularity:

> Bourgeois identity, gradually consolidated first against the entrenched aristocracy and later against what came to be understood as the working class, was distinctly anxious about popular appeal: popularity was politically suspect, due to a cultural fear of "the mob"; popularity likewise was culturally suspect to the extent that mass appeal risked blurring the lines between those values that defined and divided the social classes.[37]

The same individualism that permitted an interest in virtuosity also created suspicion of the popularity accorded to virtuosic performance.

The tensions of bourgeois individualism are also an important feature of the concert étude. The étude's ubiquitous fixation on some kind of technical figuration—in the case of both Chopin and Liszt—operated *both* in the service of the work of art but also as a legitimate source of content in its own right. In order for technique to be on

---

[35]Goehr (1992), 206.

[36]Leppert (2002), 200.

[37]Leppert (2002), 200.

display as content, the piece must then be performed and displayed in the concert hall. Thus, Chopin's and Liszt's études draw attention to the individual performer and the specificities of the body who is performing them. Whilst prior exercises for training anonymise, making performers equivalent to each other, the virtuosic étude instead separates individual virtuoso performers from one another. Thus, the growing importance of the individual in public life affected and made possible the concert étude as a genre that would grow in popularity with composers and audiences alike. However, the construction of a musical work out of 'surplus' rather than substance undermined the idea of the 'work' and the notion of music as a supreme, sacred, and transcendent form of communication. Given that this notion was an important aspect of the bourgeois construction of inner life, individuality, and expression, the concert étude thus also contradicted an important aesthetic manifestation of bourgeois subjectivity.

Étude 4: Pedagogy and Discipline

> Is it surprising that prisons resemble factories, schools, barracks, hospitals, which all resemble prisons?

> --Michel Foucault[38]

Another facet of the étude genre was its utility for training. I have already discussed the way in which this purposefulness interacted with a growing concept of the work of art. It was equally related to a changing landscape of music education and pedagogy over the course of the 19th century. Although Chopin's *Études Op. 10* (1833) and *Op. 25* (1837) were reserved for only the most advanced pupils,[39] and Liszt's sets of études published and republished between 1826 and 1852 were largely not treated by teachers and pupils as pedagogical, the landscape of learning and pedagogy formed an important part of the formation of the étude genre and its acceptance into a canon of music works that was forming and solidifying over the course of the 19th century.[40]

William Weber suggests that the formation of the musical canon was primarily taking place at the level of performance on the stage, and arguing that its 'most basic unit of analysis…[is] the genre'.[41] Nevertheless, in the case of the étude, its solidification as a genre and place as part of the canon was also taking place in private engagements with musical scores. Just as études were an important part of critical discourse about music pedagogy—as Schumann's list of études for different training purposes in the *Neue*

---

[38]Foucault (1977), 228.

[39]See Mikuli's comment in the introduction to his published edition of Chopin Op. 10, or Henry Lemoine's remarks about the pieces in his *Les Tablettes du Pianiste* (1858).

[40]William Weber identifies the period of 1800-1870 as that in which the canon is emerging, and 1870 as the period beyond which it is undeniable. Weber (1999), 341.

[41]Weber (1999), 347.

Zeitschrift für Musik shows—they were also practical pedagogical tools for amateur musicians and students to hone their craft. The act of purchasing published scores of études and practising them in the home was thus an important way of confirming the growing role that études were beginning to play as a genre.

Over the course of the 19th century, an important social and cultural development that accelerated the spread of music education and thus the étude genre is the rise of the music conservatoire in France. The Paris Conservatoire itself was founded in 1795, and eventually expanded to other cities—generally taking over existing musical training institutions in those regions—and developed a centralized form of educational control throughout France, as Katharine Ellis has shown.[42] Although these are less well-known today, the piano teachers at the Paris Conservatoire during the middle of the 19th century—Louise Farrenc, Henri Herz, and Antoine François Marmontel—wrote between them hundreds of études.[43] Chopin, too, composed études for specific pedagogical purposes, and his 'Trois Nouvelles Études' were originally published in a training method known as the 'Méthode des Méthodes', specifically written 'for the piano classes at the Brussels conservatory'.[44]

The creation, spread, and importance of the conservatoire as a model was inherently related to many other aspects of bourgeois society in the 19th century. In its capacity for monitoring, assessing, and evaluating—as well as, of course, educating— bodies, the conservatoire is a particularly important example of Foucault's suggestion of discipline as an institution of power in the era. The conservatoire fulfils the main functions of 'disciplinary institutions' that Foucault, especially insofar as it became in France an instrument of centralized power, and was a space for monitoring and

---

[42]Ellis (2015).

[43]Louise Farrenc's étude output alone includes her *12 Études de dexterité Op.41*, *20 études de moyenne Difficulté pour Piano Op. 42*, *25 Études faciles Op. 50* and *30 Études Op. 26.*

[44]'Pour les classes the piano du conservatoire de Bruxelles.' Gabrowski and Rink (2010), 599.

recording, alongside training. Equally, its ability to affect the 'docile bodies' of musical studies required not only the means to monitor, but also the capacity to maintain the disciplinary individualism.

Études—given to students at varying stages of their learning processes—became a means of evaluating, standardizing, and judging the progress of pupils. The ample treatises and pedagogical tools published and distributed that listed or published études in orders of difficulty allowed such monitoring to happen both alone and through the institution; and likewise, the choice available maintained the individualization of discipline. Although, as Foucault writes, discipline 'cannot be identified with any one…apparatus', it is instead a 'type of power, a technology, that traverses every kind of apparatus'.[45] This notion is crucial for understanding the role of discipline in the étude; it is not so much that discipline is located within the étude, but rather that it operates through the étude.

Alongside this disciplinary and pedagogical context, it is no surprise that the études also bear a resemblance to the also-disciplinary environment of the factory. As Julian Johnson writes:

> The Grandes Études of the nineteenth century, in their display of speed, power, agility, and control mixed with danger and exposure, thus come close to fetishizing the technological precision of the new machinery of the industrial age. The new pianos were increasingly products of that age, with the outer-casing of the piano's wooden box hiding the iron work within that gave the instrument its industrial strength, an aesthetic cover of 'nature' for the modernity of the material it masks within.[46]

The power, strength, and industrial precision captured by these études further cements their interpretation as instruments of 19th century discipline. Referring to the pedagogical

---

[45]Foucault (1977), 215

[46]Johnson (2015), 144.

works of Carl Czerny, Jordan Musser has suggested that the cumulative logic of étude

books reflects was Kittler would call a 'mechanical programme', writing that 'the logic

suffusing [Czerny's opus 500] operated according to processes of formal assembly,

augmentation, and progressive development'.[47]

In this respect, the close connection of the étude to the technology of the

keyboard and pianoforte is also crucial. The instrument itself was at the time evolving

alongside industrialism and indeed as a machine, and the apparatus of the keyboard

figures prominently in developments in computation.[48] That virtuosity was associated

with both automatons and human performers is thus not a surprise. Performers' attempts

to push themselves to their limits were similar to—if not directly imitating—machines

(even as automated machines were seen to be imitating humans[49]). The emergence of the

étude alongside and in connection with technology sets up the études that would be

composed Conlon Nancarrow and Nicole Lizée, and is a theme to which I will return later

in the thesis.

---

[47]Musser (2019), 366.

[48]Moseley (2015).

[49]A famous example is the late 18th-century 'Mechanical Turk', seemingly an automaton that could play chess, that eventually was exposed as a fake. Metzner (1998), 181-182.

Étude 5: The Embodiment of Genre

> These ambiguities, redundancies and deficiencies remind us of those which doctor Franz Kuhn attributes to a certain Chinese encyclopaedia entitled 'Celestial Empire of benevolent Knowledge'. In its remote pages it is written that the animals are divided into: (a) belonging to the emperor, (b) embalmed, (c) tame, (d) sucking pigs, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in the present classification, (i) frenzied, (j) innumerable, (k) drawn with a very fine camelhair brush, (l) et cetera, (m) having just broken the water pitcher, (n) that from a long way off look like flies.
>
> --Jorge Luis Borges, 'The Analytical Language of John Wilkins' [1942][50]

Although the previous section reflects on the origins of the genre of the étude, it has left an important question untouched, which must now be addressed before we can consider the étude in contemporary society. What is the étude *as a genre*? Despite the lengthy pedigree of genre theory in literary and film studies, and more recently musicology, a number of unresolved problems perpetually pervade the understanding of genre. These are not simply problems of definition, although definition presents a useful start point: *what* is a genre? The etymological origin of the term—from the Latin *genus* (kind, type, class)—suggests that a function of genre is typological. Despite the scientific and objective connotations of *genus*, the inconsistencies involved in classification are demonstrated aptly in Borges' anecdote about the Chinese encyclopedia. The categories into which the animals are divided here are as natural as they are arbitrary. Among the many dangers of the list is the fact that each itemization attends to a different *kind* of property in the animal: some properties rely on the interpretation of the observer ('that from a long way off look like flies'), some rely on properties contained within the animal

---

[50]Borges (2001), 229.

('enbalmed'), and others rely on action, behaviour, and practice ('having just broken the water pitcher').

Indeed, the 'what' of genre is not its only—or not even its most difficult—problem. Borges' admittedly absurd list reveals the essential difficulty in also determining *how* categories are constructed and defined. To what extent do genres emerge from properties within artistic works and to what extent are they defined by reception and practice? These questions of both ontology and epistemology have plagued genre theory, even as genre is frequently taken for granted in commentary and analysis.

Within music studies, genre theory has mostly emerged out of literary investigations. Much of it has centred on the 19th century, and especially on the works of Chopin. The most influential essay on genre in Chopin is Jeffrey Kallberg's 1988 'The Rhetoric of Genre: Chopin's Nocturne in G Minor'. Kallberg's crucial innovation in genre theory is to recognize that pre-existing musical literature about genre—which he primarily draws from Carl Dahlhaus—overemphasises genre's 'characteristics' from the perspective of the composer, and underemphasizes the role that genre plays in audience reception. Instead, he proposes a model of genre based on communication and persuasion between composer and audience, encapsulated by the term 'rhetoric'. In this way, he turns the understanding of genre away from a static set of characteristics contained within the work, towards an understanding of genre as a process. In his reading, genre is then studied through the effects it provokes and the relationship that it creates between composer, work, and listener. He proposes to assess 'a more extensive range of functions that genre performs in both the composer's and the listener's experience of a musical work', focusing primarily on the communication of meaning, and in this respect, concerns himself with how genre informs the interpretation of listeners.[51]

---

[51]Kallberg (1988), 242.

Another key text in musical genre studies—also focusing on Chopin—was published only the following year. Jim Samson's 'Chopin and Genre' explores many complementary ideas, by also recognising and attending to the flexibility of genre. Samson is interested not only in genre's capacity as a relationship or tool of communication, but also as a framework, which will differ according to different contexts, audiences, and communities. He focuses especially on some of the specific characteristics of Chopin's work that make him an exemplary case for genre study. In particular, he notes the lyric piano piece of the early 19th century as an emerging genre that is both defining itself against the past (sonata form for example) and actively forming its own identity, both traits that are an important part of genre theory. Equally, he considers that Chopin's genres not only integrate to form a conceptual unity, but also incorporate elements of external popular genres—as references and counterpoints that both confirm and fragment the traditional generic contexts of the works. In this essay, he particularly attends to the Impromptu as an example of a lyric piano piece, expanding the theories to the ballade in his 1992 book *Chopin: The Four Ballades.*

Samson acknowledges multiple possible generic 'frame[s] of reference'[52] for understanding Chopin pieces. Genre is a fluid, changing category, not only found in the characteristics of a work, but also found in the vantage point from which these characteristics are observed: whether the work itself, the genre title, the Chopin canon, or the 19th century lyric piano piece. These frameworks inform, among other things, the relationship between the title and content of a work, which may be an interaction of subversion or of confirmation. In recognizing Chopin's own propensity to fragment within individual genres, Samson suggests that Chopin is already looking ahead to the disintegration of genres that critics such as Adorno and Dahlhaus have suggested accompanied the rise of modernism in music.

---

[52]Samson (1989), 226.

Writing in 2013, Eric Drott reframes genre exactly through this context of modernism, arguing that genre has not at all been abandoned. His understanding—as Kallberg and Samson—also relies on seeing genre as a process, to be found in audiences rather than composers or works. 'As an ensemble of correlations, a genre is not so much a group as a grouping, the gerund ending calling attention to the fact that it is something that must be continually produced and reproduced.'[53] His focus is much more, though, on the varying perceptions of genre, and the way that the identification of genre is a social act, and one with high stakes. the identification of genre conditions not only how we interpret the work but also what 'interpretive schemata...can be legitimately mobilized to make sense of a given text'[54]. The appropriateness of these schemata will change depending on the community and context. Where Samson's frames of reference were mostly a question of scale, Drott brings out how—especially within the scattered context of modernist music—such frames of reference can also overlap and coexist in a single moment, even in the present.

All three of these generic theories focus on genre as a process, rather than as a fixed and stable set of characteristics. To different degrees and in different ways, they focus on the means by which this process is created and enacted, whether by interaction with and within titles, by comparison with other works, by opposition to other traditions, genres, or composers, or by validation for and within a community of listeners and actors. What each of these theories of genre have in common is the idea that genre is something to be understood. For Kallberg, 'the choice of genre by a composer and its identification by the listener establish the framework for the communication of meaning'[55]. For Samson, 'genre...is one of the most powerful codes linking the composer and his

---

[53]Drott (2013), 3.

[54]Drott (2013), 14.

[55]Kallberg (1988), 243.

audience'[56]. For Drott, the reconsideration of genre is 'a point of entry for considering how the plural and agonistic character of the cultural field, by imprinting itself upon ourselves, shapes our perception and understanding of music'[57]. In the 'communication of meaning', 'codes', and 'perception and understanding', we are reminded that genre is a tool for 'making sense' of music.

Each of these necessary interventions into genre ignore the role that performers themselves play in the creation and identification of genre. Although Kallberg refers extensively to reviews of performances, any specific agency the performer has in the identification of genre in these performances is not identified. Neither are performers' opinions, observations, or encounters with genre part of any of these theories. This leads me to ask in what way performers—who participate in the communication of meaning and who may adopt any number of frames of reference—themselves 'make sense' of genre. In many ways, this seems a natural extension of the process-based theories that I have outlined above. After all, if genre is to be understood as an evolving phenomenon, understanding genre through the lens of performances studies—which has largely focused on understanding music through the ephemeral, processual, and evolving events of musical performance rather than the stasis of text-based scores—should be an obvious approach. Equally, if we are to follow Kallberg in expanding the 'range of functions that genre performs in both the composer's and the listener's experience of a musical work',[58] it is only fitting to include among those range of functions the ways in which genre affects the *performer*'s experience as well—acknowledging that the performer is also a listener—as well as to consider the ways that specific performers and performance occasions affect the experience of genre for all participants in a musical activity. Indeed, when Drott claims that genre is something that must be continually produced and

---

[56]Samson (1989), 223.

[57]Drott (2013), 40.

[58]Kallberg (1988), 242.

reproduced, the fact and practice of performance are implicit in that claim. It is through repeated performances that the production and reproduction of musical works occurs, prompting generic identification.

Although the ephemerality and process-based aspects of performance are naturally encompassed by the concerns of genre theories described by Samson, Kallberg, and Drott, the addition of the performer as an agent of genre production, reproduction, and identification adds another concern—epistemological, rather than ontological. As the étude makes and remakes sense, for the performer this happens in a process that crucially involves practical, embodied knowledge. The final étude of this book will explore the ways in which genre's sense-making happens in the body, through the genre of the case study.

Étude 6: Case Study—Chopin's Étude Op 10 no. 3

Does the étude also make sense? In many ways, its sense-making is similar to the genres

of Ballade and Nocturne described by Kallberg and Samson. In particular, as concerns the

way in which Chopin structured genre by 'internal consistency' within examples of the

genre (Samson), the étude provides an excellent example: the études in general follow

similar formal structures and material treatment. Likewise, the étude offers a

paradigmatic example of the shifting of genres that both Kallberg and Samson identify as

crucial to the understanding of genre in general. In Jim Samson's words, the étude has a

'conventional title, conventionally defined, but with a new status',[59] thus making it an

interesting case for understanding how genres are both confirmed and displaced in the

composition of new works, and the subtle negotiation of new and old at the heart of

genre creation and persistence. As in the case of the Nocturne—Kallberg's memorable

example—certain études push at the limits of what we would normally consider

acceptable for an étude and incorporate elements of other genres, thus helping to define

what the étude can be.

On the other hand, the kinds of sense that the étude genre makes are rarely to be

found exclusively in the notes on the score. Schumann's February 1836 article on the

étude in the *Neue Zeitscrhift für Musik* offers a different understanding of what ties a

genre together. In the article, he orders piano études according to the 'goals'—from

'legato in one hand and staccato in the other hand' to 'velocity and lightness'. The genre,

therefore, shapes not the perception and understanding of its listeners, but rather the

physical bodies of its performers. Whereas the title of Ballade connotes a 'narrative

listening strategy',[60] according to Jim Samson, the title of Étude offers something more

---

[59]Samson (1989), 216.

[60]Samson (2010), 82.

like 'technical physical strategy'—one geared toward the solution of physical problems. It is a genre that compels Schumann to seek to identify—in the piano études he observes—specific physical aims. His catalogue is testament to the fact that the interpretative strategy binding études together is inherently physical, going beyond reading notes on the page to the actual manifestation of these at the keyboard. Furthermore, the didactic and pedagogical connotations encourage the performer not only to feel certain kinds of sensations while playing, but also to focus on those sensations, and correspondingly, to develop physical strategies for performance, and goals for improvement.

Moving from the general to the specific, I will use the example of Chopin's *Étude* Op. 10 no. 3 to assess how genre is operating in the work, addressing the 'range of functions that genre performs' (Kallberg), the use of genre as a 'frame of reference' (Samson), and an 'interpretive schemata'. I show, through this investigation, that a conceptual understanding of genre is insufficient, and that—in both generic thought, and thought in general—comprehension and embodiment are fundamentally entangled.

Given that I have suggested the genre of the étude is conditioned as much by the solution of physical problems as it is by other interpretive strategies, my approach for this case study will be to demonstrate some of the ways that technical and physical problems are resolved in the practice of Chopin's Op. 10 no. 3, and the way that a technical, physical strategy interacts with the assessment of genre. One of the most interesting records of pedagogical practice in the Chopin *Études* is pianist Alfred Cortot's Édition de Travail, published by the Éditions Maurice Senart in 1915. In the edition, each study is preceded by several pages of exercises designed to assist the pianist in learning each study—indeed, a physical strategy. In the introduction to the collection, Cortot writes 'The essential law of this method is to work not on the difficult passage itself, but on the difficulty contained within this passage in order to restore its most elementary

characteristics',[61] continuing to elaborate that the method 'might be applied to all pianistic works' and 'assures decisive progress'.[62] From this introductory statement alone, we can already glean a sense of the relationship between the genre of the etude and Cortot's approach to the works. Taking seriously Chopin's deliberate classification of these works as Études, Cortot—a student of Émile Descombes, who had himself studied with Chopin—responds to and reinforces the suggestion of that title by suggesting that the pieces be practiced not only as works in themselves but as exemplars.

This pedagogical orientation is prefigured in the editions of Chopin student Karl Mikuli, as well. In his own introduction to Chopin's Opus 10 Études, originally published by Kistner in 1879, Mikuli describes Chopin the pedagogue by listing the various exercises that Chopin gave his students—beginning with scales, then onward to the studies of composers such as Clementi, Cramer, and Moscheles. After discussing the methods that Chopin would use for these somewhat, Mikuli finally arrives at Chopin's own studies, which were reserved for 'only far-advanced pupils'.[63]

A peculiar feature of the Étude Opus 10 no. 3 is its lively, disruptive middle section, a chaotic interlude that is much longer than either the subtle, lyrical opening or its reprise at the end. As John Rink has pointed out, the fast middle section not only seems structurally like an anomaly, it also often sounds incongruous in many pianists' recordings of the piece, and poses particular problems for the performer. He writes:

---

[61]La loi essentielle de cette méthod est de travailler, non pas le passage difficile, mais la difficulté contenue dans ce passage en lui restituant son caractère élémentaire. Chopin, ed. Cortot (1915), 5.

[62]'Elle peut être appliquée à l'étude de toutes les oeuvres pianistiques, elle supprime le travail machinal qui déshonore l'exercice d'un Art fait de sensibilité et d'intelligence et sous un aspect lent et stationnaire, elle assure de progrès décisifs.' Chopin, ed. Cortot (1915), 5.

[63]Chopin, ed. Mikuli (1916), ii.

Pianists tend to let loose in the middle, playing with increasing intensity as the music becomes more chromatic, and reaching fever pitch at the tortuous, jagged descent.... The fact that one regularly hears the middle at extreme levels of intensity and velocity only perpetuates a widespread misconception about the piece.[64]

In order to correct this misconception, Rink reframes the piece using a monadic approach. By his performative and theoretical analysis, the structure of the whole is reflected in its smallest unit: the syncopated bass line that runs throughout the piece. By this analysis, the lyrical opening and closing sections are the light first and last notes of the rhythm, where the middle section—marked *poco piu animato*, it is a much more dance-like section, with a 'double-stop' melody in the right hand and jumping line in the bass—is the emphasised middle note, which Jim Samson notes is exactly double the length of the outer sections.[65] This analysis, in its attempt to unify the two sections, is suggestive of the problems that the piece poses in its seemingly disjunct nature.

Alfred Cortot's physical suggestions for the piece also offer a way of integrating the two sections, and a suggestion that 'a sound performance conception'[66] and sound analytical conception are inherently linked. Cortot's opening exercise suggests isolating the top line from the middle line. The exercise helps the pianist to distinguish the top line—which is clearly melodic—from the rhyzthmic ostinato in the middle outlining the harmony. The two lines are already very different from each other in terms of rhythm and functional purpose; using an exercise to separate them responds to an obvious feature of the piece's construction. To further exaggerate the difference between the two lines, Cortot specifies that the melodic line is to be played 'sonorously, expressively, and perfectly smooth' while the lower ostinato line is marked *pp* with staccatos (see Figures 6.1 and 6.2).

---

[64]Rink (2015), 134.

[65]Samson (1985), 65.

[66]Rink (2015), 135.
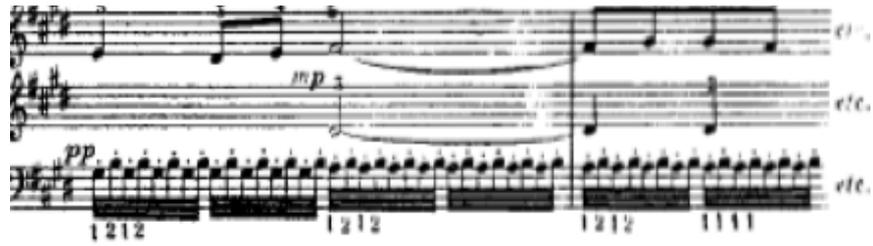
Figure 6.1. 'Exercice No. 9; for Étude Opus 10 no. 3.[67]

Figure 6.2. Étude Opus 10 no. 3, bars 1-2.[68]

However, the technical and formal concerns of the middle section are quite different.

Rather than containing a separate melodic and harmonic line, instead, the passage is

homophonic, as the right hand plays a melody in sixths (see Figure 6.3). However, the

exercises that Cortot offers for this section continue to separate the top line from the

middle line, despite there being no separation between them in the score (see Figure 6.4).

Indeed, not only are the lines rhythmically and melody homophonic, they are also treated

as chords in the autograph and subsequent editions, in comparison with the clear visual

separation of the two lines in the opening bars of the piece (see Figures 6.5 and 6.6).

---

[67]Chopin, 12 *Études op 10, Edition de Travail par Alfred Cortot* (1915).

[68]Chopin, 12 *Études op 10, Edition de Travail par Alfred Cortot* (1915).

48

Figure 6.3. Étude Opus 10 no. 3, bars 21-23.[69]

Figure 6.4. Exercises no. 10 (A) and (B) for Étude Opus 10. No 3.[70]

Figure 6.5. Chopin, Etude, op. 10, no. 3. Autograph Stichvorlage for French first edition, bars 1–5.[71]

---

[69]Chopin, 12 *Études op 10, Edition de Travail par Alfred Cortot* (1915).

[70]Chopin, 12 *Études op 10, Edition de Travail par Alfred Cortot* (1915).

[71]Narodowy Instytut Fryderyka Chopina, M/192. <en.chopin.nifc.pl>

Figure 6.6. Chopin, Etude, op. 10, no. 3. Autograph Stichvorlage for French first edition, bars 22–29.[72]

What alternative exercises might Cortot have chosen for the passage beginning in bar 20? A clue might be found in his exercises for the Étude Op 10 no. 7 (Figure 6.7). This étude also features moving two-note chords in the right hand. Rather than separating the lines, Cortot's exercise identifies the 'fundamental technique' as connecting the motion between two simultaneous notes in the same hand. Physically, this exercise creates a rotation of the wrist upwards and downwards—upwards as the pianist plays the smaller interval and downwards for the octave. By comparison, the exercise for the middle section of Op 10 no. 3 pronates the hand toward the outside, and creates a rotation of the wrist left and right.

Figure 6.7. Exercise No. 1 for Étude Op 10 no. 7.[73]

A similar exercise could have been constructed for the Étude Op 10 no. 3 (Figure 6.8). However, the physical gesture used for Cortot's exercise for the Étude Op 10 no. 3 does not in any way approximate that used for Cortot's exercise for the Étude Op 10 no.

---

[72]Narodowy Instytut Fryderyka Chopina, M/192. <en.chopin.nifc.pl>

[73] Chopin, 1*2 Études op 10*, *Edition de Travail par Alfred Cortot* (1915), 45.

7. Cortot's choice to create similar exercises for the two sections of Op 10 no. 3 suggest that Cortot is creating a specific kind of reading of the piece based on physical integration, in which the piece makes sense—not logically, but physically. This reading serves to physically understand the piece as a unified whole, from the perspective of Cortot himself as a performer.

Figure 6.8. Exercise for Étude Op 10 no. 3 bars 21-22, based on Exercise 1 for Op 10 no 7.

Both Cortot's and Rink's depictions here constitute forms of physical, performance-based analysis, which rely on the performing body to make sense of the piece, not only as a coherent work but also *as an étude.* Their interpretations of in what way the piece is an étude differ. However, for both interpreters the making of sense (integration of the piece as a coherent whole) and the process of sense-making (experience of the piece in performance) are connected. In the case of Rink, the coherent interpretation of the piece treats it as an 'étude in syncopation', whereas for Cortot, it is interpreted as an étude in the separation of layers. According to both interpretations and performance conceptions, the performer herself plays a crucial role in the understanding of the piece as an étude. It is not just the piece 'itself' or Chopin's notation that transparently reveals these properties. Instead, the performer—in treating the piece as an étude—shapes both our reading of its étude properties and our identification of its genre.

Of course, the realm of the individual work is by no means our only frame of reference. Indeed, the genre of the étude suggests this with particular urgency, given the étude's particularly complex interaction with piano music as a whole. As Simon Finlow

51

suggests, these Études were already composed to 'embody the quintessential idioms and performance techniques of the piano'[74]. This already places them in relationship to those idioms and techniques that had at the time been deemed, and would eventually become, essential in other repertoires. As Chopin's Études became canonic parts of the piano repertoire, on the one hand, these very technical and figural difficulties became less exceptional: concert pianists are now more or less expected to be able to play any of the Chopin Études. On the other hand, their development into canonical status also resulted in later composers incorporating the kinds of techniques they offered—which were, we recall, already quintessential—into the canon, further solidifying their generic status as fundamental training pieces for performers. As such, the étude as a genre exemplifies a particular kind of dynamic relationship between agents and works in history—in which the fact of being called and identified as an étude confirms and strengthens a generic relationship from many directions.

On the other hand, like other genre categories, the étude remains slippery. It is determined in dynamic processes and relationships, through actions and discourse, rather than ontological divisions. Given the étude's special relationship to ongoing practice and performance, perhaps this slipperiness is even more pronounced. In Mikuli's introduction to the Opus 10 Études—which I have already mentioned briefly—he also lists amongst his catalogue of Chopin's pedagogical tools several pieces that do not, in fact, have the title 'étude': 'Field's and his own nocturnes also figured to a certain extent as studies, for through them...the pupil was taught to recognize, love, and produce the *legato* and the beautiful connected singing tone'.[75] This passage indicates exactly the problem and potential of genre: that a performer, listener, or other interpreter may treat any work as an 'étude', if it is used for a pedagogical purpose, and with the aim of gaining physical skills and solving technical problems. Rethinking the potential of genre to encompass

---

[74]Finlow (2011), 54.

[75]Chopin, ed. Mikuli (1916), ii.

physical modes of understanding is thus revelatory. On the one hand, it opens new realms of thinking about musical ontologies and epistemologies, taking into account the ways in which knowledge is gained through the body. On the other hand, the manner in which 'étude-thinking' is clearly an ephemeral, evolving process—indeed, a process of practising—rather than a neat category, helps to make clearer the ways in which these processes of definition might take place in other genres.

Both Cortot's and Rink's physical understandings of the piece are the interpretations of single performers, each set in particular historical and performance contexts. Nonetheless, they reveal an essentially embodied understanding of what the genre of the étude is and how genre in general operates. In combination with my own physical observations, they also offer a case study of genre across time. Rather than being an ahistorical glimpse at isolated moments, distanced from Chopin's own context, instead this cross-section reflects the nature of genre itself—a process, rather than a category, that is made and remade by participants over time.

It has been fruitful to address questions of genre with the specific case of Chopin not only because of his crucial role in the early development of the keyboard étude, but also because the works of Chopin have played a key role in the development of musical genre studies, having served as the inspiration for foundational texts on genre by Jim Samson and Jeffrey Kahlberg. Additionally, the immense literature on Chopin and performance, written from the perspective of both academics and performers (and sometimes, writers who span both of those categories) already suggests the usefulness and importance of using performance to understand his works. This unification of these three closely related concepts—étude, genre, and performance—finds a natural home in Chopin.

Perhaps the intertwined relationship between genre, étude, and the body is indeed among the reasons the genre of the étude has persisted with surprising tenacity: why

there are still études composed today that we might visit and revisit from the perspective of the body, and use to understand the nature of genre. Despite Eric Drott's insistence that genre is not over, the abandonment of traditional genre titles identified by Adorno and Dahlhaus (and against which Drott responds) is indisputable. There are few pieces composed today that are called or generically identified as sonatas, nocturnes, or preludes. Concertos and String Quartets are two other genres that might stand up to the Étude in terms of persistence, but neither of these have the same kind of internal consistency and prolific abundance within an individual composer's oeuvre that the Étude continues to offer—including the 32 études of John Cage, 18 of Ligeti, and 49 of Nancarrow, as well as others: from Unsuk Chin (6 and more), to Philip Glass (20), to—over course—Marc-André Hamelin's playfully Chopinesque 12 Études in Minor Keys.

As we have already described, the étude works in multiple directions. Discursively, the étude reinforces the concept of the work, privileging internal consistency (demonstrated by Cortot's physical reading and John Rink's analysis). On the other hand, the essential physicality of the étude also materially disrupts these concepts, by emphasizing the capacity of performers to exceed and adapt and make possible the framework laid out by the score. As material-discursive agents, though, the body, the instrument, and the work also operate together: the physical identification of a piece as being of the genre of an étude already places it in relationship to other repertoire. Even in pieces that stand alone, as the Chopin *Études* inevitably do, the étude genre label also places a piece in the service of other works, and encourages others to treat it as containing fundamental components for composition (in Cortot's words, *caractère élementaire*). It places the burden of interpretation on bodies rather than ideas, bodies which are fallible, changeable, and—importantly—different from one another.

BOOK II

Étude 7: Hoping for the Impossible—John Cage's *Etudes Australes*

> If it could not be disappointed, then it would not be hope[1].

John Cage's *Etudes Australes* and the language of (im)possibility

Although the 1970s are often described as a period in which John Cage moved from strict musical composition to more radical experiments in text and poetry, his output in the 1970s also included three sets of seemingly-traditional compositions framed under the genre of the concert étude. His first set of études, the 36 *Etudes Australes* for piano, was written in 1974 for the pianist Grete Sultan. Considering that Cage's engagements with genre tended to be more disruptive—such as in scoring the unconventionally titled *Sonatas and Interludes* for prepared piano in the 1940s, or in coining new 'genres' such as the *Imaginary Landscapes*—Cage's études are comparatively conventional. They explore new kinds of virtuosic display, are written for acoustic, unprepared instruments, and notated using noteheads on grand staves. Over the course of the following six years, Cage composed sets of études for piano, violin, and cello and/or piano, following the *Etudes Australes* with the *Freeman Etudes* (1977-80), commissioned by Betty Freeman for the violinist Paul Zukovsky, and the *Etudes Boréales* (1978) for cello and/or piano for Jeanne and Jack Kirstein.

Even after he stopped composing études in 1980, the idea of the 'étude' continued to occupy Cage's discourse. In an 1982 interview with Tom Darter, Cage claimed:

> We are living in an étude period of history, in which, if we don't learn how to do what we have to do, we may very well destroy ourselves. What we have to do

---

[1] Ernst Bloch, *The Utopian Function of Art and Literature: Selected Essays*, trans. Jack Zipes and Frank Mecklenburg (Cambridge: The MIT Press, 1988), 16.

appears to many to be the impossible.… People often object to my work as not being political, and I'm not interested in power politics. I'm interested in the use of intelligence and the *solution of impossible problems*. And that's what these *Etudes [Australes]* are all about, and that's what our lives are all about right now.[2]

Cage's political scope here is typically vast and recalls the range of utopian, futurist, and anarchist thought with which he commonly engaged (he goes on to espouse, for example, a vision of a nationless global society). Given our investigation of the étude genre, it is particularly telling that he invokes the étude as a political or historical mode, alongside its generic musical connotations.

This quotation emphasises that for Cage, the genre of the étude is in some way political, which is perhaps a surprising use of a genre that originates as a seemingly apolitical pedagogical exercise. In describing the 'étude period of history', Cage also emphasises that it is pedagogical—'if we don't *learn* how…'—and is involved in 'intelligence' and 'solution'. It is not theoretical, but practical, concerned not purely with ideas but with '[doing] what we have to do' and 'solution[s]'. There is an element of peril: 'if we [do not]… [then] we may very well destroy ourselves'. But overarching and combining all of these is an interest in possibility and impossibility. 'The solution of impossible problems' is what these pieces are 'all about'.

'The Practicality of the Impossible'

Before discussing the *Etudes Australes* themselves, it is worth understanding how and when Cage used the term 'impossible' to describe the works. Immediately after completing the piece, Cage was keen to recognize the demands placed on the body of the performer, and the sheer physicality of performance technique: 'Grete Sultan, for whom I wrote these pieces, has had to learn to sit differently than she ever sat before, so

---

[2]Cage and Kostelanetz (1987), 296.

that she can quickly and without seeming to, shift her weight, so that she will be in a situation where she will be able to do what there is to do.'[3] He tells his interviewers here that Sultan has 'had to learn' new things in order to play his pieces. It is a learning that happens not only *because of* the pieces, but also through them. Sultan (presumably) did not consult a separate technical guide for tips on seating positions, but rather developed a new sense of balance in the process of practice and performance. Through this music, Sultan's body was shaped and sculpted at the instrument.

Despite recognising the difficulty of the works, and using directly politicised language of needing to 'do what there is to do' to describe these works, Cage did not immediately understand them as 'impossible' or discuss them in political terms. Even when asked explicitly about extreme difficulty by Jeff Goldberg in a 1976 interview, Cage simply avoids the question: 'as far as I know, all of my pieces have been performed'.[4] In 1979, in an interview with Roger Reynolds, Cage limits himself to saying: 'Partly what is meant in the *Etudes Australes* is that we must work very hard in order to play this music, and we must also work very hard in order to preserve our environment. There are certain correlations between those things.'[5] It is not until 1982, in an interview with Laura Fletcher and Thomas Moore, that Cage uses much stronger wording:

> These are intentionally as difficult as I can make them, because I think we're now surrounded by very serious problems in the society, and we think that the situation is hopeless and that it's just impossible to do something that will make everything turn out properly. So I think that this music, which is almost impossible, gives an instance of the practicality of the impossible.[6]

---

[3]Interview with Cole Gagne and Tracy Caras (1975) in Cage and Kostelanetz (1988), 38.

[4]Cage and Goldberg (1976), 105.

[5]Cage and Reynolds (1979), 570.

[6]The latter part of this quotation frequently shows up slightly misquoted or without attribution, perhaps
because it is often passed on and copied third-hand. The original interview was published in 1983 in

It is likely that Cage's relationship with Paul Zukovsky was part of his changing opinion of the étude genre and its relationship to possibility. Between 1977 and 1980, Cage was working on the *Freeman Etudes* for Zukovsky,[7] and this seemed to have an impact on his understanding of virtuosity and the limits of the body. Zukovsky pushed back against his demands, identifying passages and aspects that were difficult, seemingly to Cage's surprise:

> He suggested—and I agreed—to go back over the string indications to find out again what string should be used when it was at all physically possible. Then I go over it with him again, and where it's literally too difficult, just impossible, then he refuses the chance operation. He accepts some and refuses others.[8]

Before working with Zukovsky, Cage claimed to have felt that 'music is free of the problem of physicality that dance is involved in deeply'.[9] It was only through this compositional process that he came to realize more clearly that 'the very act of holding the violin is somewhat unnatural, like standing on one's toes…. the action of *playing* the violin is as baffling as dancing'.[10] It is during *this* time that he began to refer to the *Etudes Australes* as 'impossible', to see impossible action on the part of the instrumentalist as political, and to connect the étude genre with the notion of striving for a better world.

Perhaps it is telling that Cage himself came to this understanding of what the étude

---

Pozzi Escot's contemporary music journal, *Sonus*, but more widely redistributed in Kostelanetz's compilation of interviews with Cage, published in *Perspectives of New Music* in 1988. Cage and Kostelanetz (1988), 40. For the original interview, see Fletcher and Moore, (1983), 16–23.

[7]In 1978, in fact, he had not named them separately, and simply referred to them as *Etudes Australes* for piano solo (1974) and for violin solo (1978). See letter to Heinz-Klaus Metzger of Feb 2, 1978 in Cage (2016), 471.

[8]Interview with Maureen Furman (1979), cited in John Cage and Richard Kostelanetz, 'His Own Music: Part Two', *Perspectives of New Music*, 26 (1988), 42.

[9]Cage and Reynolds (1969), 591.

[10]Cage and Reynolds (1979), 592.

might mean in and through practice, in a process of learning and discovering. In this respect, he is not unlike the students and performers of études: altered by a confrontation with the human body (even if not his own) and forced to adapt, change, and grow. Just as Grete Sultan came to adjust her way of sitting at the piano, and Zukovsky gained 'notions of things that could be done that he didn't know about',[11] so too was Cage transformed by his own etudes. This is in keeping with many aspects of Cage's artistic philosophy. He was fond of quoting a line that he attributed to Thoreau: 'it's not important what form the sculptor gives the stone. It's important what sculpting does to the sculptor'. He was also continually interested in collaborative artistic endeavours, and increasingly so throughout the 1970s, writing to Christian Wolff in 1974 that 'the more urgent "good" is that we all work together'.[12]

'Then I Noticed Her Hands...'

Indeed, Cage's process of composition for the *Etudes Australes* certainly followed these ideals of a collaborative physically-oriented process. As Cage writes, after he spent a month 'failing to find a new music for piano having characteristics that would interest Grete Sultan', it was by visiting her in person that he was struck with the inspiration for the work. 'The room she lives, works, and teaches in has two pianos.... Then I noticed her hands, conceived a duet for two hands, each alone, then catalogued all of the intervals, triads, and aggregates a single hand can play, unassisted by the other. Soon finished the first of thirty-two études, each having two pages. Showed it to Grete. She was delighted.'[13] Cage's description of the encounter with Sultan's body—'then I noticed her hands'—as the compositional catalyst, whether or not it is true, reveals an orientation to the body that is palpable in the piece.

---

[11] Interview with Cole Gagne and Tracy Caras (1980) from Cage and Kostelanetz (1988), 39.

[12] Cage (2016), 442.

[13] *Composition in Retrospect* (1982), cited Cage (1997), 438.

The set consists of 32 pieces, arranged in four books of eight. Each musical system contains four staves, with the right and left hands occupying their own traditional great stave, complete with a treble clef and bass clef. Thus, both hands span (most of) the range of the keyboard, frequently crossing and overlapping. As Cage describes, the pitch material for the piece came from a catalogue of every possible chord that each hand could play: an eventual database of 1125 two-, three-, and four-note chords. Placement of these pitches, in turn, was taken from the *Atlas Australis*, a chart of the Southern hemisphere, drawn by Czech astronomer Antonín Bečvář, and in these places, chords were chosen using methods from the *I-Ching*. In addition to framing the piece as a duet for two hands, Cage also was concerned with its 'metamorphosis'[14] over the course of the 32 études. As the piece progresses, more and more multiple-note chords are used, giving the 32 études a sense of progression from simple to complex.

In addition to using the indeterminate processes of the *I-Ching* in composition, Cage also leaves many aspects of the piece unspecified in the score. While the relative placement of notes is determined spatially, absolute tempo is entirely at the performer's discretion. Furthermore, Cage acknowledges that even the attempt at relative duration may not always succeed. In the introduction to the work, he suggests that 'circumstances sometimes arise when it is necessary to "shift gears" and go, as the case may be, faster or slower'.[15] He offers similarly optional accommodations for performers struggling to cope with the extreme range of the hands. 'Notes written for the left hand above the C two ledger lines above the treble clef may be omitted in a performance. Likewise, any notes written for the right hand below the A on the lowest space of the bass clef may be omitted.'[16] No dynamic markings, articulations, or expressive indications are given: these are to be contributed by the performer.

[14]Cage (2016), 133.

[15]Cage (1975), i.

[16]*ibid.*

Only a quick glance at the score is necessary to determine that these *Etudes* are

remarkably difficult to read and play. Figure 7.1, which shows the first line of *Etude I*, and

Figure 7.2, which shows the first line of *Etude XVI*, offer a few examples: these

demonstrate the visual complexity of both the two great staves, the spatial organization

of the music, and the increasing density as more multiple-note chords are added.

Figure 7.1 Etude Australe I, first system.[17]

Figure 7.2 Etude Australe XVI, first system.[18]

---

[17]Cage (1975), 1.

[18]Cage (1975), 32.

The complete separation of the two hands is perhaps the most explicit problem, and one that Cage described as a key innovation of the piece.[19] In a 1975 interview with Ellworth Snyder, for example, Cage claimed: 'the idea of writing études for the two hands, each hand separate from the other, was original to this piece. I don't think anyone has thought of doing that before'.[20] From a psychological perspective, there is the discipline involved in isolating the hands as they rapidly move from one side of the keyboard to the other and avoiding the temptation to relate their movements (or play them simultaneously). The fact that both hands occupy the same ranges of the keyboard also makes the crossing of hands and negotiation of space physically awkward.

Within a single hand, leaps between notes and between chords often create problems, especially in denser passages. These challenges seem to be made all the more frustrating by the fact that the individual chords themselves are designed specifically to fit comfortably under the hand. The problem arises when the comfortable hand position for one chord is quite different from the comfortable position for the next.

Even a single note can cause awkward shifts and uncomfortable positions. The open note heads, Cage tells us, should be held as long as possible, often during several other closed notes. As such, these usually involve striking the note with a particular finger, and then switching fingers in order to reach notes on either side. Finally, the use of any non-standard notational system is disorienting for the performer. Physical challenges notwithstanding, there is a psychological discomfort involved in adjusting to a new way of reading the score and of translating text to body.

All of these are familiar technical challenges that one might expect to see explored in an étude, and none are unique to these pieces in particular. However, the difficulties

---

[19]Despite Cage's claims for the innovativeness of this technique, it is one that he had in fact explored in previous works, such as the *Solo for Piano* (1957-8).

[20]Kostelanetz (2003), 91.

are exaggerated here because of the construction and presentation of the piece, and because they were—as études—written expressly to be 'as difficult as [he] could make them'. In particular, the idea of mapping star charts onto a score and translating these to the body seems almost absurd—as if the body is improbably and impossibly reaching for the stars.

To Infinity, and Beyond

Even though the pieces are embodied and physically contingent, the fact that they are drawn from star charts makes their difficulty—the way that they stretch the body beyond its limits—especially obvious. Cage had begun using star charts in his work about ten years earlier, first with the *Atlas Elipticalis* in 1962. In William Brooks' chapter in the *Cambridge Companion to John Cage*, he attributes this interest in the stars in part to Cage's re-discovery of the writings of Henry David Thoreau in the 1960s:

> Certainly Thoreau's presence is felt in the extent to which nature is a source for many of the materials; and the art which Cage married to nature is direct and essential.... 'I went to the woods because I wished to live deliberately,' wrote Thoreau; and in many of these compositions Cage seems to be recapitulating Thoreau's journey (recorded above all in his journal) into the art of life by way of nature.[21]

Thoreau was indeed an extremely important figure in Cage's compositional process at this time. Cage was also in the planning process for his multimedia piece *Lecture on the Weather*, which included—among other things—recitations of text from Thoreau's *Walden*.

However, Cage's interest in the stars may also have a place outside of nature. Unlike Thoreau's woods, trees, and mountains, the stars are above us, intangibly distant. The stars are the home of the spiritual, of the heavens, of Angels and of gods. We may

---

[21]Brooks (2005), 135.

attempt to understand and interact with the stars through cartography, or let them

predict and imagine our future through astrology, but this keeps them ever at a distance.

For Blake, another poet for whom nature was an overwhelming concern, the integration

of stars and nature could only happen in utopian imagination, in a world not unlike Cage's

imagined ideals of a nationless world. In Northrop Frye's words:

> There would no longer be any difference, except one of perspective, between the
> group and the individual, as all individuals would be members of one human body.
> Everything in the world, including the sun, moon, and stars, would be part of the
> human body, and everything would be identical with everything else.[22]

Jameson describes this kind of sentiment as 'Northrop Frye's Blakean myths of eternal

bodies projected against the sky'[3] and I wonder whether we might read Cage similarly: as

the sky projected against the body perhaps, but nonetheless as an instance of astral

utopian projection.[23]

It is not irrelevant that imaginations of the stars, and travel towards them, was

a central concern within the popular and literary culture surrounding Cage in the 1970s,

specifically in the realm of science fiction. The genre was undergoing a number of

important developments in the 1960s and 1970s, most notably in terms of formal

experimentation and increasing preoccupation with political and social concerns. Perhaps

even more importantly, the academy was also beginning to take note of science fiction

during this period. Marshall McLuhan, the Canadian media theorist who was a friend of

John Cage, found in science fiction examples of the imagined technological futures of his

work, and academic journals such as *Foundation* (1972—) and *Science-Fiction Studies*

(1973—) began to appear alongside the already popular zines, anthologies, and

---

[22]Frye (2005), 235.

[23]Jameson (2007), 7.

magazines.[24]

Cage's writings in the 1960s and 1970s even embody much of the ethos and experimental aesthetic that overtook the genre of science fiction in that era. Particularly notable is Cage's essay, 'The Future of Music', published in *Empty Words* in 1979. Even the title betrays a kind of science-fictional interest in possible futures. The text itself is speculative (rather than a didactic set of instructions directed at future composers, for example) and he emphasizes the limitlessness of possibility for art and society. Much like the attempts of utopian science fiction to think beyond what we already take for granted, Cage suggests that 'were a limit to be set, a process outside that limit would surely be discovered'.[25] Elsewhere, he makes explicit his suggestion that music—as a means of changing the future—should not be part of explicit critique. Rather, it must be the kind of political statement that approaches obliquely in order to effect any real change. 'Instead, protest is all too often absorbed into the flow of power, because it limits itself to reaching for the same old mechanisms of power, which is the worst way to challenge authority! We'll never get away from it that way!'[26] Rather, as he emphasizes in *Empty Words*, 'revolution remains our proper concern, but instead of planning it…. we are at all times in it'.[27]

In this context, then, we might also understand these études as part of a larger movement of utopian politics. The paradox of 'the practicality of the impossible' resonates with the concerns of utopian thinkers and writers of the 1960s and 1970s, who were increasingly exploring experimental modes of expression in the service of imagining other, better worlds.

---

[24]See Broderick (2003) and Wolfe (2003).

[25]Cage (1979), 178.

[26]Cage (1981), 236.

[27]Cage (1979), 182.

A Utopian Leap: *Etudes Australes* as Science Fiction

Oh, you can prove anything using the Analogy, and you know it.[28]

The most explicit connection between Cage and the world of literary science fiction is a letter he wrote to Lou Harrison in 1951. 'Playing poker on 14th Street with a lot of science fiction writers these days',[29] he recounts, referring to gatherings hosted by H.L. Gold, founder and editor of *Galaxy Magazine* (which launched in 1950), who was widely credited with shaping the development of the genre and ushering in a 'New Wave'.[30] While admittedly quite a loose association, the productive correspondences between Cage's concerns—in writing and within the *Etudes Australes* themselves—make it worth examining literary critical studies of utopia as we seek to understand Cage's music.

According to Fredric Jameson, one of the foremost scholars of utopian thought in literature, a preoccupation of utopia is the articulation of a utopian break that 'forces us precisely to concentrate on the break itself: a meditation on the impossible, on the unrealisable in its own right.'[31] The idea of 'meditating on the impossible' seems to be almost an obsession of Cage's after the composition of these études. He writes about this yet again in 'The Future of Music', this time with an explicitly future-oriented modality. 'A necessary aspect of the immediate future, not just in the field of environmental recovery is work, hard work, and no end to it. Much of my music since 1974 is extremely difficult to play (the *Etudes Australes* for Grete Sultan, the *Freeman*

---

[28]Le Guin (1999)

[29]Cage (2016), 156.

[30]Broderick (2003).

[31]Jameson (2005), 232.

Etudes for Zukofsky). The overcoming of difficulties. Doing the impossible.'[32]

Another important goal of the utopian more broadly is the oft-repeated mantra of 'making the familiar strange'.[33] Jameson articulates this goal most clearly as an alternative to interpretations that see utopian literature as attempting to 'represent' the future. Instead, he writes, science fiction's aim is 'to defamiliarise and restructure our experience of our own *present'* (emphasis his).[34] This defamiliarisation not only '[transforms] our own present into the determinate past of something yet to come',[35] but also thereby presents us with a way of re-thinking our present possibilities, or—as Cage suggests of music— 'extending our realization of what can happen'.[36]

In this light, the social and political impulses of the *Etudes Australes* can be understood in the various familiar strangenesses of the score. When a performer is confronted with the new ways of thinking that the *Etudes Australes* provoke—complete separation of the hands, utter control over the expressive components of the piece, temporality that is fixed in space rather than in notation—this destabilises her sense of what is normal. This effect is pronounced because of how close to 'normal' the score itself is, especially in comparison with Cage's more 'experimental' works (including silent pieces and graphic scores). After all, the pitches are fully notated. The score is written for an acoustic and un-modified piano. Meanwhile, the chords themselves all sit comfortably under the hand. This proximity to the norm is in fact what makes the piece so destabilising. The superficial similarities to more conventional pieces of piano music means that the pianist constantly forgets those elements that are deeply unusual, and is

---

[32]Cage (1979), 184.

[33]Often used by writers to describe utopian science fiction, though importantly also related to Viktor
    Shklovsky's 'Art as Technique' (1989).

[34]Jameson (2005), 288.

[35]Jameson (2005), 288.

[36]*ibid.*, 178.

disconcertingly reminded of them at every turn.

The destabilising effect of utopian science fiction often operates with similar proximity. Many canonical imaginations of utopia present worlds that are superficially close to our own, so that those aspects that deviate are all the more palpable. This is certainly true of Ursula LeGuin's *The Dispossessed*, which was coincidentally also written in 1974 in New York City. *The Dispossessed* tells the story of Shevek—a scientist from an 'anarchist' satellite planet called Anarres, settled generations ago by the exile Odo—travelling for the first time to the capitalist planet from which Odo came. Shevek's anarchist planet is not only eerily close to our own, but was also colonised by former residents of a capitalist planet that is clearly modelled after contemporary society. Both for Shevek and for the capitalist readers of the novel, things can never be the same after taking such a journey. These travels reframe Shevek's anarchist upbringing and unsettle our own sense of what is taken for granted in contemporary capitalist culture.

Literary theorist Simon Stow makes much of the fact that the novel relies on travel, which indeed has been a central component of utopian fiction since the invention of the term, with Thomas More's travel narrative to the island of Utopos in his 1516 *Utopia*. Stow writes:

> For the Greeks, *Theoria*, the root of the modern word theory, was primarily connected to the noun *theoros*, meaning an "observer" or "spectator." As such it was inextricably associated with the theatre: an alternative space in which, as many studies have shown, the Greeks addressed their most pressing social and political issues in comedic or tragic form. Additionally, however, *theoros* had the implication of someone who travels to see other cities and places: an ambassador or official envoy sent by the city to other places to witness and testify on their actions.[37]

He calls on the fact that Shevek, the traveller, is a theorist, to suggest that by prioritising

---

[37]Stow (2005), 39.

travel as a mode of theory, Le Guin offers us a way of theorising her own novel. For Stow, then, the act of reading can constitute such a journey between the text and the world. The reader travels into the 'written world' of the text, returning to understand it amidst her own 'unwritten worlds' (terms that Stow takes from anarchist theorist Paul Goodman). This task of comparison between 'written' and 'unwritten' is, for Stow, the project of theory. That Cage's *Etudes* are based on star charts seems even more striking in this light. The score itself, one might say, has travelled to the stars and then back. Its engagement with the spatialised written worlds of star maps and note heads, is grounded in the material, unwritten integration with the shape of the hand and the operations of the I-Ching.

In thinking about theory as travel between written and unwritten words, we might also reflect on the relationship between the body of the performer and the score. When Stow relates *Theoria* to the theatre, it is important to remember that theory is thus closely related to performance. For pianists of the *Etudes Australes*—or musicians performing any work—the act of performance involves travel and negotiation between scores, which are written, and bodies, which are not. The transfer between score and body is never straightforward and simple, in the way that, as Stow writes, 'the reduction of texts to simple lessons, be they about Empire, empathy, or anarchism, though easily done, is not the way to generate meaningful critical thought'.[38] Just as the relationship between performance and score is difficult to pin down, Stow observes that 'we cannot give a scientific or even a discursively stable account of the relationship between written and unwritten worlds'.[39] Indeed, this travel is equally between the written and unwritten worlds of score and body as it is between the multiple unwritten words of many bodies and performances, scattered across time and space. This does not mean that we cannot learn anything at all from utopian science fiction or from Cage's *Etudes*, however.

---

[38]Stow (2005), 47.

[39]*Ibid.*, 46.

Instead, as Stow comments, 'Le Guin illustrates that insight comes not from simply applying the lessons of literature to the world in which we live, but by using both worlds to reflect upon and consider the other.'[40]

In other words, utopian thought provides not a blueprint for how the world should be, but 'a replicable critical method'[41] through which we can understand and seek to change it. This is a common refrain and persistent thread in the work of utopian scholars from Fredric Jameson to Ruth Levitas. Levitas' books *The Concept of Utopia* and *Utopia as Method*, for example, have been predicated on the idea that utopia is 'the expression of desire for a better way of being or living', and in this respect is 'analytic rather than descriptive'.[42] As David M. Bell claims, the 'method' theory of utopia is such that 'utopian texts … do not help us to imagine the future, but they might help us to imagine imagining the future'.[43] In the same way, we might understand the performance of the *Etudes Australes* as offering a method that might be used to understand and critically reflect on the world, just as—by necessity—the contingencies of the world affect and impact any act of performance.

In his recent study of utopian thought, *Rethinking Utopia: Place, Power, Affect*, Bell suggests that the 'method' approach to utopia—what he calls, at times, the 'function-based approach to utopia'—is insufficient.[44] This is not so much because it is inaccurate, but rather because the conflation of utopia with process means that we cannot explore the content or 'place' of utopia itself. Performance, I suggest, offers an approach to utopia that allows it to be both a 'method' and 'place'. The performative act is indeed one of travel, offering a relationship between bodies and texts, which exists in process and

---

[40]*Ibid.*, 47.

[41]*Ibid.*, 48.

[42]Levitas, *Utopia as Method* (2013), xii-xiii.

[43]Bell (2017), 81.

[44]*Ibid.*, 84.

might functionally demonstrate ways of understanding. At the same time, it is also a site within which we can locate the utopian imagination itself.

The Spirit of Hope: A Theory for Utopian Performativity

In the previous section, I used an analogy to *The Dispossessed* and utopian science fiction in general, proposing that by theorising across the two—in the journey between their respective written and unwritten worlds—we might better understand the impossible as it is articulated in Cage's *Etudes Australes*. In particular, I suggested that the comparison highlights the importance of performance in understanding the impossible, by construing performance as akin to the relationship between a critical reader and *The Dispossessed*. In such a relationship, 'meaning' comes not from the text itself, but from the relationship between the written world of the text and the unwritten world of the reader, which is to say, the 'journey' between the two.

I now offer a stronger theoretical grounding for such a reading of performance and performance of reading by turning to the German critical thinker Ernst Bloch (1885-1977), whose *Spirit of Utopia*[45] and *The Principle of Hope*[46] offer expansive theories of the relationship between art and utopia. Until 1985, Bloch was not widely translated into English. Since then, he has become a foundational thinker for anglophone Utopian studies, in particular through the writings of Fredric Jameson. However, scholars of science fiction have been employing Bloch since the early days of science fiction scholarship. Darko Suvin and R. D. Mullen's neo-Marxist *Science-Fiction Studies*, founded in 1973, was among the first journals to accept science fiction as a serious object of literary study, and Suvin drew heavily on Bloch's concept of the 'novum': the kernel of the future that bursts into the present through art.

---

[45]Published as *Geist der Utopie* in 1918.

[46]Originally *Das Prinzip Hoffnung*, written 1954-1959.

In addition to his utopian thought, Bloch was also a prolific and incisive writer on music. The chapter of *Spirit of Utopia* called 'Philosophy of Music' is very much the most significant section of the work, both in terms of length (it forms 160 out of 247 pages in the 1923 version) and content (it lays out, via music, the view of history upon which his other claims about utopia are predicated). His later work, *The Principle of Hope*, features many important references to music, including an entire chapter called 'Venturing beyond and the most intense world of man in music'.[47] These two chapters, along with several other separate essays on the subject, are now collected in *Essays on the Philosophy of Music*, which was assembled in German in 1974 as *Zur Philosophie der Musik* and published in an English translation by Peter Palmer in 1985 with an introduction by David Drew.

Since his translation into English, some writers from music studies have begun exploring Bloch's ideas and their potential relevance to contemporary musical thought. Of particular note is Benjamin Korstvedt's 2010 book, *Listening for Utopia in Ernst Bloch's Musical Philosophy*, the only book-length study in English to critically explore Bloch's musical aesthetics. That said, there is a relative lack of writing on Bloch in music scholarship, in particular in comparison with his contemporaries in the Frankfurt School and other Marxist thinkers with which he was associated, such as György Lukács, Walter Benjamin, and—of course—Theodor Adorno. Other substantial contributions on the subject of Bloch's utopian aesthetics have come from Michael Gallope, who explores Bloch's concept of musical materiality in 'Ernst Bloch's Utopian *Ton* of Hope' and several publications by Ruth Levitas.[48]

---

[47]Überschreitung und intensitätsreichste Menschwelt in der Musik.

[48]Ruth Levitas provides a helpful introduction to the main texts that deal with music and Ernst Bloch in 'Singing Summons the Existence of the Fountain', primarily in the second paragraph of her essay, and in footnote 3 on page 241. In addition to the texts she mentions, a few should be added: political theorist Christopher Norris' essay, 'Utopian Deconstruction: Ernst Bloch, Paul de Man, and the Politics of Music'

Within this scholarship, however, a particular gap is relevant: the omission of performance. Only Levitas has discussed the performative orientation of Bloch's musical aesthetics and the relevance Bloch's utopian thought might have to musical performance. In 'Singing Summons the Existence of the Fountain', for example, she draws on the writings of Daniel Barenboim, whose understanding of music is deeply embedded in his career as a pianist. Barenboim writes, with overtones of Bloch, that 'through music it is possible to imagine an alternative social model, where Utopia and practicality join forces, allowing us to express ourselves freely and hear each other's preoccupations'.[49] Notably, the utopian prefiguring of the future that he identifies comes not from music itself, but specifically from the nature of 'orchestral playing' and from 'relations between players [that] prefigure those of a better world'.[50] Thus, it is performance that 'sings' utopian

---

from 1989, Gary Zabel's 'Ernst Bloch and the Utopian Dimension of Music' from 1990, geographer Ben Anderson's more recent studies of utopian listening practices in the age of technology, and finally Michael Gallope's chapter on Bloch in the 2015 collection *Music in Contemporary Philosophy* and more recent book *Deep Refrains: Music, Philosophy, and the Ineffable* (2017). Nonetheless, the number of significant texts on Bloch that avoid or gloss over the topic of music altogether is striking, and it is altogether a relatively unexplored question.

Ruth Levitas, 'Singing Summons the Existence of the Fountain', in *The Privatization of Hope: Ernst Bloch and the Future of Utopia*, ed. by Peter Thompson and Slavoj Zizek (Durham: Duke University Press, 2013), p. 221 & p. 241; Christopher Norris, 'Utopian Deconstruction: Ernst Bloch, Paul de Man, and the Politics of Music' In *Music and the Politis of Culture*. Ed. Christopher Norris. New York, 1989, pp. 305-47. ; Gary Zabel, 'Ernst Bloch and the Utopian Dimension of Music', *Musical Times* 131 (1990): 82-84.; Ben Anderson, 'A Principle of Hope: Recorded Musicch, Listening Practices and the Immanence of Utopia', *Geografiska Annaler. Series B, Human Geography* 84 (2002): 211–27. ; Ben Anderson, 'Recorded Music and Practices of Remembering', *Social & Cultural Geography*, 5 (2004), pp. 3–20.; Michael Gallope, 'Ernst Bloch's Utopian *Ton* of Hope', *Music in Contemporary Philosophy*. Ed. Martin Scherzinger (New York: Routledge, 2015); Michael Gallope, *Deep Refrains: Music, Philosophy, and the Ineffable* (Chicago: Chicago University Press, 2017).

[49]Barenboim, cited in Levitas, 'Singing Summons the Existence of the Fountain' (2013), 240.

[50]Levitas, 'Singing Summons the Existence of the Fountain' (2013), 240.

possibility into being. In her recent book, *Utopia as Method*, Levitas suggests that for

Bloch, the sensuousness of sound is related to specific performers—'what it contains of

the actual person singing, and thus what quality the singer or player "puts into" the note,

is more important than what his song contains purely in terms of note-values'.[51] In a brief

section with the heading 'Music as performance', she connects the inevitable

evanescence of musical performance with Bloch's notion of the 'Not-Yet' (*noch nicht*) and

calls on utopian metaphors used to describe specific performers and musical events.

Aptly, she notes Bloch's own engagement with and understanding of live performance:

Bloch himself was involved with the Kroll Opera in Berlin and 'wrote the introductory

programme article for the Kroll's opening production of *Fidelio* in 1927'.[52] *Fidelio* features

heavily in Bloch's writings about music in the *Principle of Hope*, and it seems unlikely that

his understanding of the work did not draw on this specific performance.

It is evident from Levitas' brief observations, and many other aspects of Bloch's

thinking, that Bloch's is a musical aesthetics closely connected with performance. His

material orientation understands music as sensual, acoustic, and embodied, all priorities

that privilege the experience of music in time over musical texts and scores. His interest

in the aesthetic properties of the temporal 'Not-Yet' align with the way in which music-

as-performance is perpetually coming-into-being, rather than emerging fully formed.

Bloch himself explicitly alludes to the centrality of performance in his musical philosophy,

claiming that 'there might still be music if there were no listeners, but certainly there

would be none without the musicians to supply the musical movement and its psychical

energy, its pounding energy, in the first place'.[53]

This makes his theories of music an ideal approach for studying the impossible,

Cage's *Etudes Australes*, and utopian performativity in general. The impossible, as we have

---

[51]Bloch (1995), 1059.

[52]Levitas, *Utopia as Method* (2013), 53.

[53]Bloch (1986), 200.

discovered, is process-based and emergent. Cage's *Etudes Australes* rely on physicality as their main mode of articulation, a fact that will be elaborated upon in the next section of this dissertation. And for utopian musical thought in general, performance is an important space of theory that has been largely unexamined. If Korstvedt attempts to show 'how' music enacts utopia with the tools of theory, and Levitas explains 'why' music (rather than any other art form) is the bringer of utopia, I suspect that performance studies might provide an approach for showing 'what' musical utopias might entail.[54]

It is worth stepping back for a minute to understand where a performance-based reading of Bloch might fit amongst the contemporary landscape of music studies by turning to Theodor Adorno. Adorno was deeply influenced by Bloch's musical metaphysics and in particular by the potential that Bloch saw for political meaning to be situated in musical tones. Ultimately, however, Adorno would seek an approach that was more grounded in the text of the music and in its formal construction. In a commentary on Bloch that ranges from scathing to reverential, Adorno criticises Bloch's inability to speak in specifics: 'even though Bloch's philosophy abounds in materials and colours, it does not succeed in escaping from abstraction.'[55]

In the late 1980s and early 1990s, Adorno was taken up as inspiration for the 'New Musicology', which would attempt to find the social in music, and to consider music as a way of expressing social relations. In the decades since, both the methods of the movement and their invocation of Adorno have been subject to a range of debates—even as the figure of Adorno himself continues to loom large over the discipline. For one, Adorno's own Marxist underpinnings are used both to bolster and to dismiss his utility, even as his relationship to traditional Marxism is largely left unexplored in the context of

[54]In keeping with the 'place' of utopia that Bell suggests is under-theorised.

[55]Adorno (1980), 60.

music studies.[56] Furthermore, his attempts to find the social in musical works are 'indirect, complex, unconscious, undocumented, and mysterious.'[57] With respect to this particular flaw, Nicholas Cook suggests that 'the problem disappears if instead of seeing musical works as texts within which social structures are encoded we see them as scripts in response to which social relationships are enacted: the object of analysis is now present and self-evident in the interactions between performers, and in the acoustic trace that they leave.'[58]

One of the alternative approaches to understanding the sociality of music has been in the 'ethnographic turn' of musicology. In his discussion of sociality in musical performance in *Beyond the Score*, Cook points to ethnography as a discipline that—despite seeming similarities with the 'New' musicology—avoids the traps of thinking about 'music as writing, not music as performance'.[59] He acknowledges, for example, that 'by the time the "New" musicologists were drawing on Adorno in order to bring their discipline up to date, sociologists saw his approach as hopelessly old-fashioned'.[60] I wonder, however, whether Bloch's aesthetics might also offer a theory that can help us understand social relationships in both the works and in 'the acoustic trace they leave' (to quote Cook). Bloch thus offers a reframing of the Adornian approach in new performative terms, and also provides a critical theoretical background which can be applied and combined with other methods, such as ethnography (as I will do in the Étude no. 1, in which I use auto-ethnographic methods to read Bloch in John Cage's *Etude Australe VIII*).

---

[56]Adam Krims, for example, suggests that Adorno has often falsely been treated as a 'stand-in' for Marxism in general in popular music studies, while Parkhurst and Hammel argue that music scholars engage in 'passing dalliances or long-term liaisons with Adorno' without engaging with 'novel Marxist [theorising]'. Krims (2003), 131-133, Parkhurst and Hammel (2017), 33-34.

[57]Subotnik, cited in Cook (2001), par. 31.

[58]Cook, (2001), par. 31.

[59]Cook (2016), 254.

[60]*Ibid.*, 255.

It might seem difficult to redeem Adorno's obscurity in a thinker whom Adorno himself found too abstract. However, the turn away from the vagaries of Bloch is precisely what led Adorno to seek refuge in what he saw as more objective analysis in the 'formal laws' and 'innermost cells of technique' of the music.[61] This fear of abstraction and search for clarity is precisely, then, what made Adorno's understanding of social meaning as encoded in scores so obscure indeed. Meanwhile, Bloch's musical aesthetics is so abstract precisely because he claims that musical meaning does not lie in structure and form but instead in its material and physical presence. In fact, for Bloch it is indeed *because* of this materiality that music has any claims to social understanding at all: 'Only the musical note, that enigma of sensuousness, is sufficiently unencumbered by the world yet phenomenal enough to last to return—like the *metaphysical* world—as a final material factor in the fulfilment of mystical self-perception'.[62] Ultimately, Bloch is interested in corporeal experience, perhaps as a result of his overwhelming commitment to Marxist materialism combined with a generally humanistic approach.[63] This theoretical grounding paves the way for finding social meaning in the sensuousness of the performing body and in the phenomenology of the performer.

Travelling back to the *Etudes Australes*

Bloch's musical project—which is invested not only in the relationship between music and society but also specifically in how that social content is found in sensuousness and materiality—thus offers a useful way of reconsidering 'the impossible' in Cage's *Etudes Australes*. In particular, Bloch's aesthetics place the focus on how impossibility is oriented temporally—as a futuristic, utopian mode—and how it manifests in performance. As such,

---

[61]Adorno (2002), 393.

[62]Bloch (1985), 120.

[63]Perhaps unsurprisingly, feminist Marxist scholarship—which generally shares Bloch's humanist perspective—
tends also to be interested in bodily experience.

I will discuss the *Etudes Australes* not so much with reference to the written score, but instead by examining how they are performed, and by investigating the experience of the performer. For the moment, I will focus on two aspects of performance that allow me to reflect back on Bloch's impossible utopian promise: the arrangement of the hands at the keyboard and the temporality of performance.

The arrangement of the hands on the score and the keyboard is one aspect of the *Études Australes* that is frequently described in relationship to its utopian politics. Conceived as a 'duet', the two hands are fully independent, and both cover the range of the keyboard. In practice, this means they are perpetually crossing and overlapping. Borrowing Cage's term 'interpenetration', which he used frequently to describe his social vision and artistic practice,[64] Rob Haskins has suggested that in the *Etudes Australes*, an 'interpenetration of melodies …transformed the solitary nature of solo music into a social one.'[65] However, Haskins' suggestion that this is the result of an 'interpenetration of melodies' somewhat misses the point. 'Melodies' suggests that interconnecting phrases are in the work and the text themselves. While patterns and shapes certainly emerge, to refer to the sequences of chord formations as melodic seems something of a stretch. Without watching the performance or being aware of the performer, there is no indication of which notes belong together or how these supposed melodies would be constructed. To the extent that melodies are present, these are conveyed solely through the performer's decisions. After all, Cage deliberately left no indications of articulation, expression, or dynamic in the score, choosing to leave these entirely at the discretion of the pianist. More fundamentally, it is not in fact melodic crossings, but rather the physical crossover of the hands, that creates the impression of 'interpenetration'. While the division of the hands is certainly visible from simply looking at the staff, it is in

---

[64]'Interpenetration', for example, is one of the fifteen key words that Cage used to structure the Charles Eliot Norton lectures that he delivered at Harvard in 1988-89 (Cage, 1997).

[65]Haskins (2012), 111.

performance that the performer fully realises this social act.

It is possible to connect this integration and crossing with something like Cage's imagination of a borderless society. However, Bloch would not be very interested in such a direct reading of the political message of the work.[66] His interest in music as a source of political power comes not from its content, but from something more fundamental about the medium of music itself—its means, techniques, and sonic existence: 'It is clear that the means and techniques of so companionable an art are largely determined by the given social conditions, and that society will extend far into the sound-material.'[67] Furthermore, the utopias that Bloch thinks are anticipated by music are perhaps not even legible from the perspective of the present, seeing as they rupture the progress of time by creating a 'future-in-the-present'.

But perhaps they may be understood physically: 'Little may be achieved, therefore, without our doing creative violence to the note and its related vibrations. To become music it is absolutely dependent on the flesh and blood of the person who takes it and performs it.'[68] The separation of the hands need not be understood as a phenomenon that simplistically mirrors an ideal social world. However, it certainly does pose distinct challenges and phenomenological experiences for the performer. Regardless of its relationship to broader social goals, it creates a sensation in the performer that I would argue accesses the impossible and the utopian. It would be truly impossible for performers to separate their hands completely, and on this level the act is a constant striving. The performer must thus attempt both to divide the body in two—isolating the left and right hands—and to let the body act as a unified social organism, allowing the hands to act together and to occupy the same physical and temporal space. As Cage has

---

[66]In particular, it is important to account for his methodological Marxism, in which the form of appearance is more likely to disguise the internal workings than to reveal them.

[67]Bloch (1985), 40.

[68]Bloch, (1985), 117.

described, this very phenomenon changed Sultan's physicality and approach to the instrument, as she 'had to learn to sit differently than she ever sat before'.[69] This paradox makes present a tension of performance, which pushes the performer to imagine other ways of being and doing, and adapt his body accordingly: a tension which is made especially present in the pedagogical, virtuosic genre of the étude.

It would not be possible to articulate any account of the experience of performance without referring to temporality. All performance, of course, operates across multiple registers of temporality, from the time of composition of the work, to the repetitive temporality of the practice or rehearsal room, to the temporal experiences of performers and audiences together.[70] Bloch, with his account of the *Ungleichzeitigkeit* (non-synchronicity) of music, was deeply concerned with the utopian potential contained in the conflicting temporalities of the musical work. His understanding of utopia relied particularly on the notion of the 'future-in-the-present', and the potential of music to anticipate future forms of social organisation.[71] Bloch is also interested in the ephemerality of music, and the fact that its temporality is unfinished and constantly developing:

> Hence musical expression, too, is still cementing and has not emerged yet in a finished, definable form. This objective-indeterminate element in the expressed, represented, musical content is the (temporary) defect of its qualities. Accordingly it

[69]Interview with Cole Gagne and Tracy Caras (1975) in Cage and Kostelanetz (1988), 38.

[70]Phenomenological accounts of performance that take into account multiple temporalities of musical experience include Anthony Gritten's theories of 'distraction' in performance, and descriptions of performance that are interested in 'flow', for example.

[71]Michael Gallope helpfully reminds readers of Bloch that his notion of anticipating the future should not be taken literally. 'Drawing concrete correlations between musical passages and their political transformations can yield inconclusive (or at least non-causal) results. This is something Bloch recognizes, which is precisely why he shifts his attention away from concrete or utilitarian indicators of politics towards unconscious indicators and obscure cyphers.' Gallope (2012), 376.

is the art of pre-semblance which is related to the flowing existential core (instant) of that-which-is-in-being most intensively, and to the horizon of the latter more expansively.[72]

This aspect of musical aesthetics is also fundamentally performance-oriented. Musical performance is indeed 'that-which-is-in-being most intensively' and is constantly developing. Performances are not definitive or conclusive renditions of musical works, but examples that are un-finished by nature.

In the *Etudes Australes*, one of the key features of temporal confusion is the timing instruction that Cage offers performers in the introduction: 'In a performance the correspondence between space and time should be such that the music "sounds" as it "looks". However, as in traveling through space, circumstances sometimes arise when it is necessary to "shift gears" and go, as the case may be, faster or slower.'[73] Cage's ambiguous instruction poses distinct temporal problems for the performer. How often can the performer 'shift gears'? How great a deviation from the given time proportions is too great? The performer is constantly operating in simultaneous, but non-synchronous (*ungleichzeitig*), modes, in which he is both striving towards a strict adherence and aware of an allowance for flexibility. Ultimately, it is an aspect of impossibility in the work that is brought into being by the performer. The score permits and opens up a space for this experience of temporality—even as it remains temporality fixed on the page—which in performance is taken up and made present in non-synchronous time.

Both of these two examples—the physicality of crossing the hands and the relativity of time—find artistic meaning in what Bloch would call the 'cultural surplus' or 'utopian surplus' of the work. This is a term he adapts from Marxist discourse. In *Kapital*, surplus refers to both the excess of capital necessary to sustain the system of capitalist

---

[72]Bloch (1985), 250.

[73]Cage (1975), 1.

production, and the unemployed labourers that must exist in society both after developments in technology result in cuts to the labour force and in order to enact the inevitable further growth of capitalist production.[74] For Bloch, cultural surplus is the art that transcends its own time to anticipate and prefigure future means of societal organization, expressing the 'not-yet-conscious'. Like capitalist surplus, Bloch's cultural surplus is an inevitable product of the materialist structure, rather than a goal or an end in itself. Cultural surplus is also rooted simultaneously in the past and the future—a product of that which is past, and an indication of things to come—in keeping with Bloch's insistence on the 'future-in-the-past.'

The excessiveness of these virtuosic and performative gestures as 'surplus' echoes Bloch's own words about utopian art in the visual sphere, in his description of 'the Gothic Line', which, as Michael Gallope describes, refers to the 'excesses of baroque design'. In Gallope's words, 'the ornaments of the "Gothic Line" are functionless and wild. They are a surplus; the pedagogy and practice of such ornamentation is excessive and poetic'.[75] For Bloch, it is this very quality that allows this art access to the utopian imagination, to what is essential about nature, spirituality, and the world. 'Gothic line… contains all this agitation within itself; this line is restless and uncanny like its forms…only the Gothic has this fire at the centre, over which the deepest organic and the deeper spiritual essences bring themselves to fruition'.[76]

But Bloch is willing to attribute more agency to consciousness and artistic activity than much 20th-century Marxist scholarship, and as Korstvedt notes, he 'had little use for the so-called base-superstructure model, in which a determining material foundation,

---

[74]In keeping with Marxist dialectical reasoning, each concept necessarily has two sides; nothing can be either cause or effect, but must simultaneously be both; seeming causes and effects actually produce each other.

[75]Gallope (2017), 92.

[76]Bloch (2000), 24.

based primarily on the relations of production, is reflected in the cultural superstructure that derives from it'.[77] With a deeply humanist emphasis that is not always found in Marxist scholarship, Bloch writes: 'human beings, not things, and not their powerful progression, which is outside us and wrongly turned over onto us, make history'.[78] These human beings are not only the composers of art, but particularly the performers and listeners, who make history with the sensation of music in their bodies.

Of course, these performative concerns are not unique to John Cage's poetics or to the *Etudes Australes* themselves. However, the fact that the pieces are called études makes the physicality of their concerns and the presentness of practice all the more striking. The étude dramatises a particular relationship between score and body, in which the score acts as a guide for training the body to go well beyond the confines of the text, just as it seeks to surpass its own physical limits. In their efforts to reach beyond and project towards the future, these études also make clear the very limits of the human body that prevent them from doing just that. As Jameson writes of utopian science fiction:

> Its deepest vocation is over and over again to demonstrate and to dramatize our incapacity to imagine the future, to body forth, through apparently full representations which prove on closer inspection to be structurally and constitutively impoverished... to succeed by failure, and to serve as unwitting and even unwilling vehicles for a mediation, which, setting forth for the unknown, finds itself irrevocably tried in the all-too-familiar, and thereby becomes unexpectedly transformed into a contemplation of our own absolute limits.[79]

---

[77]Korstvedt (2010), 24.

[78]Bloch (1995), 1358.

[79]Jameson (2007), 287.

This paradoxical interplay between the hopeful attempt to exceed one's limits and the repeated reminder of the attempt's futility is at the heart of utopian thought and of the experience of performing the *Etudes Australes.*

In general, I have attempted to read Cage's *Etudes Australes* by taking into account the experience of the performer. In doing so, I seek a musical meaning that is both materially grounded and ultimately constantly renewing and changing. It is meaning through experience, created anew with each act of performance. Ernst Bloch's musical philosophy, which combines a truly passionate humanism with Marxist materialism, serves as inspiration for this investigation. His aesthetic philosophy sees music as the most powerful form of social articulation through the arts, but rather than searching for easy clues in musical content, instead understands such social meaning as taking place in music's 'sensuousness'—thus, in and through performance. This account will be expanded, drawing more explicitly on the methods of phenomenology and auto-ethnography, in the case study, in which I explore Blochian traces in my own experience performing Cage's *Etude Australe VIII.*

'Studied Map. Should have taken road not on it.'

Ultimately, we have perhaps not found impossibility *in* Cage's *Etudes Australes.* However, I suggest that the performance concerns of these works offer a 'replicable critical method' (to borrow Stow's words) for understanding and performing impossibility. Part of this replicability and method-character comes from the way that performance is essential to understanding. It is a method, too, that is heavily contingent on the genre of the étude. Cage is both operating within an established genre and attempting to reframe its conventions and purposes. The *Etudes Australes* and *Freeman Etudes* are by no means the kinds of technical exercises that improve our facility with other works of music. Instead, they expand our possibilities as performers and humans, and change what we take for granted.

In a mesostic[80] from 1972, Cage writes—'Studied Map. Should have taken road not on it'.[81] This is very much the approach that Cage takes to the *Etudes Australes*, in which 'studying' the 'study' is very much not the right approach. He removes the aspect of disciplined 'study' from the étude (which itself, it turns out, is based on a map of the stars), and instead, the étude becomes a journey in itself. In general, this reframing of the étude genre is very much in keeping with other aspects of his thinking. In *Diary: How to Improve the World (You Will Only Make Things Worse)* his suspicion of formal education is palpable: 'Teen-ager imagines that by spending time in a building marked Music he'll become a musician.'[82] Spending time in the *Etudes Australes* will not make you a musician either—but it will show you new ways of being, of studying, (of *étuding)*, and thus of thinking about and being in the world.

---

[80]Cage's invented genre of poem, in which a letter from each line forms a word.

[81]Cage, *M: Writings, '67-'72* (1973), 80.

[82]Cage, *Diary* (1973), 199.

Étude 8: Case Study—John Cage's *Etude Australe*

VIII

As I have described, Bloch's aesthetic and musical philosophy lends itself especially to thinking through performance. As someone whose primary experience of music was not through the score but as a listener, Bloch's writings about music are, indeed, primarily in response to particular performances. His general aesthetic philosophy is one that understands art and culture as—at their best—unfinished, making the evolving and ephemeral nature of performance a natural site for exploring his ideas. Finally, the importance that he assigns to sensuousness and embodiment in understanding sound makes the listening and feeling performer the most resonant interpreter of music, and the one best poised to experience music's 'sensation of the future'.[1]

In this case study, I take on Cage's étude 'way of thinking' as a way to further understand the impossible-utopian horizon of musical performance, and to approach the eighth piece in the *Etudes Australes*. By documenting my experience as a performer of the Etude VIII, I uncover traces of Bloch: both traces of the sensuous identity that he identifies in music and traces of meaning that he believes persist in that very sensuous identity. I have chosen not to separate my observations according to category, with a list or catalogue of performance concerns classified according to their particular utopian manifestation. Instead, I have attempted an approach that weaves its way around the issues rather than neatly pinning them down.

I am attempting a method of criticism akin to that which Jameson promotes in his applications of Ernst Bloch to literary science fiction in the landmark text *Archaeologies of*

---

[1]Bloch (2000), 236.

the Future. Jameson emphasises that the project is not one of identifying the utopian *content* of the works, but rather of examining how form and representation are tools of utopian articulation. It is through form and representation, he suggests, that the texts of utopian science fiction are political, and that 'texts designed to overcome the needs of the body can remain materialistic'.[2] The goal, then, is to demonstrate the materialism of Cage's own texts, which elude and overcome the needs of the body in even more overt ways than the science fiction to which Jameson refers. As such, I will argue that through performance, the *Etudes Australes* engage in a utopian political project. My research method both uses performances as a critical approach to the *Etude Australe VIII*, and shows that the critical potential of the *Etude Australe VIII* lies within performance itself.

My study takes the form of a chronology of practice. In reality, it is not a transcript of sequential sessions of practice, but rather a compilation of many stages of learning, including notes taken from my private practice and consultations with other musicians,[3] all woven into a single narrative. Recognising the non-linear nature of musical performance and practice, a direct chronology of my experiences as a performer would not only be impossible, but would also inaccurately reflect the reality of experience. In performance, the progression of time is scattered and nonlinear, rather than a coherent series of sequential events. As such, I have tried to account for and be honest about the repetitions and confusions of practice and progress. In this respect, I draw on Bloch's introduction to *The Principle of Hope*:

> An encyclopaedia of hopes often contains repetitions, but never overlappings, and so
> far as the former is concerned, Voltaire's statement is valid here that he would repeat

---

[2]Jameson (2007), xv.

[3]Including private lessons with London-based contemporary music specialist Mark Knoop in May 2016, and a
   Research Masterclass at the Guildhall School of Music and Drama given by Dr. Paulo de Assis of the
   Orpheus Institute and hosted by the Institute for Musical Research and the Cambridge Centre for
   Musical Performance Studies in November 2016.

himself as often as was necessary until he was understood. The statement is even more valid since the repetitions of the book ideally always occur on a new level, have therefore both learnt something in the meantime and may allow the identical thing they are aiming at to be learned anew.[4]

The very form of practice and performance itself echoes this aspect of utopian articulation. Repeated gestures or phrases are never *merely* identical to their previous instantiations, but indeed having 'learnt something in the meantime…may allow the identical thing they are aiming at to be learnt anew.'[5]

This is something that violinist and scholar Mieko Kanno has convincingly argued in her research on effectiveness in practice. In 'Order Matters: A Thought on How to Practise', she acknowledges that the act of practising proceeds 'not only through repeated practice but also by changing an approach—that is, by reordering priorities and tasks'.[6] Although she focuses primarily on the effect that ordering of *different* tasks has on learning and practice, implicit in her argument is the notion that ordering changes how the *same* tasks are perceived when re-ordered and how these tasks contribute to the overall learning process. Her examples primarily involve isolating exercises for the left hand and the right hand, and the effect that different orders of practice have on how fast a piece is grasped, using the metaphor of the recipe (in which the order of inclusion of ingredients in baking changes the product) and the logic of algorithm (by which mathematical orderings change the result). By this algorithmic logic, the same tasks, when placed in different parts of the practice session, take on different roles, meanings, and effects.

---

[4]Bloch (1995), 10.

[5]*Ibid.*, 10.

[6]Kanno, (2014), 143-144.

This is not to suggest, however, that all subsequent learning and progress is perceptible or conscious. David Foster Wallace's description of practice in the realm of tennis is relevant:

> Hitting thousands of strokes, day after day, develops the ability to do by "feel" what cannot be done by regular conscious thought. Repetitive practice like this often looks tedious or even cruel to an outsider, but the outsider can't feel what's going on inside the player — tiny adjustments, over and over, and a sense of each change's effects that gets more and more acute even as it recedes from normal consciousness.[7]

Taking Bloch's *Encyclopaedia of Hope* as inspiration, I draw out these adjustments in my own practice: commenting on their relationships to the practice of utopia, and the physical manifestation of utopian desire that emerges in process of practising this piece. However, this has not always been possible, nor would that be desirable: the fact that these 'recede from consciousness' is part of their political impact and import as well.[8]

The *Etude Australe VIII* in Practice

My approach to any new piece of music is commonly to play it through a few times, without much regard for tempo or character or accuracy, but simply to get a sense of how it feels. It is a kind of sight-reading, though a sight-reading that is much more disengaged than it would be if anyone were watching. More accurately, I am feeling my way around the piece, trying to familiarise myself with its contours and its idiosyncrasies—much like glancing at a map before arriving in a new place to situate important landmarks and cardinal directions. When playing through the *Etude Australe VIII*, however, the experience is more like being given a map without a legend—not

---

[7]Wallace (2006).

[8]For more on the 'political unconscious', see Fredric Jameson's eponymous 1982 work. Jameson is referring to the unconscious of authors and artists, not the 'interpreters' and performers of artistic work, but the sentiment is equally relevant.

knowing which lines are rivers, which are roads, and which are trails.

In general, even with extremely dense pieces of music, it is possible to get a quick sense of contour and shape. However, because of the separation of the hands into two great staves, even the usual correspondence between position on the score and geography at the keyboard is disturbed in the *Etude Australe VIII*. Often, I find myself instinctively reaching towards the bottom of the keyboard before realising that a note is in fact in the third stave—the treble clef in the left hand—and jumping back up in a tangle. In many instances, the order of pitches is sheer guesswork; when several notes are close together across all four staves, their vertical alignment is difficult to discern at a glance. Many of the pitches are ledger lines well above or below the stave, far from any nearby points of reference—like a map insert without an indication of where in the larger landscape it belongs. The last four pitches in the passage shown in Figure 8.1 demonstrate each of these problems: the A in the top staff of the left hand looks as if it might be a C in the bass clef, the pitches are so close together it is hard to determine their order, and the low E in the bottom staff of the left hand is difficult to find without any nearby notes.

Figure 8.1. Etude Australe VIII, second system.[9]

---

[9]Cage (1975), 16.

Indeed, it quickly became evident that before proceeding with the piece, I would need to annotate the score with the names of all notes above and below the stave, and to spell out many of the chords. These were not necessarily unusual chords, but presented out of context, they did not intuitively become legible to the mind or fall under the hand. Just as it takes longer to process a string of seven disconnected words than a seven-word sentence, so too did these isolated pitches and chords elude quick comprehension.

Once I could easily identify all of the notes, I then set about the task of trying to make them coherent under the hand. At first, I sought to do this by separating the hands, playing each hand several times very slowly. Very slow tempos are often a staple of my practice, especially in the early stages of learning. In this piece, however, the method was different, as it also involved only minimally taking into account the distribution of time proportions. In the opening stages of learning, exaggerated by slow tempos, I had already taken to the extreme Cage's direction that 'circumstances sometimes arise when it is necessary to "shift gears" and go, as the case may be, faster or slower'.[10] A strong sense of relative and simultaneous temporalities was emerging: how 'necessary' must it be in order for such shifting of gears to take place?

While it would be easy to frame the next stages of practice as a progression, the reality is much more complicated. It is not as if I developed an optimal sequential order for practising the technical challenges that remained: instead, I combatted them somewhat arbitrarily. In my slow, single-handed plodding, I would arrive at a moment that made manifest a particular problem—say, chords, or leaps, or open notes—and then would attempt to tackle other similar problems throughout the piece. On occasion, I would arrive at a particular moment, unaware of what made it difficult, and I would simply seek to resolve it, realising only after more extensive practice that the moment

---

[10]Cage (1975), 1.

shared characteristics with others, such that it might be identified as a unique technical challenge, and thus more easily understood in context.

In order to demonstrate this process, and several of the concerns that emerged, I have identified several (though by no means all) of the technical challenges I uncovered by practising the piece. I have listed, and will describe them, in no particular order—not because order is irrelevant, but rather because these instances are so 'interpenetrated' (to borrow Cage's terminology) that it would be impossible to recreate their sequence.

CHORDS. Each of the chords in the piece is derived from a 'possible' arrangement of notes, one of an 'encyclopaedia' of 1125 possible chords that Cage had catalogued. As they are often spelled in non-traditional ways, and without the contextual grounding of a key signature or a physical context, it can be hard to play them accurately. Notably, while they are all possible to play, there is no guarantee that subsequent chords will employ similar hand positions.

I practise first the individual chords themselves, repeating them several times with different fingerings and different distributions of weight in order to determine the most comfortable position. Knowing that the chords were written in response to Sultan's hand, I find myself often wondering whether, and in what ways, my hand is similar to hers. I struggle to sound all the notes in a five-note chord in the left hand and wonder: is this a failure of my imaginative capacities to find new hand positions, or simply a physical defect? Is my relatively short pinky finger not suited to, or not able to, bend and stretch in the ways that Sultan's could?

It is in this way that I form a kind of virtual relationship with Sultan, though she has been dead for over a decade. Her hands—those same hands that Cage 'noticed' when he was inspired to write the piece—reach out to mine across space and time. Sultan's hands guide and inspire me to seek out new patterns and configurations. Equally, they make me

aware of our differences. The encounter with another's body sheds light on the limitations of my own, even as it pushes past those same limits.

With the positions of the chords established more comfortably, I then place these chords in context. For each chord, I add the notes immediately before and after, while keeping my preferred hand position in mind. Occasionally, an adjustment is necessary. A position that earlier seemed comfortable is more difficult to balance when coming down from the top of the keyboard or when springing off immediately to strike a note in an awkward location. This example from the sixth system of the piece in the right hand demonstrates the problem, a score of which is found in Figure 8.2.

Figure 8.2. Etude Australe VIII, two chords from the sixth system.[11]

In order to execute the first chord, my thumb is comfortably resting on the B, while the top three notes are played by fingers 3, 4, and 5 close together. The resulting hand position is comfortable, but results in a wide angle between my thumb and the rest of my fingers. However, after jumping down to a lower B (which I execute with finger 2), I then return to the higher register to play a semitone between F double-sharp and G sharp. Again, the interval in itself is straightforward enough. However, in order to successfully hold the interval through the next note, I must play it with fingers one and two close together, completely changing the position of my hand from before. Images of my hand

---

[11]Cage (1975), 17.

in both positions are shown in Figure 8.3. With all these various chords and positions, littered across the keyboard in both hands, my body feels curiously multiple. My own right hand has become not one but many hands,[12] each with its own life, purpose, and position. The hand is filled with possibility, even as it is struck by the impossibility of its simultaneity.
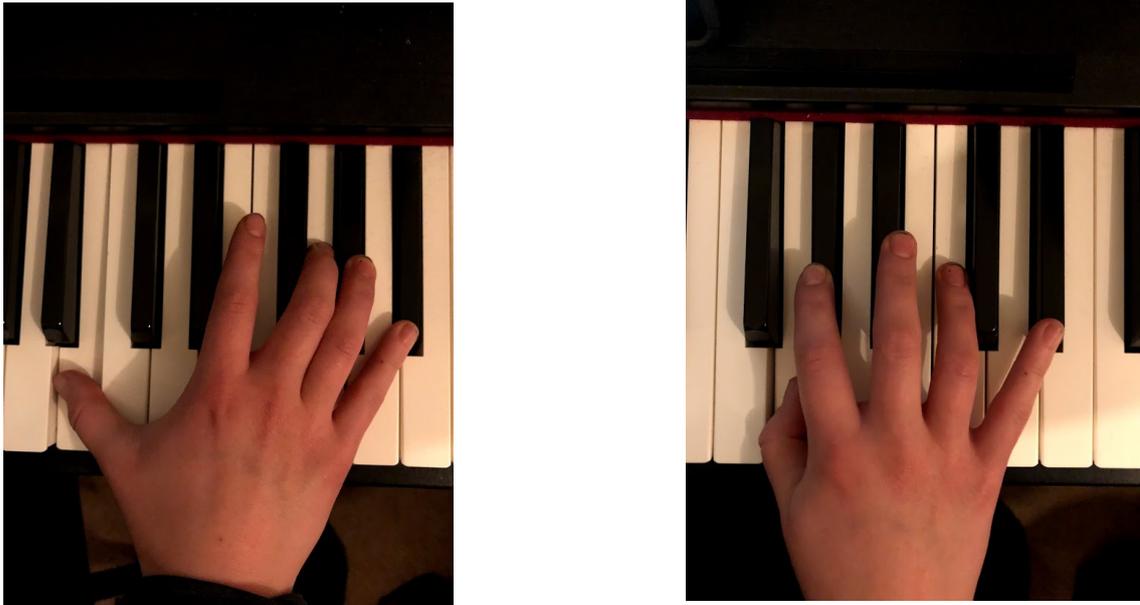
Figure 8.3. Images of my Hand playing the two chords from Figure 8.2.

LEAPS. The first big leap occurs after only three notes in the piece: the right hand jumps over four octaves from a C to an E-flat, from one side of the torso to the other (see Figure 8.4).

[12]Szendy (2015)
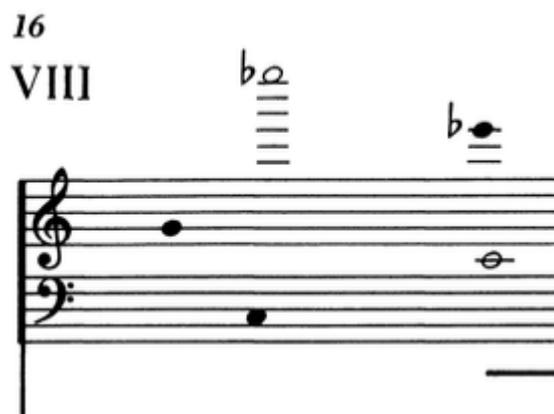
Figure 8.4. Etude Australe VIII, first five notes in the right hand.[13]

It is not so hard to get used to this jump. After all, both notes are single notes, rather than chords, so the question of chord positions discussed above is not relevant. More importantly, the interval of a minor third makes sense to my ear and body. Though I may never have played this precise jump in a piece before, the ear guides my muscle memory to the place of an E-flat. Executing the leap attaches the two notes together, with the C coming to feel like a grace note on the way up.

However smooth this first leap may be, this is not the case for all subsequent leaps. Between any two, I could likely find a harmonic explanation for their pairing, which would offer me a way of moving guided by my mind and ear. However, as with the comfortable positions for the chords, there is no guarantee that the next pair of notes will be able to abide by what David Sudnow would call 'soundful ways of moving'.[14] Helpfully, the first six notes of the right hand are all within a C minor triad, but the piece does not continue with such neat harmonic predictability.

Given how infrequently the hand has places to find its bearing, moments in which the hand does understand correspondences between notes on the score become all the

---

[13]Cage (1975), 16.

[14]Sudnow (1978), 70.

more striking and comforting. These moments of grounding at times occur because of

harmonic coincidences—like the first six notes of the piece—which the hand can

understand using the ear, but at other times they may come about because of a

comfortable feeling which may not even be audibly perceptible at first, but which

becomes audible only because of a feeling within the hand.[15]

OPEN NOTES. Cage specifies that 'an open note is to remain held as long as possible

beyond the succeeding closed note, the leap to the next note (whether open or closed)

being made at the last possible moment. Where more than one closed note follows an

open note, a pedal-like notation is given. The open note is then to be sustained as long as

the pedal continues.'[16] In principle, the direction is straightforward enough, but the pedal

markings on the score, especially at the early stages of learning, are not sufficient to

induce the muscular instinct to hold the note for its stated duration, even in cases where

it would be natural to do so physically. Furthermore, in many cases, holding the open

note for its full duration requires significant shifts in hand position over the course of the

note.

For example, the B-sharp in the right hand in the fourth system of the piece (the

first note in Figure 8.5 below) cannot be played in such a way that the chord at the

beginning of the next page and the B-sharp above two notes later can be struck without

changing hand position. My solution is to strike the note initially with the third finger,

before switching to thumb. Each of the open notes on the score requires similar

negotiation and consideration. I am struck by the degree of choreography necessary here,

and in particular, by the way in which the gesture does not correspond with the

appearance on the page. After all, the moment of shifting from finger 3 to the thumb

---

[15]I am grateful to Paulo de Assis for pointing out some moments of harmonic correspondence in the piece.

[16]Cage (1975), 1.

does not line up with any marking on the score, but rather happens in the gap between two notated pitches. As Bloch persistently emphasises throughout 'The Philosophy of Music', 'only in us can [the note] blossom and awaken.... We alone are the ones who raise it up, even more: who make it define and animate itself with our life.'[17] Even in small details, I am aware of how much the content of the piece emerges only through the body.
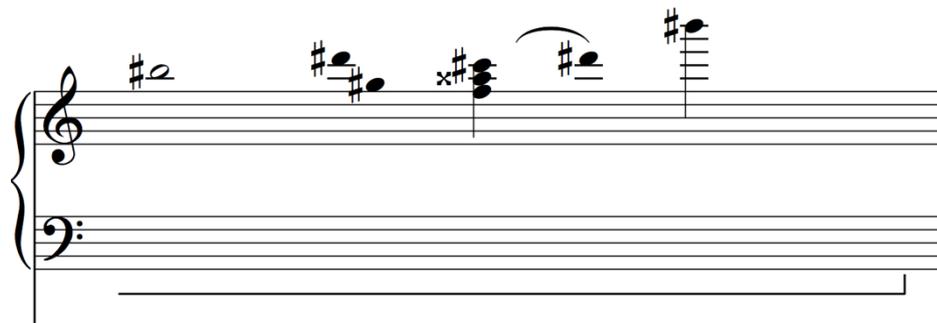
Figure 8.5. Etude Australe VIII, fouth and fifth systems [right hand only][18]

HANDS TOGETHER. When I begin trying to play right and left hands at the same time, it feels almost as if I have never before seen the score. The attempt to combine two wholly separated hands is disconcerting and, indeed, disembodying, effecting an uncanny split between the two halves of my body. It turns out that the mind (at least my mind) cannot keep track simultaneously of the motions of my two hands. Instead, especially at first, my eyes flit back and forth—looking first at the top staves, then at the bottom staves—hoping not to miss anything on the way.

As this progresses, however, my two hands begin relating to each other more and more. Despite their isolation, I develop patterns and choreographies between the hands. I first become aware of the order in which the notes are struck, learning in which order to

---

[17]Bloch (2000), 120.

[18]Cage (1975), 16.

pass between the hands. The 'flitting' of my attention back and forth between the two

becomes practiced and continuous, and begins to occur seamlessly. I also develop

collaborative strategies for hand crossings. In the opening, the middle C in the right hand

is initially struck with the hand quite high, after a leap down two octaves from E-flat. In

order to sustain the C while striking the G, however, the right hand flattens and the left

hand rises, so that the right-hand thumb can reach under the B-flat and A-flat struck by

the left-hand thumb right before. The right hand then stays quite low, with the left hand

above as the arm crosses over to reach the notes in the treble clef (see Figure 8.6).

Throughout, these negotiations take place, sometimes with the left hand above and

sometimes with the right, always switching and negotiating positions.

Figure 8.6. Etude Australe VIII, first system.[19]

These collaborative but still independent physical processes recall Cage's repeated

invocations of the importance of working together to solve problems. In a similar way,

Ellie Hisama describes the crossing of hands in Marion Bauer's *Toccata* as a 'musical

---

[19]Cage (1975), 16.

manifestation' of 'the exchange of power', suggesting that 'power is not wielded by only one party as a means to control a weaker party, but flows in both directions'.[20] Moreover, as soon as I have begun practising with the hands together, such collaborative understanding begins to emerge, unbidden. Despite Cage's instruction that 'each hand plays its own part and is not to be assisted by the other'[21] the hands cannot help but communicate and subtly help each other—lest they get caught bumping into each other mid-air. I do not seek to connect my hands, but it simply comes about, as if guided by the hands themselves. Once I have begun to understand the hands together and to determine in which moments one hand leaves room for the other to cross above, I can never return to the state in which they were independent.

ADJUSTMENTS. In this way, the development of a collaborative understanding of the two hands makes my earlier experiences of total separation disappear. Such adjustments and disappearances happen throughout the process of practising the piece. On a basic level, I occasionally discover a few ledger lines that I had miscounted in my initial note-naming (e.g. page 17, third staff, RH, top line, second note—an E, rather than a C); the eraser rears its head and reveals the erasure of the past, the constant presentness of practice. This action is emblematic of a larger point about the repetition of practice: the way in which the past is simultaneously part of the present moment of practice and yet irrelevant and disconnected. In this example, the fact that I have repeatedly practised this line with the note C rather than E is part of the muscle memory of my hands. In performance or practice, the error may well slip into the present if I am distracted.

Meanwhile, all of this repetition projects into the future in which the piece is performed. The practice of performance thus inevitably brings together multiple points in

---

[20]Hisama (2001), 106.

[21]Cage (1975), 1.

time. Any moment of practice both incorporates past engagements with the piece and imagines future performances. Paradoxically, it does so precisely because such moments of practice and performance are fundamentally present, occurring inextricably in a single moment in time. Such temporal blending recalls Bloch's language about the multiple temporalities of utopian desire, in which both past and future perforate the present. As I have alluded to, Bloch was committed to the concept of the 'novum', the phenomenon by which a present moment can anticipate the future. His writings insist on recognising the potential of the 'not-yet' existing to permeate into the present. In this respect, he describes this very phenomenon of temporal unification in practice, in which past and future meet in the essentially present moment: 'that-which-is-in-being most intensively' of music.[22]

The adjustments required whilst practising the piece also highlight the element of loss and absence in musical performance. Now that I am aware how my past experiences have been erased by later realisations, I begin to wonder which of my current experiences will be replaced by future, more complete understandings. There was no way to know, when I was practising the hands separately, that such an experience was wholly incomplete. Indeed, it would not have been possible to put the hands together and develop the collaborative understanding without first being so secure in the individual positions of the hands. As such, surely there are aspects of my present experience that are similarly inadequate and will come to make sense in the future.

I am struck by the sense that 'something is missing'—that famous line of Brecht that so inspired Bloch, who claimed it was 'the most profound thing Brecht ever penned'.[23] According to Bloch's aesthetics, the essentially human hope is only possible if there also exists a void in the present—a gap of something missing—within which hope can appear.

---

[22]Bloch (1985), 250.

[23]Bloch (1988), 12.

Utopian consciousness, though it looks into the distance and accesses the future, is also in intimate contact with the 'nearest nearness' (elsewhere: 'the most immediate immediacy') and 'ferments entirely in the darkness of the lived moment as the real world-knot, world-riddle'.[24] It is an example of the constant emergence that I have identified as a repeated concern in Bloch's musical philosophy. The fact that there is 'something missing' is precisely what gives art, and musical performance in particular, its utopian potential, projecting as it does into the 'not-yet-conscious' of a more perfect future.

TEMPORALITY. Temporal concerns are not limited to future projection, though, and eventually I begin to take more rigorous account of the relationship between physical spacing and the passage of time. I decide to use a ruler to draw vertical lines 1 cm apart, to give a clearer sense of relative temporality. I was reluctant to take this approach, which struck me as overly prescriptive: a chronological orientation of time in a piece in which *durée* seems more appropriate. However, I thought it would be useful at least to see the demarcations (even if I eventually attempted to ignore or erase them) in order to take Cage's temporal directives seriously.

What I realized in the process is that the sense of regularity paradoxically helps to convey the timelessness of the work. Much as Messiaen's *Louange à l'éternité de Jésus* relies on strictly notated rhythms to convey its sense of eternity, strictly measuring time helped me to make my playing less regular. As an experiment, I recorded the first line twice, initially with a clean copy of the score in an attempt to roughly approximate the relative durations, and later trying to adhere strictly to the demarcations. Upon listening back to the recordings, the second version sounded no less flexible than the first. This is yet another moment of temporal disjuncture between multiple temporal modes.[25]

---

[24]Bloch (1995), 12.

[25]My observation that a different temporal mode exists for listening than for performing is echoed by other

Incorporating this new temporal rigour into my practice, rather than making my practice more abstract and conceptual, actually made me all the more present in the physical aspects of practising the piece. In particular, the attempt to take strict account of the space between the notes made me aware of places in which my sense of timing had previously been relying on my physical gestures, and it made me think about the essential physicality and sensuousness of playing the piece. Taking account of time thus forces me to confront my body and its instincts, indeed, making me acutely aware of the fact that I have a body with capabilities and constraints. It has also made me feel much more aware of the relationship between my body and the spatialised score. Accustomed as I am to reading time values symbolically (represented by note values) rather than spatially, I am struck by a new correspondence between space and time. In quite a different way, Bloch is also concerned with the 'passage of music's time into its space, and as such a conversion of its specific temporal form into its specific spatial form'.[26] Bloch is interested, in this passage, with the correspondence between temporality and counterpoint in the fugue as a utopian ideal. Nonetheless, he suggests that the fugue's 'transcendent counterpoint' is only one among many ways that such 'migration into a spiritual dwelling'[27] can take place musically. This correspondence between score and body, the translation between a spatialised score and points in time, is very much the travel between written and unwritten worlds of Chapter 1. This is language that Bloch

---

writings about the piece, too. Haskins suggests that 'each sonority is best savoured one after the other, appreciated if they suggest something (or not) and forgotten as soon as the next sound occurs', whereas the pianist Sabine Liebner, in the liner notes of her recording as well as in an interview with the *Neue Zeitschrift für Musik*, suggests that observing the spaces between the notes was of great importance to her. Rob Haskins, *John Cage* (London: Reaktion Books Ltd, 2012), 113. Wolf Loeckle and Sabine Liebner, 'Zeitproportionalnotation trifft Overtonresonanzen: Wolf Loeckle im Gespräch mit Sabine Liebner über John Cages «Etudes Australe»', *Neue Zeitschrift für Musik (1991-)*, 173 (2012), 8–11.

[26]Bloch (2000), 130.

[27]Ibid.

uses as well: 'We are the wanderers; it is our coming and going that occurs within things. Or rather, the trip has already begun materially, and we live within this time, physically and organically, and either we just barely keep up or as creative beings we overtake time, leading, plunging into what has not yet really occurred.'[28]

Observations

Throughout this process, the body is present not only as a constraint against temporal rigour and accuracy, but also as an underlying principle of the étude. While practising this piece, I am also studying works by Ravel (the *Jeux d'eau*) and Prokofiev (the Second Piano Concerto). In both of these, one of the solutions I frequently employ for working on difficult passages is redistributing notes between the hands, especially when practising the Ravel.[29] I am struck by how different it is to practise a piece in which the division between the hands is taken as fixed. While practising the Ravel, I let my ideal for the sound, and my concept of the music, determine its physical manifestation (at least as far as the division between the hands is concerned); with the hands fixed, the direction is reversed. In practising this piece, the prescribed physicality explicitly determines this sense-making, rather than *vice versa*.

In a manner that seems to diverge from conventional practice, the tools that I am employing to learn this piece, and the orders in which I place such tools, continually seem to elude my grasp and fail to proceed clearly towards a goal. Repeated practice seems to introduce more possibilities and to pose more questions than it forecloses. As Mieko Kanno describes in an essay about the *Freeman Etudes* for violin, the 'note-events

---

[28]Bloch (2000), 129.

[29]Pianists, as well as editors of piano works by Ravel frequently comment on the necessity to redistribute
notes between the hands (see Richard Dowling's 2003 edition of the *Sonatine* published by Boosey and
Hawkes, Maurice Hinson's edition of the *Valses nobles et sentimentales* for Alfred and Nancy Bricard's
1990 edition of *Gaspard de la nuit* for Alfred Masterworks).

are visible but unpredictable'.[30] This unpredictability is not eliminated by practice but continues, especially given the number of parameters that remain unspecified and left to the performer in the *Etudes Australes* score (unlike the *Freeman Etudes*, in which the notation indicates not only pitch but also highly specified expressive parameters for every note).

This ambiguity or unpredictability, indeed, seems directly proportional to the difficulty of the passage at hand. Mieko Kanno writes in her study of the *Freeman Etudes* that 'performance is necessarily an open-ended act, and virtuosity typifies it'.[31] As I have already described, Cage's allowance for temporal flexibility poses unusual problems for the performer. Ironically, the more prescriptive the score—in terms of the sheer number of notes—the more necessary such flexibility is in the act of practice and performance. Kanno identifies similar problems, calling this ambiguity the 'powers of contingency'. As the *Etude Australe* gets harder, the pianist must improvise more and adjust the timing away from the visual layout. As Kanno acknowledges: 'in derogatory words they might be called powers of faking'.[32]

Indeed, it often feels as if I am faking as a performer of this piece. My markings on the score, and thus my determinations of rhythm, are already approximate, dependent as they are on my ruler, my eye, and my penmanship. Although of course I could make attempts to divide the score into smaller and smaller increments to more closely ascertain the relationships between note values, these would never be conclusive. Even if they could be, I would never be able to execute them with complete precision. In the matter of dynamics, articulation, shaping, and so on, all decisions have been left to the performer. Much as I can try new options and choose versions that I like best, ultimately these are always somewhat spontaneous. Beyond this, with respect to the temporal

[30]Kanno, (2009), 54.

[31]Kanno (2009), 60.

[32]Kanno (2009), 54.

arrangement of the notes, Cage's directive that 'circumstances sometimes arise when it is necessary to "shift gears" and go, as the case may be, faster or slower'[33] adds an additional level of built-in *sprezzatura.* Is this all just fakery?

However, Kanno reminds us that such 'powers of contingency are constructive'.[34] The constructiveness that emerges from the excesses of the score and improvisations of the performer reminds me of Bloch's notion of cultural surplus. For Bloch, surplus refers to art that is able to exceed the demands and constraints of capitalism. This surplus—like the surplus of capital in Marxist theory from which he takes the terminology—is a necessary product of the system from which it emerges, not necessarily its own end. However, it functions, in Bloch's view, to prefigure future aesthetics, occurrences, and forms of social organisation. The contingency that goes along with excess—of notes, of difficulty, of constraints—then can be seen as reflective of the *noch nicht*, in the way that it forces the performer to acknowledge their constant striving. Furthermore, resigning myself to the fact of occasional 'circumstances' of temporal fluctuation means that my relationship to the stakes and goals of speed and perfection is different than it would be in a piece without such a direction. It is a surplus in this way, too: an avoidance of the traditional goals of progress associated with the flow of capitalism and an acknowledgement of a world outside of such linearity.

These observations are not necessarily unique to this particular piece, but are true of artistic research more generally. As Henk Borgdorff writes, artistic research 'reinforces the contingent perspectives and world disclosures which art imparts… Its primary importance lies not in explicating the implicit or non-implicit knowledge enclosed in art. It is more directed at a not-knowing, or a not-yet-knowing. It creates room for that which is

---

[33]Cage (1975), 1.

[34]Kanno (2009), 54.

unthought, that which is unexpected — the idea that all things could be different'.[35] This

observation strikes me not as a disqualification of the validity of my conclusions,

however, but as justification. For, indeed, it emphasizes the importance of analysing such

pieces using a performance-oriented—rather than a score-oriented—mode. Additionally,

this parallel draws a strong link between Bloch's conceptual framework and the goals,

possibilities, and openings of artistic research. Yet again,we are confronted with how the

theories of Ernst Bloch might best be applied to music through application in practice and

as part of a contemporary performance paradigm.

Conclusions

Although I could focus on many more aspects of the experience of performing this étude

at the piano, the chronology that I have traced follows Bloch in finding the social and

political content of music in its embodied presence. I have focused on the way in which

Bloch's utopian ideas manifest through the body—as things that cannot 'occur to

someone' but are rather 'given through the senses'.[36] Many of these are found in the

embodied sociality of even a solo work: the physical relationship that I develop with

Grete Sultan, for example, or the sociality of how my two hands interact with each other.

Others are more ambiguous, subtly located in the 'clairaudience' with which my ear

shapes my body, the relationship between body and score. In general, we might

understand all of these as part of the 'utopian surplus' in which Bloch situates art's

potential. Meaning is excessive, found in gaps and breaks of experience, creating its own

gaps by rupturing the passage of time.

---

[35]Henk Borgdorff (2010), 61.

[36]Bloch (2000), 204.

Étude 9: Failing towards the Impossible—György Ligeti's *Études pour piano*

> Hope is surrounded by dangers, and it is the consciousness of danger and at the same time the determined negation of that which continually makes the opposite of the hope-for object possible.
>
> --Ernst Bloch[1]

> Ever tried. Ever failed. No matter. Try again. Fail again. Fail better.
>
> --Samuel Beckett, *Worstward ho*[2]

In this Étude, I turn to more performance-oriented theory to study failure in musical performance, focusing on the methodology of queer theory and theatre studies in the writings of Judith (Jack) Halberstam, eldritch Priest, and Sara Jane Bailes.[3] In particular, I place theories of failure in conversation with collections of piano études by György Ligeti, to demonstrate that failure is another mode of challenging the limits of the body.

What does it mean to fail?

eldritch Priest's *Boring Formless Nonsense: Experimental Music and the Aesthetics of Failure* offers the only comprehensive study of failure in music. Priest relies heavily on the

---

[1]Ernst Bloch, *The Utopian Function of Art and Literature: Selected Essays*, trans. Jack Zipes and Frank Mecklenburg (Cambridge: The MIT Press, 1988), 17.

[2]Beckett (1983), 1.

[3]Priest's first name is stylised with no uppercase letter.

slipperiness of the concept of failure: the chapter titles are sets of heavily embedded

parentheses, and Priest performatively acknowledges the impossibility of direct

discussion. Indeed, the penultimate chapter turns into what is later described as an

elaborate 'hoax', employing the multiple-use name 'Karen Eliot' to describe a composer

and body of repertoire that may or may not exist. The work is altogether extremely

impressive, in the breadth of repertoire that it discusses, the complex web of theory that

it uses, and the truly daring methodological experiments that it employs. But its omission

of failure in performance seems like an oversight. Many of the issues that Priest's work

brings up—such as the ambivalent state of boredom and the paradoxes of formless and

disappearing works—are always concerns of performance. Any work can (and

occasionally will) engender a state of boredom or distraction in its performer.[4] The

ontology of performance is, as Peggy Phelan writes, one of disappearance.[5]

As such, in addition to Priest, I am inspired by performance-oriented writing on

failure from theatre studies and queer theory. For example, I use both Sara Jane Bailes

and Judith (Jack) Halberstam's excellent studies of failure. Halberstam's book, *The Queer

Art of Failure*, takes a broader scope, examining artistic and literary representations of

failure, from animated film to novels and experimental performance. The book uses a kind

of 'low theory' in which it is not uncommon to see references, on the same page, to

Disney animated films such as *Finding Nemo* and the theory of Antonio Gramsci.[6]

Meanwhile, Bailes' *Performance Theatre and the Poetics of Failure* focuses more narrowly

on the stage, and is a study of three theatre troupes operating in an experimental genre

of 'performance theatre' in the 1990s and 2000s.

---

[4]For more on distraction in performance, see recent work by Anthony Gritten, including 'Distraction in

Polyphonic Gesture' in *New Perspectives on Music and Gesture*, ed. Anthony Gritten and Elaine King

(London : Ashgate, 2006).

[5]Phelan (1993).

[6]Halberstam (2011), 2.

All three of these theoretical texts take quite similar approaches to the topic. For example, they all focus on experimental genres, in which formal and structural deviation is an important aesthetic tool. Many of the pieces studied by Priest—in their embrace of boredom, formlessness, and nonsense—are contingent on a lack of formal rigour and sometimes a lack of genuine existence. Bailes focuses exclusively on theatre groups in which the work is produced in a scattered, collaborative way, and Priest writes about pieces published by individual composers under a multitude of names, or multiple (and unknown) authors under collective, anonymous names.

These concerns—formal experimentation and scattered subjectivity—may appear quite distant from the études that are the subject of my investigations. However, by suggesting that the idea of breakdown is a crucial part of Györgi Ligeti's *Études pour piano*, I discover surprising similarities between the étude and more experimental genres. In this section, I seek to understand these études in performance, and demonstrate how ruptures that occur in and through the performing body are related to aspects of failure discussed by Bailes, Halberstam, and Priest. I will first discuss three theoretical ways in which failure might occur in performance—repair, pain, and slapstick—and relate these specifically to the étude genre. Then, I will use examples from Ligeti's études to show how these ideas are manifested musically at the limits of the body.

Repair

In my Case Study on John Cage's *Etude Australe VIII*, I began to explore ways that possibilities multiply in the performance of extremely difficult works of music. Although it might seem that the effort to pursue something beyond reach would stifle the performer's creative expression, the opposite is generally true. Mieko Kanno explains this seeming tension in her description of performing John Cage's *Freeman Etudes*, identifying the 'powers of contingency' at work in the struggle of performance: 'in derogatory terms

they might be called powers of faking'.[7] The piece thus highlights the proliferation of unexpected possibilities that emerges with any act of practice or performance, and the sense of multiplicity that this creates for both the performer and for the audience.

This quality of fakery or chance occurs precisely as a result of the gap between what is imagined and what actually occurs. Sara Jane Bailes describes a similar phenomenon in her study of the Chicago-based performance collective Goat Island, which was active from 1987 to 2009. The interaction between impossibility and failure is something that the group identifies as integral to their work. In the words of Goat Island performer Karen Christopher: 'The key thing about both failure and impossibility is the dynamic of constantly moving towards but never arriving. Process rather than goal is emphasized.'[8]

In her research, Bailes focuses in particular on what she identifies as a tension between 'difficulty and accommodation, or, inflected differently, between damage and repair'.[9] A paradigmatic example of this tension is the exercise known as The Impossible Task that the collective uses as a preliminary activity in their summer workshops:

> The exercise instructs each participant to write down an impossible task on a piece of paper, then pass it to a neighbour whose instruction is to interpret and transform the brief directive into a repeatable, performative action. Each individual therefore takes on the impossible task instruction of a fellow participant. In this preliminary activity ... participants learn several things quickly: how to challenge their own perceptions of the condition of impossibility and to reflect upon what that term might connote; how to begin to collaborate; and how to animate an idea through practical exploration within a brief, determined timeframe. Participants also learn to let go of what they

---

[7]Kanno (2009), 60.

[8]Cited in Bailes (2011), 112.

[9]Bailes, (2011), 126.

might already have become attached to – in this case a written instruction – and instead accommodate an unknown directive.[10]

In particular, this final pedagogical intent— learning to 'accommodate an unknown'— suggests a practice in which failure is recognisable not because of the supposed 'absence of success' but rather because of the methods of coping and accommodation that emerge in its wake.

Indeed, in performance, a failed moment includes not only its own failure but also the alternative that is done in response. In much the same terms as Bloch's utopian not-yet, 'something not yet realised arises from the conditions of past and present'.[11] And as Shoshana Felman writes, with respect to J. L. Austin's notion of the 'misfire', 'the act of failing thus opens up the space of referentiality—not because *something is missing*, but because *something else is done*, or because something else is said'.[12]

Crucially, these accommodations are not static. Rather, repair is multiple, iterative, and continuous. For example, Bailes emphasizes how long and drawn out the rehearsal processes of Goat Island are for any of their individual works. This feature is par for the course in the processes that pianists undergo when learning complex 20th-century concert études. One would be hard-pressed to find a pianist of György Ligeti's or Unsuk Chin's books of études who does not acknowledge the sheer effort and time that must be invested into learning these works. Jeremy Denk, describing his process of learning several études by Ligeti over the course of a summer, claims that he became a caffeine-fuelled 'Practising Maniac' and 'did nothing else': 'the amount of fingering, the amount of mental focus — Ligeti's deliberately written things that are going to screw with your mind

---

[10]*Ibid.*, 110.

[11]*Ibid.*, 125.

[12]Felman (2002), 57.

in one way or another.'[13] These mental tricks are not eliminated with practice, but must be constantly accommodated.

Another feature that the practice of accommodation in Goat Island has in common with étude is pedagogy. According to Bailes, the presence of teaching and learning is central to Goat Island's practice. For one, their summer workshops (from which the example above is taken) were as important in their research and development process as were rehearsals. Furthermore, they frequently incorporated processes of learning into the structure of their performed works and 'the material of the shows effectively seems to *demonstrate* learning':[14]

> The practical demonstration of pedagogy is indexed by the inclusion in the performance of a movement that appears as if it is being recalled or still learned, or in the discovery of how to accommodate an impediment or weakness...; learning how to deal with damage and the restoration it might call for; or by seeking ways to perform the efforts required to imagine and push the body to work beyond its given limits. The learning that each performance shares with its audience offers an inquisitive way to examine material.... Devotion to the demonstration of disciplined attention applied to an activity shifts emphasis in these performances away from an outcome, and instead roots us (performers and spectators) firmly in the practice of learning as an inconclusive end in itself.[15]

In one particularly explicit instance of this practice, the ensemble drew inspiration for the show *September roses...* from Robert Walser's novel *Jakob von Gunten*, in which a group of servants is suspended in a remote institute where they are, in fact, training to become servants.

---

[13]Fresh Air (2013)

[14]Bailes (2011), 120.

[15]*Ibid.* (2011), 119.

In the same manner, the performance of a concert étude encompasses an orientation to pedagogy that is present in performance. This is especially true because Ligeti's études are not only extremely difficult, but also common to the point of having entered the piano performance canon. The genre of étude encourages performer and audience alike to contemplate the physical tasks that have been and are being learned, transformed, adapted, and challenged on stage. The pedagogical orientation in turn reminds us of the presence of failure and possibility, for we are called to understand the piece as a manifestation of learning in action and thus as a space in which future options are multiple, rather than fixed and prescribed.

Even leaving aside the genre, the fact that Ligeti's *Études* are so difficult also makes present 'the demonstration of disciplined attention applied to an activity' that Bailes describes above. No pianist of the *Étude no. 1: Désordre* could ever be accused of being or seeming complacent; it simply wouldn't be possible to execute the work without extreme discipline and effort. Extreme expressive markings such as *feroce, con tutta la forza* further emphasise the effort that is part of their practice. Furthermore, the way that such pieces 'push the body to work beyond its given limits' reminds us not only of the physical discipline and exertion of the moment, but also of the difficulty of the learning process through which the étude was brought into being. Études, even designed for the stage, still retain remnants of their origins as pedagogical tools. Ligeti's own *Études*, composed after much of his other piano music, often isolate small technical problems that would help to prepare the pianist for performing, say, his *Piano Concerto* (1985-1988).[16]

Additionally, the necessity of practice is another reminder of the ever-presence of failure as repair. Practising has as its very goal to '[learn] how to deal with damage and the restoration it might call for'. As such, it embodies the multiplicities that attempt and

[16]Of course, this is equally related to the function of études as exercises in composition, in which Ligeti's études could be seen as 'a kind of compendium of Ligeti's more recent compositional techniques'. Floros (2014), 157.

repair suggest. Practice does not end when the piece has been 'achieved' or played in the 'right' way; instead, it emphasises an ontology of music in which there is no ideal work outside of the attempts and processes through which it is brought into being. No matter how skilled the pianist or how far along in the process, by nature, practising is never complete.

Pain

As I have hinted above, in order to understand failure, we need not only to examine works 'themselves', but also to focus on how études come to be, in the act of learning and practising. In general, phenomenological accounts of music-making focus on those aspects of practice that are pleasurable, or—at worst—neutral. It is equally valuable, however, to be explicit about the difficulty—indeed, pain—that is often involved in practising, in particular with pieces as physically and mentally challenging as the virtuosic études of Ligeti.

The mental discipline required to improve—the task explicitly demanded by the étude—involves practice that consistently goes beyond what previously was possible. In an extreme depiction of this phenomenon, the character of Andrew Neiman in Damien Chazelle's film *Whiplash* (2014), a drummer, practises until his fingers bleed, only to plunge them in a bucket of ice before picking up the drumsticks and returning to the same repeated passage. The scene conveys not just the excessiveness of the gesture, but also its banality. The sequence suggests that this is not an unusual moment for Neiman, but rather a normal, everyday occurrence, part of the expected routine of the practice room.

Similarly in Ligeti's *Étude no. 13: L'Escalier du Diable*, a *ffffffff* forces the performer to confront the violence of the instrument. Pianist Jeremy Denk, again, describes the aggression involved in practising the piece in his blog:

> I think maybe I should hurl my whole body at the piano as violently as possible and hope for the best. They would find my bloody corpse weeks later amid the moldy coffee cups, odiferous testament to my devotion to the composer's intent.[17]

Despite his humorous tone, the Ligeti études are undoubtedly physically strenuous, in ways that provoke an orientation to the instrument that almost inevitably causes pain.

Elaine Scarry, in *The Body in Pain*, explores the relationship between pain and creation. In particular, she is interested in the closeness of pain and the imagination. While pain, she says, is pure sensation without object, imagination is its opposite: it is object only, in the absence of sensation. In order to understand this relationship, she deploys the concept of 'work', which encompasses both of these poles. The term work suggests painful labour; it is no coincidence, in her reading, that labour is often used as a form of torture. As I have discussed in Book I, in its nominal form, 'work' also refers to an object of (often artistic) creation:

> Far more than any other intentional state, work approximates the framing events of pain and the imagination, for it consists of both an extremely embodied physical act (an act which, even in nonphysical labour, engages the whole psyche) and of an object that was not previously in the world, a fishing net or piece of lace where there had been none, or a mended net or repaired lace curtain where there had been only a torn approximation, or a sentence or a paragraph or a poem where there had been silence.[18]

According to Scarry, the process of making—'work'—that emerges from pain entails the creation of artefacts (works) that are fragments—'artifices'—of the imagination on which they are based.

Furthermore, the creation of such artefacts uses tools, which have a close

---

[17]Fresh Air (NPR, 2013), www.npr.org.

[18]Scarry, (1987), 170.

relationship to weapons, the instruments of pain. Like weapons, tools are objects that are used by a given body to provoke a reaction in another body: 'The weapon and the tool seem at moments indistinguishable, for they may each reside in a single physical object (even the clenched fist of a human hand may be either a weapon or a tool), and may be quickly transformed back and forth, now into the one, now into the other'.[19] However, according to Scarry, when used as a weapon, the object acts on a body and produces an immediate physical sensation (of pain), whereas when it is used as a tool, the object produces physical sensations that are deferred in time and that take the form of aesthetic (or other) judgments.

The piano is one such weapon and tool. A pianist's use of this tool can provoke delayed reaction in other bodies, as Scarry describes: in this case, a reaction of aesthetic judgement in the body of a listener. However, the piano may also be employed as a weapon, with a more complex relationship between the agent and the victim of violence. When interacting with the piano through, for example, the Ligeti étude described above, the pianist uses the piano in such a way that provokes an immediate, and sometimes painful, reaction on his or her very own body. Thus, the étude weaponises the piano at the hands of the pianist. The composer, too, is among the agents putting the instrument (as tool and weapon) to use upon both the audience and the pianist. Likewise, the pedagogue offers instructions, exercises, and techniques for the performer's own self-improvement and self-harm.

Thus, I suggest that practising these extremely difficult concert études at the piano exhibits a very subtle kind of masochism. Queer theory has suggested that masochism in art can be a critical tool, used to disrupt supposedly stable notions of self, time, and normativity.[20] Theorist Judith (Jack) Halberstam refers, for example, to self-destructive

---

[19]Scarry (1987), 173.

[20]See Muñoz (2009) and Halberstam (2011).

performance art such as Yoko Ono's *Cut Piece* (1964)—in which audience members cut,

sometimes violently, at the artist's clothing—and Marina Abramovic's *Rhythm 0* (1974)—in

which the audience was invited, for six hours, to do whatever they wished to the artist's

body using a collection of 72 objects provided, ranging from a feather to a loaded gun.

Drawing on Saidiya Hartman's idea of passivity, Halberstam suggests that such 'passive

masochism' offers a form of resistance and subversion. Rather than accepting either the

liberal idea of freedom or the alternative (death)—which we might frame in this context

more subtly as the opposing alternatives of success and failure—'passive masochism'

offers a way out of the system 'that does not speak in the language of action and

moment but instead articulates itself in terms of evacuation [and] refusal'.[21] Accordingly,

artworks such as *Cut Piece* and *Rhythm 0* 'presented extreme forms of self-punishment,

discipline, and evacuation in order to dramatize new relations between body, self, and

power'.[22]

In comparing these works to the self-violence of the pianist of concert études, it is

important to acknowledge how these practices differ. One such difference is the

relationship between creator and performer. Ono and Abramovic both imagine and

create their own works, whereas the pianist's pain is dictated by the demands of the

composer. At the same time, the pianist willingly chooses to be subjected to the practice,

so while the pianist subjects themselves to pain as they choose, Ono and Abramovic

leave the harmful acts up to the whims of others. The parallels here are certainly not

precise.

Nonetheless, these concert études possess a similar spectacle, calling attention as

they do to the body (in pain) of the performer and its limits. Abramovic, after all,

explained the experience of performing the work as one of pushing '[her] body to the

---

[21]Halberstam (2011), 129.

[22]Halberstam (2011), 135.

limits' and exploring 'how far you can push the energy of the human body',[23] descriptions that draw immediate comparison to the études at the piano. It is no coincidence that performers of Ligeti will sometimes bring their physicality and exertion to the fore. In pianist Greg Anderson's filmed performance of Ligeti's *Étude no. 13: L'Escalier du diable*, he wears an explicitly athletic outfit; the tension and strain of his muscles is apparent under his tank top. Aesthetically, he uses cuts between shots that emphasize the discomfort and unease of both music and performance.[24]

The juxtaposition of masochistic artwork and the Ligeti études thus offers a way of thinking about the 'new relations between body, self, and power' that these études might produce. As a genre, the étude is deeply embedded in structures of power that have dominated Western music performance since the origins of the music conservatory. Even in its form as a concert étude for performance, studies are pedagogical tools against which students are measured and evaluated.[25] In Foucauldian terms, the étude is a force of discipline, whereby the hierarchically organised society maintains power and knowledge by using rigour, practice, and structure to enforce norms.[26]

Deleuze suggests that the 20th-century inheritance of Foucault's society of discipline replaces discipline with control. In the 'Postscript on Societies of Control', he tells us that control societies have the illusion of being much freer, not contained within the centralisation of the prison but rather dispersed. Instead, control is enforced through

---

[23]Marina Abramovic and Milica Zec (dir.), *Marina Abramovic on Rhythm 0 (1974)* [VIDEO] (Marina Abramovic Institute, 2013).

[24]Anderson (2006). www.youtube.com/1ZTaiDHqs5s

[25]In major competitions, pianists are often required to perform an étude, but this will not be the 'make-or-break' piece for the result; rather, a flawless étude performance is merely a minimum standard after which the other pieces form the basis of the evaluation. Both the International Chopin Piano Competition and the International Tchaikovsky Competition, for example, require études only in the first of three rounds, in which most competitors are eliminated, but the winner is not yet decided.

[26]Foucault (1977).

digital means, and thus is much more fluid. Unlike the organised and discrete examinations of disciplinary society, control societies have continuous examination (in the form, Deleuze suggests, of continuing education classes and perpetual self-improvement).

On the surface, this phenomenon of control seems quite similar to the continuousness of repair found in the étude. Due to the necessity of constant practice and strife, perhaps pianists are complicit in the present-day exertion of control over their bodies, seeking (as Deleuze describes it) constant improvement without questioning their origins or 'what they're being made to serve'.[27] Indeed, they (we) undoubtedly are. It is equally possible, however, to understand the embeddedness of failure—in this case, manifested as pain and destruction—within these pieces as offering the possibility of critique. As Halberstam writes, 'masochism, finally, represents a deep disruption of time itself'.[28] While the willingness to subject oneself to pain may be the sign of ultimate control, it may also be a 'passive masochism' that paradoxically offers freedom through escape.

Slapstick and Punk

It is possible to distinguish between different kinds of breakdown in the context of musical works. On the one hand, there are gaps of practice, in which the performer's realization emphasizes a break between ideal and instantiation. Both repair and pain, the two modes of failure discussed above, are primarily related to practice. It is performers who must repair and correct errors, and find accommodations to cope with impossibilities. Equally, violent physicality and strenuous discipline—even when evoked by expressive markings on the score—become masochistic only in the act of rehearsal and performance.

---

[27]Deleuze (1992), 7.

[28]Halberstam (2011), 144.

On the other hand, it is possible for failure to occur in the form or content of the work, regardless of whether it is echoed in practice. A novel might describe experiences of pain, without physically inflicting pain on the reader or writer, as is the case in Jamaica Kincaid's *Autobiography of my Mother*, one of Halberstam's examples of 'passive masochism'.[29] A work of theatre might imitate the process of learning from one's mistakes, even if the performers are not literally fixing the situation as they go along, such as in Goat Island's use of the themes from *Jakob von Gunten*. The boredom and nonsense of experimental music described by eldritch Priest are also examples of formal breakdown, in which incoherence and inadequacy are related to, but independent from, practice. Such formal and substantive failures might be called 'aesthetic', seeing as they are concerned with characteristics of the work.

Of course, the boundary between aesthetic failures and practical failures is porous—for is not practice a part of the emergence of form and content itself?—but such a distinction remains a useful way of clarifying how these different modes operate. In contrast with repair and pain, I move now to formal flops and content catastrophes, focusing on the examples of punk and slapstick.

Failure in art and performance cannot be discussed without reference to the aesthetic and legacy of punk. Drawing on the theory of Greil Marcus, Bailes uses punk as an example of 'bad form...as a disruptive tactic'.[30] Punk stages failure and 'relies on being understood as bad' but in so doing, it asks us to consider 'according to what criteria already prescribed as normative [...] performances of different kinds fail?'[31] This aesthetic potential of punk as a genre opens a variety of paradoxes. On the one hand, punk 'invented a new, resistant economy of listening by aiming to create a sound that defeated

---

[29]Halberstam (2011), 129.

[30]Bailes (2011), 54.

[31]Bailes (2011), 49.

that very purpose: it invented, or attempted to invent, music that was unlistenable'.[32] It was not so much that punk didn't 'care if you listen'[33] (to quote Milton Babbitt's famous proclamation) but rather that it compelled you to listen to the unlistenable—do the impossible—through its failure to conform.

Furthermore, the aggressive negativity of punk, a distinctive feature of the genre, also bears its internal contradictions. 'As it announced that all possibilities were closed, opened up possibilities of negation and affirmation that...before had not existed even *as* fantasies.'[34] It is in this respect that Muñoz, whose virtuosic theory of futurity in queer of colour communities—and whose approach to queer theory is emphatically directed *against* negativity—can also deploy punk's failure as a tool in service of the impossible. He observes, in particular, the placenessness of punk: 'for the punks, geographic location was not relevant as long as there was a stage, a soundman, and an audience'.[35] The radical possibility of this placelessness therefore allowed punk to be a form of identification for other kinds of minoritarian communities: in this case, queer communities of colour. For Muñoz and others like him, the 'mosh pit [was a] utopian subcultural rehearsal space'.[36] Bailes offers a succinct summary of the ways in which failure operates as a critical tool in punk aesthetic:

> As a movement, punk offers a challenging contribution to a consideration of the poetics of failure and performance, for it sets a spin on oppositional notions of 'success' and 'failure' in relation to the performed event just as it meddles with the

---

[32]Bailes (2011), 53.

[33]Babbitt (1958).

[34]Marcus (1979).

[35]Muñoz (2009), 105.

[36]Muñoz (2009), 111.

perception of skilled practice and the performance of socially acceptable behaviours in everyday life.[37]

The deliberate valourisation of 'bad' form and negative content makes punk a useful example of the critical potential of failure.

A contrasting example with similar aesthetic manifestations is the genre of slapstick comedy on stage and in film, exemplified by performers such as Charlie Chaplin and Buster Keaton. As Bailes writes, 'the dynamic of failure in slapstick is usually indexed by the incorporation of the mistake or the accident as a newly determining factor within a narrative structure but which nevertheless resists assimilation, thus altering the status of the event and the narrative itself'.[38] In slapstick, failure is usually present in relatively simple tasks, and seems to come about by way of an accident, laziness, or just bad luck. The moment of failure creates a disruption that dramatically alters the narrative. However, the mechanism of slapstick is not just about the mishap itself, but also about the accommodations that emerge after it, usually marked by repeated—and repeatedly fruitless—attempts to keep trying. The more the attempts fail, the more alternative possibilities emerge, and the viewer is paradoxically aware of both the absurdity and the humour. 'Its effect on the spectator is both frustrating *and* satisfying',[39] writes Bailes.

Although the dynamics of punk and slapstick may not map onto all études or the étude genre as a whole, Ligeti's *Étude 3: Touches bloquées* uses techniques that bear many similarities to both genres of failure. For example, the pianist simulates errors by repeatedly playing octaves that contain an extraneous major seventh. In the technique to which the title of the étude refers, the pianist 'blocks' certain keys by holding them down with one hand, so that when the other hands strikes those notes, it is as if the piano is broken or the pianist's coordination uneven. Such effects veer between the critical

---

[37]Bailes (2011), 49.

[38]Bailes (2011), 40.

[39]Bailes (2011), 41.

negativity of punk and the satisfying and frustrating comedy of slapstick; both respectively emphasise the impossible paradoxes and hopeful alternatives that musical failures can offer.

Failure in Ligeti's *Études pour piano*

Ligeti's three books of *Études pour piano* were published between 1985 and 2001. Book 1 (1985) consisted of six études, following by eight in Book 2 (1994) and four in Book 3 (2001). At one point, Ligeti supposedly had in mind a collection of twelve, a clear reference to the étude collections of Chopin (whose Études Op. 10 and Op. 25 are both sets of twelve) and Debussy (who published twelve études in two Books of six), but with a legacy that stretches back to the tonally all-encompassing impulse that any multiple of twelve suggests.[40]

Such allusions to traditional genres are common in Ligeti's aesthetic style, and particularly so in his later works. Floros' biography claims that 'Ligeti's relation to tradition changed after 1978, became closer, more direct and transparent. This is manifest most overtly in pieces like the *Ciaconna* and the *Passacaglia ungherese for harpsichord*; works like the *Horn Trio*, the *Piano Études* and the *Violin Concerto* would have been unthinkable fifty years earlier'.[41] Like many of Ligeti's other works, the études also draw on a range of other source materials, from loose allusions to Indonesian and Hungarian folk musics, to extra-musical sources like Benoit Mandelbrot's fractal mathematics. But, as I have tried to suggest, invoking the étude as a genre and tradition is a very particular move. It is situating oneself in a tradition not only of composition, but also of performance, pedagogy, and practice. It locates the place of that tradition not only on the stage or in music history textbooks, but also in the conservatoire and the practice room. Equally, its

---

[40]Steinitz (2003), 277.

[41]Floros (2014), 56.

relationship to practice offers the potential for tradition to be subverted, in particular through the dynamics of failure that I have described so far in this chapter.

Ligeti describes his process of composing the *Études* as very physical:

> I lay my ten fingers on the keyboard and imagine music. My fingers copy this mental image as I press the keys, but this copy is very inexact: a feedback emerges between ideas and tactile/motor execution. This feedback loop repeats itself many times, enriched by provisional sketches: a mill wheel turns between my inner ear, my fingers, and the marks on the paper. The result sounds completely different from my initial conceptions: the anatomical reality of my hands and the configuration of the piano keyboard have transformed my imaginary constructs.... The criteria are only partly determined in my imagination; to some extent they also lie in the nature of the piano — I have to feel them out with my hand.[42]

The image of the 'feedback loop' between mind and hands is particularly evocative. Ligeti's fingers, mind, and keyboard are in three-way conversation with one another, connected in an 'information network'. As with any conversation, the ideas may be lost or changed with the process of transmission. But so, too, are the participants changed. The hand learns and adapts based on what it has discovered, and in turn what it has communicated back. Our own hands and bodies, as performers of the *Études*, are also linked in this way. They, too, are changed by the *Études* of Ligeti, just as we change them through performance.

Despite being no more than 30 years old, the *Études* have become essential pieces of the piano repertoire. Numerous recordings now exist of the complete Ligeti *Études*, along with many more of individual *Études* from the collection. Several pianists have even recorded the Étude no. 14A *Coloana fara sfarsit*, which was recomposed as the current Étude 14 *Coloana infinita* (*The Infinite Column*), after Pierre-Laurent Aimard complained

---

[42]Ligeti (1996), 8-9.

that it was too difficult, indeed impossible. In this light, can the *Études* even be properly thought of as 'failing'? Where is the 'gap' when words such as 'flawless' appear on reviews of these performances?[43]

We may locate failure first in the gap between mind and body in the process of development and composition. No mental image can be perfectly replicated by the contingencies of anatomy and instrumentality; equally, no physical reality can be perfectly understood by the mind. Neither mental image nor anatomical contingency can be captured in the score, nor can performance ever approach an abstract ideal of the work, precisely because such an ideal does not exist. In Ligeti's words, 'this copy is very inexact'.

Equally, failure emerges in practice. The piece does not exist simply as a polished recording: the sheer amount of time and failed attempts that are indexed into these pieces and required in their preparation are just as much part of the performance and the piece. Whether in rehearsal or performance, overcoming the extreme difficulty of these Études requires a kind of re-negotiation that always feels like failure, even if it is not perceived as such. Furthermore, while many skilful performances of the Ligeti études aim to obscure the learning process, it can never be fully covered up. Even the fact that these pieces are called études already calls their pedagogy to mind.

As Bailes describes of Goat Island, 'the practical demonstration of pedagogy is indexed by the inclusion in the performance of a movement that appears as if it is being recalled or still learned'.[44] This practical pedagogy will be present to varying degrees in performances of Ligeti Études, to be sure, but in any performance of an étude, there will always be an element of continual learning. Having called the piece an étude already encourages both performer and listener to speculate on and engage with the technical

---

[43]See, for example, a review in *The Guardian* of the CD by the pianist Jeremy Denk, whose performance observations have been included in this chapter (Maddocks, 2012).

[44]Bailes (2011), 119.

features that are being studied and explored. I recall here, too, Mieko Kanno's observation that 'performance is necessarily an open-ended act, and virtuosity typifies it'.[45] This observation emphasises the fact that it is the most spectacular and difficult works that in fact require greater degrees of fluctuations, negotiations, and improvisations in practice and in the moment of performance. These deviations are themselves failures and gaps.

In general, a performance-oriented approach to the Ligeti Études—which emphasises not only the performance itself but also the processes of pedagogy and rehearsal—reveals the primacy of breakdown in these works. It is a kind of failure that exists on its own terms, outside of a dichotomy with success; by 'failing', I do not mean that the practice does not succeed, but rather that recontextualises performance such that success is not the goal.

Examples of failure—both practical and aesthetic—abound throughout Ligeti's Études. The moto perpetuum style frequently used in Ligeti's études often makes them feel as if they have ended suddenly and too soon.[46] It is as if they might have continued indefinitely, were it not for the contingencies of the body, the piano, the world, and time. As we have discussed, the études foreground their own technical challenges, and thus require—and call to mind—repetitive practice. This is a kind of practice that pushes bodies and minds to their limits. As with any form of repetitive practice, each iteration—whether in rehearsal or performance—is always envisioning possible improvement. In any of the études, we might discuss some of the specific technical challenges (as we have done for the touches bloquées) and understand the ways that failure emerges in their practice/practising.

---

[45]Kanno (2009), 60.

[46]See, for example, Étude 1: Désordre, Études 4: Fanfares, Étude 6: Automne à Varsovie, Étude 9: Vertige, Étude 10: Der Zauberlehrling, and Études 14 and 14a: Coloana infinita and Coloana fara sfarsit.

We might also note, for example, the way that titles refer to failure. *Études 14* and *14a* (*Columna Infinita* and *Coloana fara sfarsit*) are two obvious examples, whose titles refer to an 'infinite column' and a 'column without end', both physical structures that are impossible to realise. Other études refer to the failures of the body. *Au bout du souffle* (Out of Breath) and *Vertige* (dizziness), for example, both describe symptoms of the body's inability to behave as it should. Dizziness, for example, occurs when the body inaccurately believes the world is spinning. And the feeling of being out of breath is perhaps the most obvious manifestation of the body being pushed to its limits, unable to go beyond. At the point of being out of breath, the body is depleted and no longer able to continue—on the verge of failure.

Based on the modes of failure that I have discussed so far in this chapter, I offer a more in-depth analysis of Ligeti's *Étude 3: Touches bloquées*. In this analysis, I describe aesthetic and practical gaps that emerge in the pieces, bearing in mind the theoretical apparatuses offered by Bailes, Priest, and Halberstam in particular.

Étude 3: Touches bloquées (Blocked keys), 1985

The title of *Touches bloquées* refers quite literally to the technique that it is designed to study, to explore, and to improve. In this technique, certain notes are depressed with one hand—either silently or sounding—and then held, while the other hand plays on those same keys. As such, the moving hand repeatedly strikes notes that are already held (hence, 'blocked'), creating silently struck notes. Ligeti notates those keys which are to be depressed silently and held with diamond-shaped note heads, and those keys which '[do] not sound since the same key has already been depressed and held by the other hand' with small note heads (see Figure 9.5).

Figure 9.1. Étude 3: Touches bloquées, bars 1-5.[47]

It is a technique that Ligeti had used in an earlier piece, the *Monument-Selbstportrait-Bewegung*, but apparently had not himself invented. Rather, in the introduction to the piece, Ligeti cites the technique as originating from an essay by Henning Siedentopf, in which he proposes 'blockierten Tasten' among other ideas for 'New Directions for Keyboard Technique'.[48] The tone of Siedentopf's article is one of possibility and expansion. The blocked key technique is proposed as having the potential to expand what pianists are capable of doing, and change how the body and technics of the piano and its performers develop. Siedentopf, in proposing such new keyboard techniques, envisions the pianists of the future.

Ligeti's attempt to explore the technique in an étude is very much in this same spirit. The piece is designed to familiarize the pianist with a new way of approaching the piano. Indeed, any technique that can be found in the lexicon of a given work is always an attempt to make that technique part of the physicality of the work's executors. The act of composition presumes that its performers are capable of, or could become capable of, executing it. This is especially true in the étude. Books of études, in particular, carry with

---

[47]Ligeti (1985), 21.

[48]Siedentopf (1973), 143.

them the suggestion of a training practice or method, and the lingering presumption that by learning the set of pieces, the pianist will develop the tools to better navigate the instrument and play other works. Thus, while one might understand these études as compositional studies—attempts to explore the aesthetic possibilities of a particular physical idea—it is also important to recognise their role in shaping broader questions of performance training and practice. By composing an étude based on blocked keys, however compositionally-oriented, Ligeti ensures that pianists who approach the piece will treat the blocked-key technique as something to be practised, learned, and mastered.

It may seem arbitrary to speak of the *touches bloquées* as a distinct technique. After all, executing the blocked keys could be separated into a number of different challenges. One of these involves the coordination of the hands. When the left hand is blocking the notes, the right hand must be aware of its position so as not to bump into it. Both arms shift at the elbows to create more space for the other. This technique is not dissimilar to the difficulties posed by hand-crossing in Cage's *Etudes Australes*, for example (or, of course, any number of other pieces). Another crucial challenge is simply adjusting to the requirements of a new notation: there is a constant repair required in understanding and applying the demands of an unfamiliar notational system. Furthermore, there is simply the disconcerting sense of cognitive dissonance caused by the act of playing a piece that does not sound as it looks or as it feels. With the blocked notes, the pianist activates the finger and presses the key in response to the written note—and yet, no sound is heard. The task of responding to these moments of mismatch is not trivial. Again, one might say that it is, technically, not different from the cognitive dissonance created by the extra staves in the *Études Australes* case study, in which descent and ascent reverse.

However, any technique can be broken down into component parts. A scale requires sets of running notes, combined with the technique of adjusting the hand to accommodate a thumb tucked under or a finger tucked over. A chord requires the technique of placing multiple fingers on the keyboard at once, combined with the

balancing act of weighting the hand such that the respective volume of the keys is as intended. The building blocks that we choose as our fundamental techniques are the product of a combination of tradition and training, rather than an objective set of fundamental techniques that exist for pianists to exploit. The title of the study—arbitrary as it may be—and the fact that Ligeti clearly describes the technique and explains its source at the outset of the piece both participate and assist in the creation of the technique itself. Ultimately, though, the technique comes into being in and through the practice of discipline and accommodation that the performer faces when confronted with these new challenges and defeats. The fact that the piece is an étude makes the practice of learning, growing, and adjusting even more striking.

        As a pedagogical genre, in which the performer has learned a genuinely novel technique, the *Touches bloquées* étude epitomises the 'practical demonstration of pedagogy'[49] to which Bailes refers in her study of Goat Island. The way that the étude crystallises a specific technical problem focuses the experience of performing the piece on the practice of learning. It is an orientation that is focused on the process of learning rather than an objective goal, and thus, on a performative rather than textual understanding of music.

    Indeed, this is true for the listener as well. At the beginning of the piece, the listener is necessarily not immediately aware of the technical exploration. As the blocked keys become more and more frequent, they become more audibly perceptible. As a listener, one begins, slowly, to understand the process that is at work. As the piece unfolds, the *touches bloquées* pervade more and more, until finally, the pianist is simply playing on held notes, and we are left with the unpitched sound of repeated pattering on the keys (see Figure 9.6). At this point, the fact that the pianist is striking held notes

---

[49]Bailes (2011), 119.

becomes obvious, and the listener has been guided to a point of understanding a new

relationship between sound and movement.
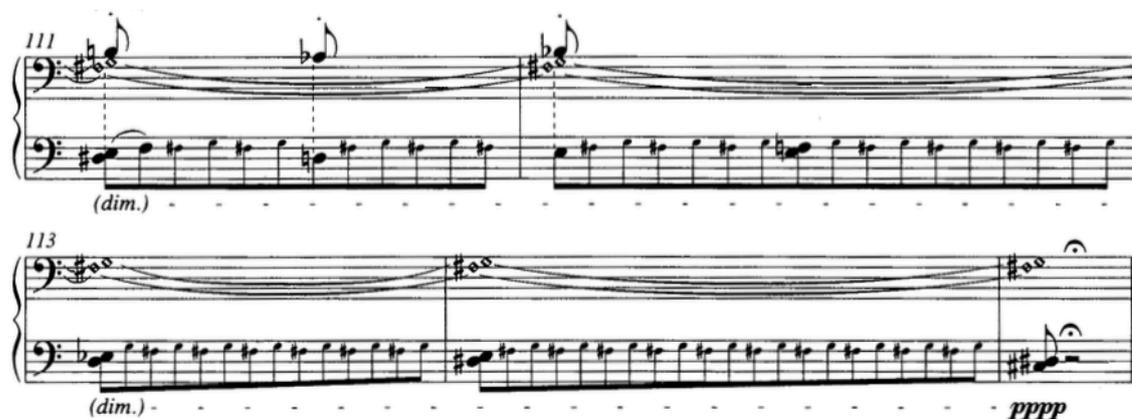
Figure 9.2. Étude 3: Touches bloquées, final bars.[50]

On top of the practical pedagogy of incorporating a new technique, the specific effect of

the *touches bloquées* also simulates breakdown, and Ligeti is clearly exploring such

compositional and aesthetic possibilities. His expressive marking for the étude—'stuttering

/ *stotterned'*—is telling in this respect. The technique of the blocked notes naturally

creates the effect of disjointedness. Though the pianist plays even quavers, the presence

of blocked notes amidst these keys causes the sonic effect of a punctuated and precise

irregularity. In specifying that the piece should sound 'stuttering', Ligeti makes clear that

he is further exploiting this technique's expressive potential.

Indeed, in the B section of the Étude (bars 72-91) the blocked-key technique itself

is abandoned. Instead, it is replaced by another imitation of stumbling. The pianist plays a

series of rushing octaves, separated by commas. These begin timidly, *pp*, and each is

marred with a 'wrong note': a major-seventh alongside the octave, as if caused by the slip

of a finger (see Figure 9.7). These become more and more insistent—frustrated—as the

[50]Ligeti (1985), 25.

'errors' continue. The dynamic and intensity build to *feroce, strepitoso*, before the blocked

keys return. In this middle section, it is as if the blocked-key 'idea'—an idea that

encompasses a distance between intention and execution, expectation and reality,

success and failure—is translated into another technical mode. These features suggest

that the concept and its effect—how it sounds and what it conveys—are as important in

the piece as the physicality of the technique itself.

Figure 9.3. Étude 3: Touches bloquées, bars 76-87, B Section.[51]

Richard Steinitz, in his biography of Ligeti, suggests that 'perhaps the whole study is

a joke'.[52] Understanding it in terms of humour, then, we might compare the failure of this

piece to the paradoxes of slapstick, in which well-executed and perfectly-timed failures

are employed. As I have described, part of the comedy of slapstick comes from the

paradoxical combination of satisfaction and frustration that emerges from watching a

performer consistently repeat the same, exaggerated mistakes. This is an effect that

[51]Ligeti (1985), 24.

[52]Steinitz (2003), 287.

translates very clearly to the experience of playing and listening to the *Touches bloquées* étude. As listeners become aware of the failures incorporated into the technique of the work, they start to realise that this failure is 'the point', a realisation that leads to increasing satisfaction. Even still, the failures come at unpredictable moments, and no matter how expected, continue to provoke a slight sense of discomfort, as they do in the performer, who cannot rely on muscle memory to execute well-practised octaves but must be intentional about what sounds and feels like an unintentional slip.

In these effects, it seems as if the relationship between success and failure is reversed. The task at which the performer sets out to succeed is one that calls failure to mind. Even though the 'errors' are intentional, the audience is compelled by what sounds like 'bad playing'—and indeed, what sounds like repeatedly frustrated practising. Just as punk make the 'unlistenable' its acoustic object, so does this piece ask us to listen to an acoustic object that sounds like it should be ignored or obscured.

It is perhaps ironic that such 'errors'—which sound as if they are the product of a lack of skill—are indeed extremely difficult to execute. While the blocked-key technique itself eliminates the challenges that a truly regular-irregular scale would pose, it still poses a distinct combination of physical difficulties. Even when executed well, it looks awkward, with the hands collapsing over each other, a maladroitness that is its own kind of failure. The flawed octaves also take a significant amount of effort to perfect. While an accidental slip of the fifth finger can happen quite easily when not intended, there is an art to mastering the timing and execution of making it deliberate. Furthermore, it lacks the clear-cut satisfaction, for either the listener or the performer, of success. The piece looks, sounds, and feels—in a variety of ways—a little bit 'off'.

Finally, the use of a novel technique speaks to the way in which the étude both is influenced by and shapes tradition. Incorporating the technique into an étude is a way of expanding what it is possible for pianists to do. It is a prediction or premonition that these

things will not only be possible, but will be useful—that pianists will be able to do and *will* do them. Of course, the blocked key technique has not taken off wildly since 1985, in spite of Siedentopf's manifesto and Ligeti's étude. In this respect, it is failed, too—an attempt to canonise a technical formation that has not taken hold. It has, of course, informed the bodies of the pianists who have played the piece, become a part of what I am capable of doing and what resources my body will have to draw on in the future.

As I have emphasised, the kinds of failures explored in Ligeti's études offer escape from a world in which success and failure are the only options. In this respect, they also investigate the impossible, by placing success out of reach and instead making process, pedagogy, and physicality—each, in their own way, infinitely evolving and ephemerally temporal—the goal. Such an understanding allows us to frame them, even, within the utopian terms explored in Études 7 and 8, as hopeful alternatives to the present. It is not surprising, indeed, that much of the theoretical work on failure is proximate to utopian thought. Both Halberstam and Bailes, for example, draw heavily on queer theorist Jose Esteban Muñoz, whose *Cruising Utopia* sought a future-oriented queerness amidst a landscape of pragmatic or negative queer theory.

Conclusion

In general, I have suggested that failure and the impossible are complementary modes, and have focused on applying theoretical models of failure to études of György Ligeti. Although I have explored many modes of breakdown, what I suggest all of these have in common is a 'refusal to acquiesce to dominant logics of power and discipline'.[53] Bailes tells us that in Goat Island's practice, the tension between accommodation and difficulty is not merely an aesthetic trait of the company's practice, but also an important

---

[53]Halberstam (2011), 88.

component of the 'larger socio-political issues it engages with'.[54]

In particular, I am interested in the way that the presence of failure can be subversive. In the context of canonical études for expert piano performers, failure may seem to be strictly conformational, holding performers to an impossibly high standard (but a standard nonetheless) and controlling their bodies with the desire for constant improvement. However, I argue that the extreme precision of these works does not fix their outcomes, but rather emphasises contingency and possibility in performance, due to the accommodations that emerge in the wake of a misstep or error. Furthermore, I suggest that the presence of practising as painful labour also contributes to the subversion of these works, which re-cast the pain and discipline of the performer. Finally, I identify traces of slapstick and punk in the content of the études, arguing that they reframe traditional notions of failure and success by making inaccuracy an aesthetic object in its own right.

---

[54]Bailes (2011), 126.

Étude 10: Case Study—György Ligeti's *L'Escalier du diable*

> We are committed to the idea that study is something we do together... talking and walking around with other people, working, dancing, suffering, some irreducible convergence of all three, held under the name of speculative practice.
>
> Fred Moten and Stefano Harney[1]

In 2014, the Ruhr piano festival (*Klavierfestival Ruhr*) dedicated its activities to the composer György Ligeti. This included a project with primary school pupils in Duisburg, a collaboration with student and young professional dancers and musicians, and an impressive website featuring Pierre-Laurent Aimard, www.explorethescore.org. The website's primary feature is 'Inside the Score', featuring video recordings of several of Ligeti's works (including four of Ligeti's *Études pour piano* and three of his other works from the *Musica Ricercata*) alongside 'interactive scores'. The scores contain annotations of comments that Ligeti himself made about the score and links to other articles and videos discussing various aspect of the pieces. Particularly interesting is the inclusion within the interactive score of segments of a masterclasses given by Pierre-Laurent Aimard to piano students performing these pieces.

The project is relevant because of the way it treats Ligeti's études as works to be investigated and explored in an ongoing process. As I have discussed, a pedagogical and process-based orientation to the Ligeti's *Études pour piano* is inherent from a performer's

---

[1]Moten and Harney (2013), 110.

perspective, both because they are études and because they are extremely difficult. The various projects undertaken by the Ruhr festival in 2014 extended this idea of the étude as a pedagogical tool beyond pianists to listeners, dancers, schoolchildren, and anyone who chooses to visit the website thereafter. What is the effect when an approach focused on the process of learning is also offered to listeners, dancers, and other participants? The website is 'nerdily marvellous if you happen to be preparing a performance of L'escalier du Diable'[2] but is equally designed for average listeners, and the performance activities were projects for non-musician students.

In this case study, I will treat both the Ligeti in schools project and Aimard's 'Inside the Score' website as an example of using the étude as an embodied, pedagogical genre. I focus on the two aspects of the project that used Ligeti's *Étude no. 13: L'Escalier du diable:* one of the school projects, listed on the website as 'Teilprojekt 3' and the annotated score for the piece on 'Inside the Score'. In this étude, Ligeti dramatises the idea of constant struggle. Its title refers to a never-ending 'devil's staircase', and the notion of an infinite climb is also present in its formal, aesthetic, and performative content. In particular, the project reflects both an aesthetics of failure and a practice of failure similar to that which I described in Étude 9. As such, this Case Study will also serve as a way of demonstrating some of these theoretical ideas in practice. First, I will analyse *L'Escalier du diable* from the perspective of failure. Then, I will briefly describe and discuss the Teilprojekt 3 undertaken at the Klavier Festival Ruhr. Finally, I will study the themes of failure in Aimard's commentary in the 'Inside the Score' project, focusing on his masterclasses.

Étude no. 13: L'Escalier du diable

Though most of Ligeti's titles were given after the pieces were composed, changed

---

[2]Service (2015), theguardian.com.

throughout the process, and probably slightly haphazardly assigned, it is hard not to feel as if the pairing of title and number is quite deliberate in this piece. The number thirteen—a traditionally unlucky number in Western civilization—is also a symbol of the devil. At the same time, in the musical context it is a representation of excess: 13 extends beyond the closed 12 of the completed chromatic scale, and indeed beyond the initially envisioned 12 études for the set. The devil is implicitly at work here, in a dangerous striving to go beyond the realm of the possible: the piece itself features a series of rising patterns that each reach a breaking point (an extreme volume at the top of the keyboard) and then restart from the bottom.

Although loosely notated in 12/8, the piece consists of running quavers that are split into irregular small divisions within larger groups of 36. The primary structural feature of the *Étude* is a layering of multiple patterns that gradually accumulate density and rise from the bottom to the top of the keyboard, reaching several points of climax that are articulated by register as well as by dynamic. This continuum is punctuated by a contrasting choral texture, which occurs twice throughout the piece, first in bars 26-34 (B) and then in bars 38-43 (B'). Whereas the primary texture is horizontal and ascending (even if its horizontality is densely layered), the contrasting sections are vertical, and employ the entire range of the piano at once. Dividing the piece according to textural features leads to the following structure:

Section	Bar Number
A	Bars 1-26
B	Bars 26-34
A'	Bars 35-38
B'	Bars 38-32
A''	Bars 43-46

In keeping with the cyclical nature of the piece, we might understand it in a roughly rotational structure. Within the A section (bars 1-26), there are four internal rotations. Each of these culminates in a breaking point beyond which the pattern cannot ascend, and then the next rotation returns to a lower register, from which it begins its ascent anew. In the A section, each subsequent breaking point increases in intensity. The first two climb in both register and volume. The climax at bar 6 arrives on D7 at *fff;* the second climax, at bar 10, arrives on B8 at *ffff* (see Figures 10.1 and 10.2).

The third rotation introduces a new feature. Alongside the rising pattern—in this instance given only in the left hand—the right hand introduces a simultaneous melodic line. As the left hand reaches its 'breaking point' (partway through bar 17, on C#7 at *ffff*) and begins to restart from the bottom, the right hand melody continues with a series of rising chords, that this time reach up to *ffffff*. The fourth rotation, finally, extends to the very top of the keyboard, remaining *ffffff* (and *sempre tutta la forza, estremo*) for an entire page, until it is interrupted by the B section.

Figure 10.1. Étude 13: L'Escalier du diable, Section A, first climax, bar 6.[3]

---

[3]Ligeti (1998) 49.

Figure 10.2. Étude 13: L'Escalier du diable, Section A, second climax, bar 10.[4]

During the chorale B interlude, ringing open chords imitate *wildes Glockengeläute*

(wild ringing of bells) and the entire range of the keyboard is used. The B section begins

by building, before hushing to a *subito ppp* at bar 33 and remaining in muted ranges

(between *pppp* and *p*), subtly bleeding into the return of section A. The A' section is

texturally similar to the opening, but this time begins in the middle of the keyboard.

Rather than featuring a series of internal rotations, it ascends much more quickly,

reaching the top of the keyboard within a few bars. The second rotation of the B section

is similarly condensed. Instead of building to a climax and then calming down, B' simply

builds, reaching a climactic chord at an outrageous *fffffffff*. The end of B' articulates a

crucial climax, after which the A'' rotation leads directly into the coda and concludes.

Before A'', there is the only moment of silence in the piece until the end, a crotchet +

quaver rest in which the resonance of *fffffffff* clears before the rising can begin again, this

time doubled in both hands at the octave. A'' does not reach a breaking point, but instead

the left-hand pattern drops off, replaced by the ringing gongs of section B, which this

time descend. Finally, the left hand reaches the lowest notes of the piano and the right

---

[4]Ligeti (1998), 50.

hand reaches the top, an open chord sustained while gradually releasing the pedal until the piece ends with *silenzio assoluto.*

This formal structure simulates a failed attempt to achieve something impossible: impossibly climbing a 'devil's staircase'. The sections consist of perpetually rising cycles, simulating the sonic effect of a Shepard tone: an auditory illusion that sounds like an infinitely rising set of pitches.[5] It is only in the last moments of the piece when both hands reach the edges of the keyboard that the illusion of infinite rising and falling must come to an end. The form itself comes to terms with the fact that instrument does indeed have wooden limits (see Figure 10.3). The piece suddenly halts on this final extreme chord as if to both to acknowledge the impossibility of continuing further, but gesture towards the possibility that the piece might have continued.
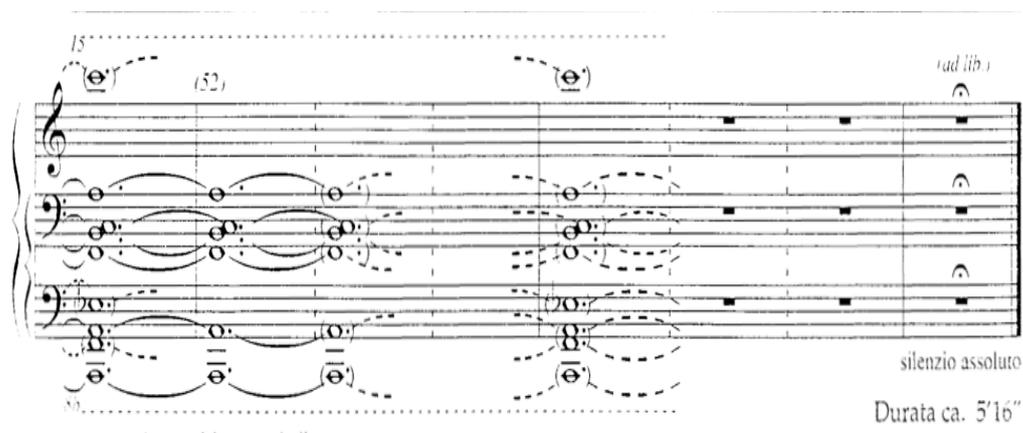

Figure 10.3. Étude 13: L'Escalier du diable, bars 51-52. Final chord on the highest and lowest notes.[6]

Ligeti in Duisburg

In a project incorporating more than 40 students from the Elly-Heuss-Knapp Gymnasium and the Buchholzer Waldschule, choreographers Yasha Wang and her assistant Judith

---

[5]Bazaras (2019).

[6] Ligeti (1998), 61.

Nussler collaboratively created choreography to five of Ligeti's études with the participating students.[7] As Wang describes, 'The starting point for the choreography of "L'escalier du diable"...was an emotional and content-related examination of the image of the "Devil's Stairway". So the students dealt with the themes of eternity, power apparatus, struggle and repression and related emotions such as anger, fear, despair, hopelessness or depression. Based on the collected impressions, a choreography was developed which tries to discover how the body behaves in such situations and emotional states.'[8] The themes that Wang describes are very much related to those of failure that I have discussed in Étude 9. The theme of eternity, for example, is always connected with failure, as to demonstrate or comprehend the infinite is also to recognise our own finitude—failure—by comparison. Likewise, struggle is a way of '[performing] the efforts required to imagine and push the body to work beyond its given limit',[9] as Bailes describes.

A video of the project shows the students experimenting with movement while listening to 'L'escalier du diable'. In this video, students walk in time with the music in random directions. Each time the music changes, they turn to face a new direction, as if recognising an error and seeking a new path. Crucially, the choreography also involves assistance. The students do not walk alone, but rather in pairs; one stands behind, holding the other by the shoulders. On the one hand, the student in front seems to be the guide,

---

[7]'Teilprojekt 3 – Ligeti in Duisburg' www.klavierfestival.de.

[8]*'Der Ausgangspunkt für die Choreographie von „L'escalier du diable" hingegen war eine emotional-inhaltliche Auseinandersetzung mit dem Bild der „Teufelstreppe". So beschäftigten sich die Schüler mit den Themen Ewigkeit, Machtapparat, Kampf und Verdrängung sowie damit verbundenen Emotionen wie Wut, Angst, Verzweiflung, Ausweglosigkeit oder Depression. Ausgehend von den gesammelten Eindrücken wurde gemeinsam eine Choreographie entwickelt, die zu entdecken versucht, wie sich der Körper in solchen Situationen und emotionalen Zuständen verhält.'* translation mine. 'Teilprojekt 3 – Ligeti in Duisburg' www.klavierfestival.de.

[9]Bailes (2011), 119.

walking in front of the other and choosing directions. On the other hand, the gesture of holding by the shoulders—rather than, say, by the hand—conjures the impression that the student behind is helping and holding the one in front. As a result, the choreography demonstrates not only the struggle of the piece, but also the assistance, repair, and collaborative reparation that goes along with failure. For Bailes, the demonstration of failure is also 'the discovery of how to accommodate an impediment or weakness...; learning how to deal with damage and the restoration it might call for'.[10] Here, this is shown beautifully in the image of students assisting each other in a constant accommodation of new directions.

The project on the whole also emphasises the collaborative nature of pedagogy, as well as of failure. As Moten and Harney say, 'study is something we do together... talking and walking around with other people, working, dancing, suffering, some irreducible convergence of all three'.[11] I was struck by the choreographer's emphasis that the choreography was developed first by the students' improvisation, and then through a collaborative process of creation.[12] The use of improvised movement to determine 'how the body moves in such situations and emotional states'—as Wang describes—is also an extreme manifestation of the étude as a practice of embodiment. In this respect, the way the student dancers use Ligeti's étude is not dissimilar to what the pianist does. Both allow the étude to direct the movements of their body as a way of learning.

---

[10]Bailes (2011), 119.

[11]Moten and Harney (2013), 110.

[12]'Die tänzerischen Formen wurden dabei zunächst improvisatorisch erarbeitet. In Kleingruppen von drei bis vier Schülern entwickelten die Projektteilnehmer eigene Tanzbewegungen, die dann zu einer Choreographie zusammengefügt wurden.' <www.klavierfestival.de>

Inside the Score and Aimard's Masterclasses

The use of the étude as a way of embodied learning is most explicit, of course, for performers. Aimard emphasises this by incorporating a masterclass into his 'Inside the Score' project for *L'escalier du diable*. On the interactive score, a symbol with the letter "M" signifies a masterclass excerpt for the corresponding passage (see Figure 10.4). The clips are from a masterclass in which Aimard gave a public lesson to pianist Simon Smith at the Aldeburgh Festival in 2014.
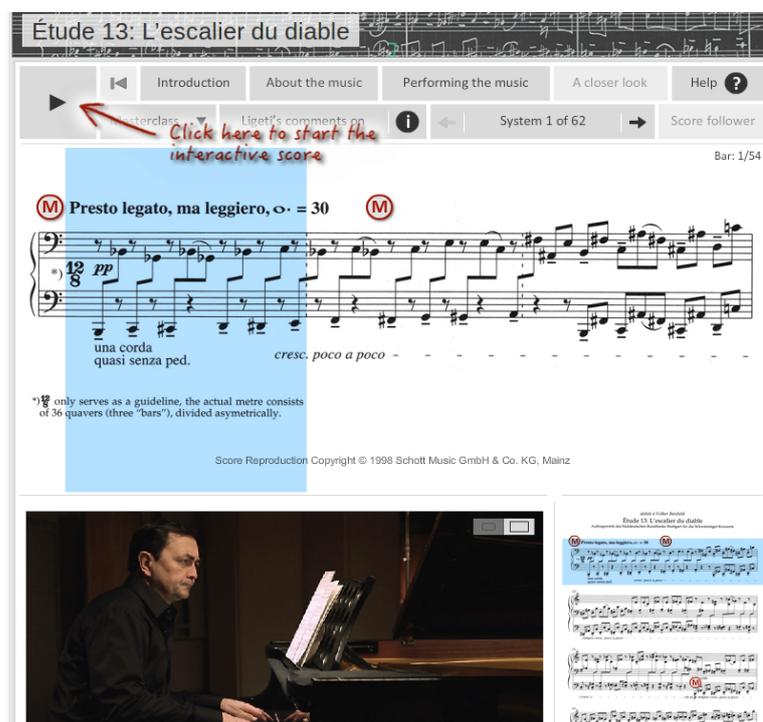
Figure 10.4. Screenshot of the annotated score on the Inside the Score website[13]

Not only does the idea of a masterclass exemplify the 'practical demonstration of pedagogy'[14] that a theory of failure applies, Aimard consistently emphasises themes of failure, impossibility, and pain in his comments to the pianist.

For example, Aimard reminds the pianist that Ligeti's original title for *L'escalier du*

---

[13] <www.explorethescore.org/györgy-ligeti-piano-works-inside-the-score-étude-13.html>

[14] Bailes (2011)

diable was 'Sisyphus', to emphasise the eternal struggle that the pianist must undergo.

The general theme of Aimard's comments throughout the masterclass is that the pianist must demonstrate more effort, difficulty, and struggle throughout. He refers to Ligeti's poetic title frequently in the annotated score, claiming that the pianist should 'feel [his] effort climbing the staircase'. Of the opening bars, he asks the pianist: 'how can we give the impression when we play of this permanent effort that leads nowhere?'[15]

One example to which he returns continually is the piece's dynamics. Aimard is particular interested in the masterclass in ensuring that Smith follows the sudden dynamic contrasts in the piece. For Aimard, returning all the way to *piano* volume (in bar 6, for example) 'will generate the right dramaturgy'[16] so that the feeling of an endless, impossible staircase can emerge. Likewise, he asks Smith repeatedly to play less in bar 10, when the rising melody begins again, this time at *ppp*, using 'the minimum of élan so that the sound can speak'.[17]

The highest dynamics are equally important for Aimard as a demonstration of effort. At the 'peak' of the first rising section, Ligeti notates '*tutta la forza*' once the pianist has reached the very top of the piano (bar 24); a bar later, the pianist is reminded '*sempre tutta la forza. estremo*'. However, the frail piano strings at the top of the instrument, the thinning texture, and the very response of the instrument, make it futile to play with full force and impossible to be perceived as doing so. Aimard tells the pianist instead to play with 'all your psychological strength' and to use 'quite a monstrous effort'[18] The same is true of other expressive markings. In bar 17, successive dynamic markings are notated: *fff, ffff, fffff*, and finally, *ffffff*; later, in bars 42-43, the crescendo is from *ff* to *ffff* to *ffffff* to *ffffffff* (see Figure 10.5). While the pianist may indeed increase in decibels between each

---

[15]Aimard, Masterclass, bar 1, 00:55-00:58 <www.explorethescore.org>.

[16]Aimard, Masterclass, bar 6, 00:31-00:34 <www.explorethescore.org>.

[17]Aimard, Masterclass, bar 10, 00:59-1:00 <www.explorethescore.org>.

[18]Aimard (2017)

chord, subtle variations between *fffff*, *ffffff*, and *ffffffff* are hardly designed to be precise. Rather, the impression is the opposite: these dynamics convey the sense of extremes, and encourage the pianist not to obey them literally but to give everything she has, knowing that it cannot be enough. His direction that the dynamics are not to be taken literally but rather metaphorically also emphasises that in themselves, these dynamics are designed to be impossible. He calls them 'an invitation to use a sound that will not be seen as beautiful in the traditional acoustic language... a sound that is almost distorted somewhere'.[19]

Figure 10.5. Étude 13: L'Escalier du diable, bars 42-43. Extreme dynamics.[20]

One might also look to the ending of the piece to find more instructions and invitations to both extend the limits of the body, and acknowledge the impossibility of doing so. The piece ends with the pianist playing at the extreme ranges of the piano at *ffffffff*, *a* passage that Aimard describes as 'an invitation to the interpreter...to go beyond his own borders'.[21] This passage finishes with a long chord--during which the pedal is to be released gradually--then two bars of rest, then a final bar of rest with a pause (marked

---

[19]'Pierre-Laurent Aimard on playing *L'Escalier du diable'* , 04:17-04:30, www.explorethescore.org

[20] Ligeti (1998), 59.

[21]'Pierre-Laurent Aimard on playing *L'Escalier du diable'* , 04:38-04:41, www.explorethescore.org

silenzio assoluto). Even though the piece ends with a pause on the rest, the number of bars between the final strike of a chord and the ending is precisely notated: the chord is to be held for 9.5 bars of 12/8, though the slurs stretching into the empty bar ahead suggest it can still ring beyond (see Figure 10.6). If the ringing is imprecise, how necessary is it to count? If it is unnecessary to count, why did Ligeti not simply mark a long pause on the chord? Aimard suggests that the task for the performer is to ask: 'how should we find the resonance impossibly long?'[22] And how indeed—for of course no length is *literally* 'impossibly long'! This is another instance in which precision paradoxically creates the feeling (both for the performer and the audience) of excess.

By gesturing towards a Sisyphean infinite, *L'Escalier du diable* reminds us of its own inadequacies. As listeners and performers, we become aware of the finitude of the work, itself constrained by the finitude of our listening and performing bodies. As Aimard says, 'All the lines are blocked by the border, by the limits of the instrument—the world.... So they fight against the limits of the instrument quite dramatically'.[23] Yet the limits of the étude are not, evidently, confined to pianists who can play them. By opening this analysis, understanding, and pedagogy up to a wider audience, Aimard and Klavierfestival Ruhr have also invited listeners and participants into the process of becoming aware of, working through, accepting, and accommodating these limits. This accommodation allows us to continue striving for the impossible, rather than being constrained by our inability to achieve it. It is this pedagogical aspect of the Étude 13, *L'Escalier du diable,* that allows us to imagine a world in which we are not so much daunted by the infinitude of our tasks, but rather inspired and transformed.

---

[22]'Pierre-Laurent Aimard on playing *L'Escalier du diable'* , 05:40-05:48, www.explorethescore.org

[23]'Pierre-Laurent Aimard on playing *L'Escalier du diable'* , 05:40-05:48, www.explorethescore.org

Figure 10.6. Étude 13: L'Escalier du diable, bar 50. Ending.[24]

[24]Ligeti (1998), 61.

Étude 11: Technologies of the Impossible—

Conlon Nancarrow's *Studies for Player Piano*

Nancarrow is teeming with energy and the very stuff of human existence,

- Michael Finnissy[1]

Before John Cage explored the impossibilities of translating stellar bodies onto human ones, and Ligeti crafted *Études* that at once demand and resist the failure of the performer, another composer—whose work was a formative influence on both Cage and Ligeti—had used the genre of the piano study to explore the boundaries of the human body in a slightly different way. The American composer Conlon Nancarrow began composing a series of studies for piano after he moved to Mexico City in 1940, writing nearly 50 studies between the late 1940s and the 1980s. Rather than being written for human pianists, though, the pieces were instead written for an instrument that was at the time already archaic: the player piano.[2] Although these pieces originally emerged out of the compositional practice that he had begun for live instruments, Nancarrow's *Studies for Player Piano* became inextricably linked to their medium of performance and methods of creation. Through these instruments, Nancarrow developed a novel language of musical composition, so striking and original that when Györgi Ligeti first came across his music he wrote that Nancarrow's music was 'the greatest discovery since Webern and Ives...

---

[1]Whittall (2006), 2.

[2]At the time of writing, a 1991 Wergo recording of most of the studies can be found on YouTube at www.youtube.com/GENsMqIDT0 [accessed 2 July 2019] and www.youtube.com/TDs-gh3Bt1Y [accessed 2 July 2019]

the best of any today living composer'.[3] Nancarrow's compositional output remains some of the most original experimentation in temporality and complexity of the past century, and it has had a direct impact on composers and musical movements from Ligeti and John Cage, to the ultra-complex YouTube genre Black Midi.

Nancarrow remains the most prolific composer for the instrument, and it is the ingenuity and experimentation of his work for player piano that brought him from relative obscurity to winning a MacArthur Grant in 1982, which would solidify his status amongst the canon of American avant garde composers of his generation. Ligeti's involvement in Nancarrow's rise to fame is well-established. As the story goes, he had discovered a record of Nancarrow's by accident in Paris in 1980. He wrote to Charles Amirkhanian, Nancarrow's friend and promoter, 'I listened to this music and became immediately enthusiastic..... His music is so utmost original, enjoyable, constructive, and at the same time emotional'.[4] From this point onwards, Nancarrow became well-known in European musical contexts, fielding—and often rejecting, due to his reclusive and shy nature— invitations and provocations to tour, visit, and perform his works abroad.

Much earlier, though, John Cage had also played a role in promoting Nancarrow outside of Mexico. It was Cage who first facilitated the 'performance' of the *Studies for Player Piano*. Cage had received a copy of Nancarrow's tapes in 1960 from John Edmund, a librarian in New York. He and David Tudor arranged for these to be used by Merce Cunningham's dance company, using excerpts from the first seven Studies in the dance pieces *Crises* and *Cross-Currents*. These performances took places using tapes, which Cage started and stopped, while David Tudor managed the tone control and amplitude

---

[3] Letter from Ligeti to Charles Amirkhanian, 4 Jan 1981. "Conlon Nancarrow Collection", Paul Sacher Foundation.

[4] Letter from Ligeti to Charles Amirkhanian, 4 Jan 1981. "Conlon Nancarrow Collection", Paul Sacher Foundation

live.[5] Nancarrow was more sceptical about the attention he received from John Cage. In fact, his friend Minna Daniel was forced to apologise in 1964 for suggesting that Nancarrow's music be included in a Cunningham piece.[6] However, Cage, Tudor, and Nancarrow eventually met on a Mexican tour of the Cunningham Dance Company (alongside Gordon Mumma) and had cordial relations thereafter.

In an interview Cage and Nancarrow gave together at Telluride in 1989, the pair each remark on their first live encounters with the others' music. In both cases, these were in fairly private and intimate settings. Nancarrow claims his first experience of Cage was at a personal concert of Cage's prepared piano music in New York.[7] Meanwhile, Cage's first live encounter with Nancarrow's music was on his 1958 visit to Mexico with the Merce Cunningham Dance Company, in which he heard the *Studies for Player Piano* in Nancarrow's own studio and on his pianos. He recounts the experience:

> Oh, good heavens. I still have that excitement hearing your work. But I think in the room itself, in the room in Mexico City, with the actual instruments, it is quite an unforgettable experience.[8]

It was so unforgettable for Cage, in fact, that he would eventually include an anecdote about player pianos in a mesostic. In the tale, he describes a fictional account of Erik Satie visiting Nancarrow, in which the pianos effectively come alive:

> nancarrow turns thEm on / satie lies on the flooR / the pianos move toward hIm /

---

[5]Letter from John Cage to Conlon Nancarrow, February 18 1965, 'Conlon Nancarrow Collection', Paul Sacher Foundation.

[6]'It distresses me that my quite casual remarks…about how I thought your music would fit into a Cunningham program (not a Cage one mind you) should so disturb you.' Letter from Minna Daniel to Conlon Nancarrow, 'Conlon Nancarrow Collection', Paul Sacher Foundation.

[7]The pair argued about the precise date of this event during their Telluride conversation, but evidence suggests it likely took place in 1947.

[8]Cage and Nancarrow (1989).

but in the nicK of time they thematically / pull themSelves up / so there's sufficient spAce / for Them / to roll over hIm without hurting him / in thE / lEast, satie is touched / but not physically i am veRy / pianIstic he says / but i have never Known / Such/ good behAvior / on The part / of musIcal / instrumEnts.[9]

Nancarrow is often quoted as saying that 'ever since I'd been writing music I was dreaming of getting rid of the performers'.[10] Indeed, he crafted his pieces meticulously, and spent most of his composing life alone within the confines of a small studio, exerting careful control over all aspects of his music and its dissemination. The *Studies* are extremely complex, and surpass the bounds of human performance in terms of speed, temporal intricacy, and density. Influenced in particular by a desire to manipulate and control tempo, the studies layer multiple independent tempos at ratios that are too complex to either perform or understand audibly. Sometimes, these even use irrational tempo relationships.

Most critical commentary on the *Studies for Player Piano* takes these features as a starting point, and assumes that the *Studies* are dehumanised and disembodied works, emerging from a desire to eliminate the contingencies, frailties, and potential failures of the human body. For example, the first extensive commentary on these works appeared in *SOUNDINGS*, a publication of contemporary music edited by Peter Garland, which in 1977 dedicated its fourth volume exclusively to Nancarrow.[11] The publication included essays by Gordon Mumma, Charles Amirkhanian, Roger Reynolds, and James Tenney, alongside scores of several of the pieces. The most extensive of the essays is Tenney's, which offers a thorough and extremely rich analysis of the construction of the pieces, focusing on tempo relationships and formal structures.[12] In the decades since, following

[9]Cage (1983), 66-67.

[10]Amirkhanian (1977), 15.

[11]Garland, ed. (1977).

[12]Tenney (1977).

in Tenney's excellent example, rhythm has been the primary focus of analytical discourse about the pieces, including several dissertations[13] and numerous articles. Kyle Gann's biography of Nancarrow, which offers a comprehensive overview of the studies, also focuses on rhythm as a primary subject and subscribes to the notion of pure mechanisation as the central feature of the works. As Gann describes, the player piano allowed Nancarrow to explore 'more aspects of rhythmic superimposition and tempo clash than any other composer had dreamed of doing'.[14]

More recent studies discuss Nancarrow's output in terms of cultural history. These, too, have tended to take their technological independence for granted. For example, David Suisman's history of the player piano frames Nancarrow in terms of capitalism and alienation, suggesting that his compositional technique approaches a future-oriented technological utopia. According to Suisman, Nancarrow 'swept aside [the player piano's] nominally mimetic character—the implication that it would convey *only existing forms of music*'[15]. Alison Rebecca Wente, whose doctoral thesis on the music of Nancarrow was concerned specifically with labour politics, also interprets the pieces as mechanized and anti-human; she characterises Nancarrow's player piano as a mechanical performer, who allows for 'new pianistic executions unlimited by any real performer's technique.'[16]

Eric Drott's excellent analysis of Study no. 5 and Study no. 33, meanwhile, recognizes that a purely mechanical explanation for these pieces is insufficient. In response, he compares their awe-inspiring incomprehensibility with the Romantic awe of incomprehensible nature, calling them an instance of 'the technological sublime'.[17] The concept of the technological or mathematical sublime is, for Drott, a way of

---

[13]See, for example. Thomas (1996), and Wilkes (2001).

[14]Gann (1995), 2.

[15]Suisman (2010), 30. (emphasis mine)

[16]Wente (2016), 199.

[17]Drott (2004), 53–63.

understanding why and how these works seem to transcend their mechanical medium. However, it accounts only for the notes and sounds contained in the pieces and does little to address another important element of the works: their relationship to the body and to the human. As Julian Johnson notes, 'The elements of jazz and boogie-woogie imply a human performer, but the improbably rapid speeds and the complexity of the layers demonstrate the mechanical transcendence of the humanly possible. The interest of the music, however, lies precisely in this blurring of the boundaries between virtuosity and impossibility.'[18] Indeed, what makes this music compelling, interesting, and as Michael Finnissy writes 'teeming...with the very stuff of human existence'[19] is not just the complexity of its mathematical and technological display, but also the proximity of this technology to the human body.

In this chapter, I argue that although Nancarrow did not write études for human performers, he still used the genre of the étude to probe and expand the limits of the human body. From a practical perspective, the composition of the works was the product of a network of social relations that included both bodies and machines. Their notation—which exists in multiple forms—is only made audible through human-machine interactions. In performance, the experience of listening suggests the behaviour of human bodies and engages the body of the listener. By virtue of being called 'studies', too, these pieces pose questions about what constitutes a musical performer, who is capable of learning, and the interactive relationship between human and machine in the creation of musical events. This analysis uses posthuman theory and new materialism, relying on the assumption that to sharply delineate between human and machine is arbitrary, and that artistic creation happens within a network of human and nonhuman relations.

---

[18]Johnson (2015), 144-145.

[19]Finnissy, quoted in Whittall (2006), 2.

The mechanical body of the player piano

The instrument of the player piano itself has a close relationship to embodiment. Despite the absurdity of Cage's mesostic above, his description of the moving, walking player piano is apt. Although Nancarrow's pianos—both uprights—do not even have legs, they have a remarkably life-like quality. When plugged in, the immediate whirring of the bellows and whirls of the mechanism as the machine is turned on makes the pianos seem lifelike, with inflating lungs and a pulsing heartbeat. The player piano operates by means of a perforated roll of thin paper, which is rotated on a spool inside the instrument. As the roll spins, air is blown through the mechanism. Each time the air passes through a perforation, this activates the instrument such that the corresponding note is struck on the piano.

Early marketing of the instrument often highlighted its capacity to be a substitute for the human. One of the commonly advertised uses of the player piano in the 1910s and 1920s was as accompaniment to a (usually female) singer or instrumentalist in the home. A 1921 advertisement in *The Literary Digest* claims that 'in thousands of homes the Gulbransen has freed busy women from the drudgery of hand-practising their accompaniments'.[20] Developments in the addition of expressive capabilities to the player piano were largely advertised as desirable for their proximity to human accomplishment. Brian Dolan, for example, remarks on the way player piano advertisements 'proclaimed that the music on the rolls "captured" the artists' individuality and expression'.[21] Equally, the player piano was an important precursor to recording technology, and the distribution of player piano rolls created by specific performers and composers—Reinecke, Debussy, and Scriabin are among those composers who created piano rolls for public distribution— literalise its aspirations to emulate a human being. These examples suggest the way the

[20]Literary Digest (1921), 39.

[21]Dolan (2009), xvi.

player piano was seen to both replace and imitate the human body, and even to act as an active, non-human collaborator alongside human performers.[22]

Figure 11.1. Gulbransen Player Piano Advertisement.[23]

As Huneman and Wolfe note, the association between machines and embodiment can be traced to the early modern period. They argue that early modern materialism interpreted mechanism and automata 'as engagements with the organizational complexities of living being', arguing that this association only faded in the early 20th

---

[22]As the study of musical organology also tells us, there has always been a close relationship between keyboard instruments and the human body—and indeed even the term organology is tellingly derived from *organon*, which refers to both instrument and body. See Emily Dolan and John Tresch (2013).

[23]The Literary Digest (November 1921), 39.

century.[24] A lingering 'historico-scientific dialectic of materialism and vitalism in…the eighteenth and nineteenth centuries'[25] evidently lasted in the reception and marketing of these new automatic instruments.

The technology of the instrument—using air blown through perforated holes—is closely related to computing technology. Perforation is itself a form of digital inscription, which—like computing technology—relies on binary logic to store information. Information is stored digitally in the form of a 1 or a 0: a hole, or the absence of a hole. Despite the seemingly analogue nature of hand-played roll technology (in which playing is recorded directly onto the roll), the information is encoded in a distinctly digital storage mode. There is nothing *inherent* about the code of perforations that necessitates that it be replayed as those specific notes on the keyboard, nor is there anything about the code that requires that it manifest as musical notes at all.

Rothenbuhler and Peters' 'Defining Phonography' identifies the relationship between music and encoding as the key distinction between analogue and digital recording technology.[26] Analogue recording technology—such as the phonograph—directly corresponds to the sounds themselves, and can only be replayed as a replica (however distorted or faded) of those very sounds. On the other hand, digital recording technology—such as the Compact Disk—encodes abstracted information, that can be adapted, modified and transformed. Such a distinction, as Suisman notes in 'Sound, Knowledge, and the "Immanence of Human Failure": Rethinking Musical Mechanization through the Phonograph, the Player-Piano, and the Piano', does not take into account the player piano's capacity as a recording technology to blur such distinctions: though analogical in its method, its form of information storage is decidedly digital.

---

[24]Huneman and Wolfe (2010), 275.

[25]Huneman and Wolfe (2010), 275.

[26]Rothenbuhler and Peters (1997),

For Nancarrow, the player piano is not being used as a form of recording technology, of course, but even still, such blurring of dichotomies remains. As Roger Moseley describes, this boundary is already transcended in any keyboard. In 'Digital Analogies', Moseley contends that the keyboard operates as a 'field of play' in which the binary operation of the pianist's digits combines with the instrument's musical capability to 'give form to imaginative impulses: in short, to operate analogically'.[27] The player piano then accentuates this tension, given its additional capacity to record and process digital information. In this respect, we should recognise it as what Katherine Hayles calls an 'inscription technology': 'a device [that initiates] material changes that can be read as marks'.[28] Yet inscription is only one part of the device's mechanism and capability for information storage and recognition. Although the information stored on the piano roll is digital—and therefore can be read on any number of other devices, transferred into MIDI files, or even used to produce a completely different set of sonic (or non-sonic) data—the experience of watching and producing the music is inseparable from its material. For Hayles, this is called 'incorporation': 'an incorporating practice such as a good-bye wave cannot be separated from its embodied medium'.[29] One of my goals in this chapter is to explore the way that 'incorporating practices are in constant interplay with inscriptions that abstract the practices into signs',[30] drawing a relationship between embodiment and the body through Nancarrow's player piano studies. The music of the player piano is inscribed information, but the ghostly presence it conjures up is incorporated.

[27]Moseley (2015), 192.

[28]Hayles (2002), 24.

[29]Hayles (1999), 199.

[30]Hayles (1999), 200.

The material composition of the studies

Nancarrow's lively instruments also contain their own complex material history, spanning many countries and continents and including a network of other actors. Nancarrow himself began composing for player piano in the late 1940s. At the time, he was living in Mexico City, but paid a visit to New York in 1947 for the specific purpose of acquiring a player piano. While in New York, he successfully located an instrument that he could bring back with him. The technology of the instrument is not, however, limited to the actual mechanism of the piano itself; Nancarrow also required a device for punching holes into the roll. The very machine used by Nancarrow is one that he had made specifically for the purpose. Even the story of its acquisition and construction is a complicated tale of bodies and machines, and social relationships between the two. As Nancarrow recounted it in an interview with Kyle Gann in 1989:

> I met this guy, J. Lawrence Cook, who worked [at QRS, the player piano roll company]. They had these big machines that mass-produced player piano rolls, punching a hundred at a time. But he had — it had nothing to do with the factory — a little punching machine for things he wanted to do that couldn't be done on the big machines. Nothing as complicated as I've been doing.... Since I didn't know that these things could be bought, I asked him — he was a very nice guy — if he'd mind if I got that copied by something. He said, 'Of course not'.
>
> I didn't know who to get to copy it, but I was walking through the Village, and there was a shop there, run by a weird guy who repaired old instruments, lutes, and all kinds of Baroque and Renaissance instruments. I started talking to him, and I happened to mention that I was looking for someone who could copy a roll punching machine. He didn't know anything about it, but by coincidence he had a friend who had a machine shop, who was an absolutely accurate metal worker. And I got him to go up to the Bronx with me and look at this machine and take all the measurements. And he made that.... When I got back to Mexico and started using it, right away I saw

all kinds of limitation and things that had to be changed. Also luckily, I found this

fantastic mechanic in Mexico who rebuilt that machine.[31]

He told this story—a tale of innovation and imitation, of intention and chance, of human and machine—on at least one other occasion, with the details slightly changed, which suggests that we might not want to take the details too seriously. Regardless of its accuracy, however, it is clear that the creation of Nancarrow's works, and specifically his notated scores, involved and implicated large numbers of people and objects—assistants and machinists, original artifacts and functional copies. Indeed, the anecdote exemplifies the complicated material and social processes of music-making, in which machines and humans are equally interactive contributory agents.

The punching machine is only one among many specific material objects that were necessary in the creation of Nancarrow's unusual studies. For example, his process of composition and notation began in each case with establishing underpinning tempo and rhythm relationships for the piece. These were first notated on a 'punching score': essentially, a short-hand score on staff notation which represented the eventual locations for perforations in the roll. In the early studies, tempo relationships of 3/4/5 were fairly easy to draw out on the punching score using ruled subdivisions. In general, he reduced these relationships to their lowest common denominator, which he used as a unit of measurement.[32] As Nancarrow's rhythmic explorations became more complicated, he developed more sophisticated notational methods for marking tempo relationships. In particular, he kept hundreds of pre-made strips of paper on which he had drawn the subdivisions for different tempo relationships, from 'increase by 5%' to 'e/pi'. (Although once strewn all over the studio, they are now housed demurely in a card-cabinet at the

---

[31]Gann (1995), 43-44. Gann (1995), 43-44. This story is also relayed with slightly different details to Charles

Amirkhanian in an interview published in *Conlon Nancarrow: Selected Studies for Player Piano*, ed. Peter

Garland (Berkeley: Soundings Book 4), 1977)

[32]This was also necessary due to the nature of his punching machine, as I will explain later.

Paul Sacher Foundation. with labels on each of the drawers categorising the kind of tempo-relationships inside, and a large number of blank strips on which future tempo graphs might have been imagined). At his long bespoke desk—which even featured a built-in rolling chair that could slide from one end of the desk to the other—he would affix these strips to the top of both the punching score and the roll, transferring the relevant markings in order to determine note placement.

After laying out the temporal framework on the punching score, the next step was to compose the notes. According to Nancarrow himself, this was the least important part of his process: 'I don't think of a line, but of a collection of temporal relationships, and, in fact, the melodic line is simply a crutch in order to realize certain temporal ideas'.[33] Perhaps it is precisely this lack of importance that makes the lines so memorable in their simplicity: as Reynolds writes, 'The melodic invention[...] is always bound to the bones of the music in a way that feels entirely right.'[34] He never spoke about his specific process for composing the melodies, deeming it unimportant. However, I like to imagine that he composed the melodies, at least in part, at the piano: especially since they so frequently fit neatly under the hand.

Next, the notes and rhythms were transferred to the roll. The initial machine that he acquired in New York was equipped to punch only one hole at a time, which was a physically demanding and time-consuming process; Nancarrow claimed that it took him six months simply to notate a piece of music of a few minutes' length. The machine had another drawback for Nancarrow: the placement of the holes was determined by notches that demarcated pitch in one direction, and time in the other. The necessity of placing the holes according to a pre-determined temporal grid eventually limited Nancarrow's capacity for temporal experimentation, as it limited the shortest interval of time between

---

[33]Nancarrow, quoted in Reynolds, 'Inexorable Continuities', *Soundings 4*, 28.

[34]Reynolds (1977), 28.

two attacks to the distance between two notches on the machine, and this meant that all of the rhythms and tempos of the piece needed to accord to a multiple of this smallest interval.

Eventually, Nancarrow found that he wanted to incorporate time intervals more detailed than the notches would allow. With the help of a mechanic in Mexico, the machine was modified to eliminate reliance on the notches. It is commonly suggested that this change was made at some point during the composition of *Study no. 21*. Helena Bugallo's analysis of the study—using both the punching score and original rolls—demonstrates specific ways in which the piece relied on both tools.[35] After this point, he employed the new punching device for composing all of his future *Studies*, liberated from the constraints of a pre-determined smallest time interval.

This demonstrates the dynamic between Nancarrow's imagination and his material constraints. Nancarrow's initial compositions took the features of the punching machine for granted. As he composed further, his imagination led him to understand a possibility for composing beyond these material constraints, constructing new musical temporalities. With mechanical assistance from others, he was able to realise this new possibility. The materiality of the new instrument then affected the kind of music he would create thereafter, the material tools that he would use to compose, and the compositional process. For example, his method of composing using tempo graph strips emerged because of the necessity of finding a lowest common denominator for the punching machine. However, he continued to use this method even after he had adjusted the device. The same is true of his habit of writing the tempo on the roll before beginning to compose. As he described in an interview with Kyle Gann:

> When I got into these complex multitempo things, I'd take a blank roll, and knowing before I'd even do it how long the piece would be, and what the proportions would

---

[35]Bugallo (2004), 82.

be, draw out those proportions on the whole roll, with the smallest value I thought I'd

be needing in the piece. Then I'd take the width of the score paper, from here to

here, and draw it off on the roll that size, and take blank score paper and put all of

these things on the blank paper. And then write the piece. Up to then there was no

piece, just a tempo relationship.[36]

This working method predates the creation of the modified machine, but Nancarrow

maintained it thereafter. These relationships emphasise the inextricable connection

between process, materials, bodies, and sounds in this music.

Although Nancarrow was able to have the machine adapted to suit his temporal

purposes, it was prone to breakdown. In the early part of the 1980s, almost all of

Nancarrow's letters mention some frustration with the punching machine slowing down

his rate of composition. From his letters, it would seem that he was without a

functioning machine for at least six months in 1981. He wrote to Reynolds in August

1981, 'I forgot to tell you that my punching started to go bad about half way through one

of the rolls of the Aleatory Round. After the machine was fixed I thought I could patch

that part, but it became so messy that I decided to punch that half again. [...] (The

"aleatory" bit was not supposed to apply to wrong notes).'[37] The 'patching' of mistakes is

another notable part of Nancarrow's process. Because sound is created by the passing of

air, correcting an accidental note requires covering the hole. Nancarrow's preferred

method of doing so was using scotch tape to cover the hole, a laborious and messy

process. It is worth noting that it also caused problems for his ability to copy and archive

the rolls themselves. Since most methods of photocopying use light, they are unable to

account for a hole that has been covered by (clear) tape. At some point in the early

1980s, the mechanic who had been working with Nancarrow on his punching machine

---

[36]Gann (1995), 30-31.

[37]Letter from Conlon Nancarrow to Roger Reynolds, 24 August 1981. "Conlon Nancarrow Collection", Paul

Sacher Foundation.

retired, making repairs more difficult and less frequent. It would hardly seem coincidental that, as time went on, fewer of Nancarrow's works were written for his player pianos.[38]

Nancarrow's own pianos, too, became collaborators in helping and hindering his compositional efforts. The majority of his pieces were written for and recorded on one of two Marshall and Wendell upright pianos that he kept in his studio. Just as he adapted the punching machine to suit his needs, he also adapted the pianos themselves in order to create the sound he wanted—in particular, to have a clarity of sound for such fast-moving lines and to differentiate between registers:

> In the beginning, I tried various things. The first was called a mandolin attachment. It is a wooden strip with a lot of little leather straps fixed with metallic things that dangle in front of the strings. You can lower or raise the wooden strip, and I liked the idea that you could have a normal piano or altered sound. Unfortunately, it was a mess; the leather straps were always getting tangled in the strings, especially with loud playing. Then I tried soaking the hammers in lacquer, hardening the felt. That wasn't too bad, but it wasn't what I wanted. I tried various other things, then finally settled on these: one of them has hardwood hammers with steel straps over them and the other, felt hammers covered with leather in which are embedded the small snaps that are used in clothing. The felt cushions a little, then the leather, and then, that metallic snap.[39]

The resulting sound on both instruments is harpsichord-like, in that there is a strong attack and quick decay. Additionally, the registers are clearly differentiated from each other. As Helena Bugallo describes in her 2004 dissertation, 'the bass register is

---

[38]The other reason that Nancarrow himself gave for returning to compositions for live performers is also a practical, material concern. In a letter to Peter Garland, he admits: 'I'm afraid I will have to drop the player piano bit. No money in it. Now I can get all the commissions I want for live pieces at fancy prices.' Nancarrow to Garland, letter from 27 May 1987. "Conlon Nancarrow Collection", Paul Sacher Foundation.

[39]Jürgen Hocker, (1997), 23.

relatively weak and lacks resonance, the middle register is rather prominent, and the top register is brilliant yet not too distinct'[40]. Bugallo also explains how Nancarrow wrote specifically for this dynamic profile, giving the example of *Study no. 9*, in which the ostinato layers are situated distinctly in three different registers of the piano. Kyle Gann suggests that when reproduced on an instrument with equal registration, Nancarrow's player piano pieces lose their effect:

> At New Music America in New York in 1989 the German composer/engineer Trimpin played his computer-driven version of Study No. 48 on two unaltered grand pianos; the sound was muddy, its contrapuntal clarity—so crystalline in Nancarrow's studio—greatly diminished. The comprehensibility of the late studies depends on his altered piano hammers.[41]

 In these examples, we see another way in which Nancarrow adapted the tools to suit his compositional desires, even as those same tools affected the kinds of choices he was likely to think of and make.

One particular problem plagued Nancarrow throughout his compositional career: the difficulty of synchronising two player pianos. This difficulty comes from a feature of their notational mechanism: the spinning of the roll. The length of time it takes for the roll to spin is determined at every point by its diameter; as a result, the speed of the music increases as the piece goes along. Nancarrow had no problem with this phenomenon on one piano alone, likening it to the way in which African drumming ensembles get faster over time.[42] However, the unequal nature of this acceleration, given two separate rolls (which often have slightly different thicknesses of paper, for example), deeply troubled him in his efforts to write pieces for two instruments. After much frustration, he

---

[40]Bugallo (2004), 39.

[41]Gann (1995), 28.

[42]As, indeed, do many pianists!

eventually settled on composing the Study no. 44 as what he called an 'aleatory canon', in which the two pianos could be played at any tempo relationship. Although this solution evidently bothered him, both his resignation and his efforts demonstrate the extent to which he was deliberately and expressly composing according to the limitations and capabilities of the compositional tools at his disposal, clearly attending to and respecting their material constraints.

Thus far I have focused on describing two notated forms of Nancarrow's player piano pieces: the punching score and the piano roll. However, the scores also exist in a third form, as traditionally notated scores on staff notation. The first of Nancarrow's player piano pieces to be published in this way was the *Study no. 1* (published as *Rhythm Study no. 1*) which appeared in *New Music* in 1951, submitted to the journal by Elliott Carter—apparently without Nancarrow's knowledge. Nancarrow would meticulously write further printed scores throughout his career, apparently taking a break from composing new pieces and devoting himself to the task throughout the 1960s. Beginning from the Soundings volume in 1977, these would become published and disseminated. However, his motives for writing these scores prior to that volume are unclear, as he was in the habit of mailing tapes abroad to people he thought might be interested in his work, not sending them scores. A clue can be found in his correspondence with Aaron Copland, who wrote him a letter in February 1965 after receiving (apparently unprompted) three tapes of Nancarrow's studies in the mail. Copland wrote to suggest that Nancarrow consider releasing the music on a commercial record, but warning that he should consider 'what the copyright situation would be in selling records of music not written down (I assume) and not copyrighted'.[43] Was Nancarrow's writing spree inspired by a fear of preserving copyright for his own music? If so, this additional notational form has its own deeply material origin: an attempt to claim intellectual property and thus remuneration.

---

[43]Letter from Aaron Copland to Conlon Nancarrow, February 17 1965. "Conlon Nancarrow Collection", Paul Sacher Foundation.

By tracing Nancarrow's notational process in the unusual medium of the player piano, a few key observations about the posthuman construction of notation and composition of music have emerged. Firstly, the site of notation is itself dispersed. The player piano studies exist in several notated forms, including the punching score, the roll, and the traditional score. Thinking about notation as 'a visual analogue of musical sound',[44] each of these can feasibly be considered notation, despite their very different roles, functional purposes, and legibility. Not only do these scores use different visual formats and different visual codes, the specific materiality of these is also key to the way they each operate.

Most obviously, the piano roll is a form of notation that directly produces the sounds of the music by material means. Even though information is encoded digitally, the means by which this information is processed is material. When Nancarrow's studies are performed on a player piano, they are typically executed using copies of Nancarrow's original hand-punched rolls. Interestingly, these copies are liable to contain errors precisely because of a material aspect of Nancarrow's musical process: in order to cover up holes punched by mistake, he used clear tape, which still appears as a hole when the rolls are copies using light. And even in cases in which the placement of holes is exactly identical from roll to roll, the precise thickness of the paper affects—subtly—both the overall tempo of the piece and the rate of acceleration as the size of the roll gradually diminishes.

Secondly, Nancarrow's 'punching score' was a necessary component of the compositional process, itself materially dependent on other materials and tools. His ability to compose on the punching score relied on tempo graph strips, a desk that could accommodate such sheets of paper, and various other implements—rulers, mathematical instruments—that he used to calculate and measure the tempo proportions. The

---

[44]'Notation', Grove Music Online (2001).

punching score is usually at least partly legible to the reader, combining temporal elements from the roll and pitch representation on a staff. However, it is not functional as an aid for performance, nor was it intended to be read by anyone other than Nancarrow himself, as these scores were simply written as aids to assist in the eventual roll-punching.

Finally, the traditional scores of the studies are the least materially contingent, even if—as I have speculated—they may have been created specifically for the purposes of material remuneration to ensure copyright. It is also worth noting that, for both analytical and performance purposes, others have transcribed their own scores of the *Studies for Player Piano*.[45] For example, Helena Bugallo's doctoral dissertation proposes a 'hybrid type of notation (combining both traditional and graphic elements) designed specifically for his player-piano music'[46] in the course of her analysis. The necessity of such 'transcriptions' in order to read, think, and play the pieces also speaks to the material dispersal of notation. Notation exists in many forms, and no kind of notation alone is adequate for composer, analyst, or performer. This fact speaks not only to the ontology of notation, but also to the way these notational practices, and the instrument of the player piano, disrupt, disperse, and perforate the subjects of musical composition and performance.

Not only is the actual site of notation dispersed, but it is also reliant on many other tools and machines, all of which had capabilities and constraints. These include the punching machine, the roll paper, the desk, and the pianos. These instruments required Nancarrow to change his behaviour in order to use them, but were also modified by

---

[45]Some notable performance transcriptions of the Studies for Player Piano include Thomas Ades' transcription of the *Study no. 7* for two pianos (www.youtube.com/LPYWNod7OdQ), American experimental ensemble Alarm Will Sound's performances of *Study no. 2A* (arr. Gordon Beeferman), *Study no. 2a* (arr. Gavin Chuck), *Study no. 3A* (arr. Derek Bermel), and *Study no. 6* (arr. Yvar Mikhashoff), and transcriptions of numerous studies by the Bugallo-Williams Duo (Wergo, 2004).

[46]Bugallo (2004), 3.

Nancarrow to suit his needs. For example, Nancarrow tampered with the hammers of his pianos in order to create a specific sonic effect; meanwhile, the distinct registration—specific to his instruments and tampering—affected the way in which he composed, as in the use of three distinct layers in the *Study no. 9*. Likewise, as Nancarrow's music increased in complexity, he modified his punching machine to create more specific and precise temporal subdivisions than the original machine would allow. Equally, the physics of roll diameter made the process of synchronizing two pianos too complicated, and affected his decision to compose his *Study no. 44* as an aleatoric, rather than a strict, canon.

Finally, Nancarrow's notational process exposes the number of people and complexity of social relationships involved in creating and 'reading' Nancarrow's notation. Practically, the punched roll is made possible by the punching machine which was fabricated and repaired by other (unnamed) agents, and which offers certain specific affordances. The notation is 'read' and 'performed' only by a non-human, the player piano itself—though this non-human performer, too, interacts with other human and non-human agents to make the performance possible. Nancarrow's original instruments were (and are) prone to breaking and were repaired by technicians (and Nancarrow himself). They went easily and quickly out of tune. Nancarrow himself added extensions and alterations to the hammers. Furthermore, the initial medium of transmission of the player piano studies was not in intimate, live performance, but by tapes, involving still more materials and humans, and further social networks of interaction. Take, for example, the major recording project of Nancarrow's music undertaken in 1977 by 1750 Arch records in California, which involved significant input and collaboration from producer Charles Amirkhanian and the visiting recording engineers who came to Mexico City, as well as the equipment that they used to record in the specific acoustics of Nancarrow's studio.

Understanding the material conditions under which Nancarrow's *Studies for Player Piano* were composed is necessary for a fuller picture of the pieces. The fact that

Nancarrow was writing for a mechanical instrument means that in order to talk about their composition and notation, the normal categories we use to talk about music are disrupted. Given the lack of a human performer, for example, it is unclear which form of notation—if any—is most relevant. Nancarrow's unusual process highlights the specific material constraints and other human and non-human collaborators involved in the process of composition. Recognising these pieces as material is also necessary for understanding what they mean in performance, and in what ways they use the genre of the étude to extend and alter the limits of the human body.

Nancarrow in Performance

The material, social, and fragile features of Nancarrow's music translate beyond notation into the performance and listening experience of these works. Nancarrow himself might have been suspicious of any suggestion that his music was predicated on liveness. He expressed a comedic disdain for his friends and colleagues for whom the experience of music centred on live performance:

> Once I had a discussion with Copland. He was discussing this thing of electronic, or mechanical, music. And he said, 'You know I go to a concert, and to me it's so exciting - -' 'No,' he said, 'I don't want the first horn to miss the note, but the fact that he MIGHT miss it - - the tension of MIGHT MISS IT is . . .' (Laughing) No, but I told him I'd rather have a good recording where he hit the note! 'No,' he said, 'that's very boring because you <u>know</u> he's going to hit it.'[47]

And yet, whether he liked it or not, Nancarrow himself was aware that his instruments were just as troublesome as performers, only in different ways. When corresponding with Charles Amirkhanian, who produced the recording of his studies on 1750 Arch Records, Nancarrow warned Amirkhanian repeatedly about the possible breakdowns of his

---

[47]Interview with Charles Amirkhanian, in *Conlon Nancarrow: Selected Studies for Player Piano* (1977), 15.

instruments during their recording process:

> Maybe I did not make it clear what happens when a string breaks on one of these
> pianos (which happens fairly often). On a normal piano to put a new string is fairly
> simple. With these pianos it is a major operation because one has to take the whole
> player mechanism apart just to get at the strings…. Apart from the fact that the more
> time the pianos are used the more likely that a string will break, after an hour or so of
> playing they begin to go out of tune.[48]

Although these failures could be managed in recording, with patience and repeated takes, they made the possibility of truly live performance on Nancarrow's own instruments almost impossible.

Nancarrow's response to this possibility of failure was—at least at first—to actively prevent live performances of his works. For several years in the early 1980s, the head of programming at the Westdeustcher Rundfunk, Wolfgang Becker, actively courted Nancarrow, proposing to transport his instruments and offer him a studio space in Germany, a proposal that Nancarrow flatly and repeatedly refused: 'The idea of a live performance of my things is simply too complicated to even consider. For one thing, it took me about a year to get these pieces fixed to sound the way I want them. Unfortunately my music is for either radio or private listening to records.'[49] However, this aversion to liveness and the possibility of failure does not imply that the materiality of his music and horizon of breakdown was not a crucial part of Nancarrow's compositional practice or experience of his own music. Instead, the situation is the complete reverse. Nancarrow's own experience of his music was so inherently tied to the very specific conditions under which he himself was able to hear it—the very materiality of his own

---

[48]Letter from Conlon Nancarrow to Charles Amirkhanian, January 26 1977."Conlon Nancarrow Collection",
    Paul Sacher Foundation.

[49]Letter from Conlon Nancarrow to Wolfgang Becker, December 3 1980. "Conlon Nancarrow Collection",
    Paul Sacher Foundation.

instruments and acoustic—that he deemed that materiality essential to the listening experience, even if mediated by recording technology. Furthermore, the limitations of his tools and instruments both constrained the ideas that he generated and put into practice, while also inspiring him to imagine how they might be surpassed. Nancarrow's pieces were thus composed as collaborations between both machines and humans , including those who copied the initial machine, adapted the new one in Mexico, helped to repair and adjust and re-tune his pianos, and presumably many more. The result was a dynamic push-and-pull between possibility and potentiality, breakdown and repair.

Despite Nancarrow's aversion to performance, his studies have been and are performed, albeit in a range of mediums and in ways that challenges standard notions of musical performance. The first commercial recording of the studies was released in 1969. When featured in concerts, the player pianos were often performed on tapes (such as at concerts in Los Angeles in 1984). Until 1989, only one performance had been given on a player piano itself: in 1962 at the Palacio de Bellas Artes in Mexico City. Crucially, what changed in 1989 was the introduction of new human and machine agents. The German mechanic Jurg Borchardt, protégé of Jurgen Hocker (a composer and Nancarrow fan) visited Mexico to restore Nancarrow's instruments (by this point in disrepair) to their original condition. Around the same time, German musician/engineer Trimpin arrived and developed a machine to transcribe Nancarrow's piano rolls to MIDI-compatible digitized information, preserving them in yet another informational form. More performances then became possible, both in the original perforated mechanism and in novel digital arrangement.

All of this resistant materiality—the innate fallibility of human bodies and musical instruments—is encountered in any performance of the Studies. Now, they are most frequently encountered in 'performance' on YouTube, in videos recorded by Jürgen

Hocker on a restored Ampico Bösendorfer (without Nancarrow's modifications)[50], and can still be listened to on records, including the original 1750 Arch Records recording from 1977, and the later Wergo record released in 1991, both recorded in the composer's studio. Rarely, player pianos can be watched performing the Studies live, whether in private in the archives at the Paul Sacher Foundation in Basel, where Nancarrow's own pianos are kept, or in rare public occasions, such as a 2012 event at the Southbank Centre in which a Marshall and Wendell Ampico piano was used to perform most of the Studies from copies of the rolls.[51] To watch the roll spin or listen to the fragile-sounding notes is to be aware of its precarity; the thin strip of paper reminds us of the fragile material format in which information is preserved. And when performed using more durable and objective mechanisms—such as on MIDI-generated recordings— something is undoubtedly lost. If the Studies seem to speed up as they go along, this is not only (though of course occasionally) a feature of rising tempos: as the roll spins, its diameter decreases, and so the tempo becomes subtly faster over the course of any piece.

As a listener to the Nancarrow Studies, what is most striking and surprising to me is the way they insert themselves into my body. As a pianist myself, I had always imagined that the way my body responded to piano music was a matter of empathy with the specific performer on stage. In the case of the Nancarrow Studies, of course, there is no performer to watch. However, as I listen to the Studies, it is almost impossible not to tap a foot along to the 'beat'—even though its pace might change 10 times in the course of a single study. I feel my fingers activate alongside jazzy melodies and walking bass lines. With whose fingers are my own empathising? No fingers made the piece, at least not in the way that mine are imagining: though of course several mechanic and builders' fingers built the mechanisms that make it run, and Nancarrow's own fingers grasped the tools

[50]www.youtube.com/user/playerpianoJH/ [accessed July 2 2019]

[51]Murcott (2014), 33.

174

that punched the holes that let in the air that cause the keys to strike. I imagine, though, an imaginary pianist's body playing these notes, even if a real human pianist would not be able to play at such speeds, or with such precision and complexity. My body allows itself to be taken in by, and empathise with, a kind of spectre: a phantom body, whose digits and limbs have been created by the sound itself.

According to Peter Szendy, such creation is not unique to the mechanism of the player piano or the compositions of Nancarrow. Indeed, Szendy explores the way that the musical instrument of the piano, in particular, destabilises the imagined sense that one 'has' or 'owns' a body, due to the way that body is reconfigured in the relationship with the keyboard.[52] His most striking example of this is perhaps his assessment of the practice of articulating repeated notes, in which fingers alternate to strike the same note at the keyboard. As each finger takes the next one's place, in Szendy's telling, the keyboard creates a new finger—a phantom composed of the actions of the individual fingers being struck in alternation—engages in repetition.

In Nancarrow, this phenomenon is all the more present because of features of the music itself. Despite being composed using a technique that permits the keyboard to do things that would be 'impossible' for a human body, Nancarrow exploits such possibilities in very distinctive ways. In particular, his studies generally give the impression of having been executed by a human—both because of the uncanny presence of a physical piano with depressed keys, and also because of the content of the melodies. For example, a common way in which Nancarrow extends the human and explores the machine's impossibility and virtuosity is by layering more and more melodies on top of each other, at tempo relationships that are beyond human computation, and would take three, four, or five hands to execute. Each individual melody, however, seems relatively straightforward; it is the combination that exceeds human capabilities.

---

[52]Szendy (2005), 5.

This is especially true in the early studies. Take, for example, the *Study No. 7*.[53] Though it begins at a fast pace, it opens quite simply: with a running bass line in the middle register of the piano (see Figure 11.2). A melody soon enters (I stop myself from writing 'in the right hand') in a higher register, based on triplet quavers, with added triplet semi-quavers. The pacing of both melodies lends them to being thought of under the hand. The running bass line follows a simple pattern that is easily and comfortable played at the piano. Likewise, the second melody is structured in short sets of quick gestures, each of which fit neatly within the fifth (Figure 11.2 demonstrates both lines, along with my proposed fingering for a human pianist). Even as the Study becomes more complicated, adding more and more lines with different relationships to the original, the individual lines themselves remain perfectly reasonable to perform. The next entrance, for example, is a pattern of ascending and descending major triads.

Figure 11.2. First two melodies in the Study no. 7, re-notated and with fingering.

[53]Nancarrow, 'Studies for Player Piano' (Arch Records: 1977), https://youtu.be/TDs-gh3Bt1Y [accessed 2 July 2019]

The piece continues in this manner: aside from the extremely fast (and rising) tempo, the individual lines themselves are fairly easy to comprehend, to process, and to imagine at hand. This is especially true later in the piece when different 'lines' engage with each other imitatively. The repetition of the same rhythmic and melodic figures at different registers and pitches makes them more easily comprehensible, even when this is in stark contrast to the sheer excess of the number of simultaneous lines that have emerged.

The Study is particularly seductive not necessarily because of how excessive and complicated it is, but rather because of how often it tethers us. Structurally, it is punctuated by frequent moments of rest that help us gain our bearings. By clearly articulating the melodies as they come in, they become easy to identify in the canons that will follow. Even during the most dense moments of canon, little snippets of familiarity continually emerge from the texture and then disappear, giving a semblance of comprehension that is all the more tantalizing and powerful for having eluded us seconds before. The virtuosic ending—a rapidly descending and then ascending scale that concludes solidly on E major—feels almost like a joke (see Figure 11.3). It is lightning fast, and yet also so 'normal'—so close to reality—that one has the strong impression that perhaps the earlier superfluities were simply figments of the imagination. It is very much like seeing a ghost, and then doubting one's senses.
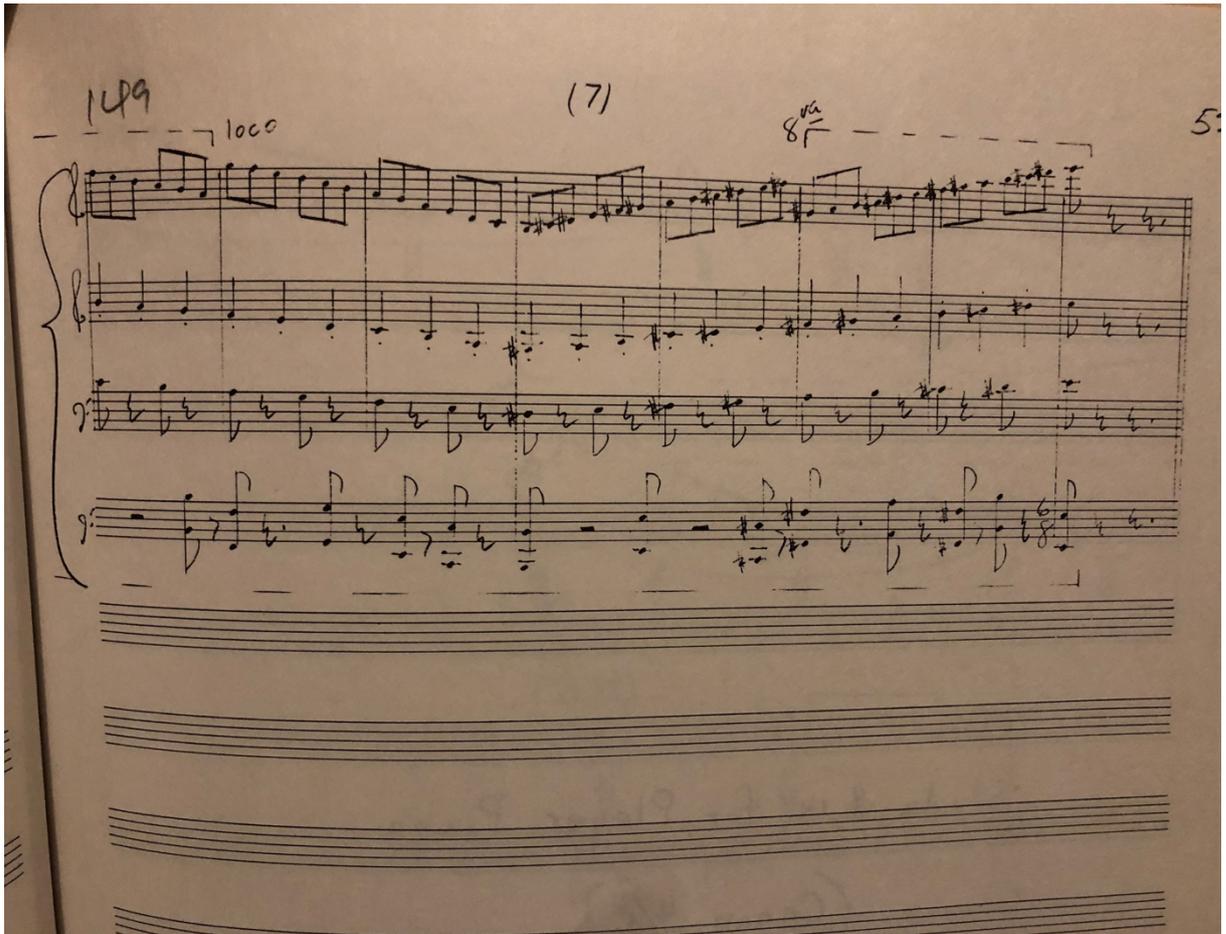
Figure 11.3. Final bars of Study no. 7 in Nancarrow's transcription. Nancarrow (1984), 79.

The presence of phantoms—of active agents other than living, breathing human beings—is also explored by Piekut and Stanyek in their study of 'deadness', a phenomenon that they see as arising specifically from recording technology. As they write, 'being recorded means being enrolled in futures (and past) that one cannot wholly predict nor control'.[54] The player piano, of course, is also a recording technology, and when it was most popular, it was seen as a means for precisely this: the active presence of past, or dead, performers. One Pianola advertisement, for example, claimed that by owning a player piano, 'the performance of a master becomes the possession of the centuries'.[55] The capacity for 'deadness' here extends beyond simply the active

[54]Piekut and Stanyek (2010), 18.

[55]Ord-Hume (1984), 272 .

engagement of actors who might be dead human beings. As they write, 'moving beyond human exceptionalism by framing agency as effectivity allows us to rebuild the idea of personhood to encompass far more than a simple body or a hunk of flesh, as if personhood could be limited to the boundaries of the epidermal wall. In our framing personhood is not equivalent to a lone body, but is distributed among and articlated with other entities that are textual, technological, juridical, and affective'.[56] In the Nancarrow studies, we might understand deadness also as a liveness that constructs itself through absence—of the performer, composer, and labour—and through the seeming stasis of the crucial performing body: the dead material of the player piano itself.

Piekut and Stanyek's term 'corpauralities' is helpful in its capacity to signal relationships between sounds and bodies that may not be linear. Throughout their past and ongoing history of composition and performance, many bodies have interacted with the materials and sounds. There is also a crucial back and forth. For Nancarrow, the way in which he composed the études themselves was often a process of collaboration with the instrument. As he describes in a 1975 interview with Roger Reynolds: 'everytime I do something and hear it, it has an effect on the next thing I do'.[57] Indeed, the sound of the instrument itself would give him ideas for composition—which, when he could not execute them easily, would require enlisting another body to shift and alter the mechanisms of the instrument that he had available—and then would allow the instrument to produce yet new sounds, in a continuous back-and-forth relationship.

The Studies treat bodies and machines as part of a continuum of personhood and action, rather than as separate entities, and thus remind us that agency is not only limited to our bones and muscles, but extends far beyond. This is in part because of the way that they continually reference the body, even in their presentation as technological and

---

[56]Piekut and Stanyek (2010), 18.

[57]Reynolds (1975), 2.

informational. This reference occurs in the physical labour of their process of composition and the gestural content of their music, reminding us that the body is never far away. Instead of alienating and disembodying the many actors involved in their process, we might imagine these bodies as coterminous: all of these bodies are simultaneously and collectively involved in the sound-making, just as the sound makes its own imaginary bodies.

My own experience 'playing' the Study no. 12 (Flamenco) on one of Nancarrow's original pianos, housed at the Paul Sacher Stiftung, was electric, touching, and very much embodied. The immediate whirring of the bellows and whirls of the mechanism as the machine is turned on gives the pianos a lifelike impression of inflating lungs and a pulsing heartbeat. It was also exciting because—like bodies—instruments, tools, and scores do contain the possibility of failure. The roll itself (a copy of the original) was slightly ripped at the base, and had to be carefully mounted to avoid breaking. More likely than not, it contains errors. Because of Nancarrow's habit of using scotch tape to cover erroneous holes, copying procedures based on light are prone to include holes punched by mistake. The study was chosen because it is among the shorter in length, to avoid wearing the instrument out. Our first attempt to play the piece, on the piano modified with metal over wooden hammers—failed almost completely. While the melody came out clearly, the upper register of the piano was not sounding adequately, rendering the rolled chord effect non-existent. (So much for the 'good behaviour on the part of musical instruments' that Cage's Satie describes). It was necessary to switch to the other piano—with leather hammers—which delivered a seductive and charming performance.

In proximity to the instruments, I could almost feel my own fingers moving, as the content of the study conjures and suggests bodies. It is telling how clearly, for example, the melody is identified as coming from the 'left hand', based on cues from its register, timbre, and shape, and on its relationship to the surrounding interruptions, although they come from both above and below. It is not just my fingers that moved along with this

study, though. As the 'flamenco' subtitle suggests, the piece engages the whole body with its dance-like rhythms. It seems all the more unusual with the knowledge that the performer is a machine, playing with human-like abandon.

As Kyle Gann describes in his biography of Nancarrow, a subtle and intuitive understanding of rhythm and even indeed of human psychology on Nancarrow's part allowed him to create rhythms that—in their extremely precise irregularity—feel deeply human in a way that absolute rhythmic regularity does not. It is often strange to listen to transcriptions of these studies for human performers, who ironically sound stilted in their attempts to perform complex rhythms accurately. For this reason, Nancarrow's music translates poorly to traditional staff notation, and in his notated score for this piece—as in many others, and all of Nancarrow's later studies—the score eschews traditional bar lines in favour of an open score in which the horizontal placement of the notes corresponds to the rhythm, as it would on the roll itself.

In this intimate live connection, a sympathetic relationship is created between the body of the listener and the sound, the instrument, and indeed the composer, whose own body was actively involved in the creation of the means of producing the sound. Our toes are made to tap and heads are made to beat and hands are made to twitch in sympathetic stride; we experience the pieces with an undoubtedly pervasive feeling of physicality. And so, in this respect, Nancarrow's player piano extends all of our bodies, reaching them beyond their physical limits to include an entire network of human and nonhuman collaborators. Just as Cage's and Ligeti's studies push bodies to their limits and beyond, so, too, do Nancarrow's, recognising that those limits might be extended to the technological realm.

Conclusion

A posthuman orientation to the world, as Hayles reminds us, is one in which the limitations of the body are arbitrary and new things are possible. 'Interpreted through

metaphors resonant with cultural meanings, the body itself is a congealed metaphor, a physical structure whose constraints and possibilities have been formed by an evolutionary history that intelligent machines do not share'.[58] In this light, a newly configured social organisation in which man and machine interact reframes the impossible beyond the limits of human skin. Nancarrow's *Studies for Player* piano use the struggle of the human body—even though he does not put bodies on stage—to explore and complicate its limits and capabilities.

To return to Cage's story about Satie and the walking player pianos, the anthropomorphism of the pianos suggests the social and ephemeral nature of experiencing these instruments up close. The assessment of their behaviour—and implicit comparison with other instruments less well-behaved—conjures the way that all musical instruments and materials have the capacity both to obey and to defy our wishes. Indeed, the agency and (to quote Piekut and Stanyek) 'effectivity' that Cage gives the pianos in this telling reminds us that as much as we see instruments as behaving according to our requests and desires, they are in charge of their own affordances, and human bodies merely work with or against what is offered, and allow ourselves to be 'touched'. Hayles tells us that 'a critical practice that ignores materiality, or that reduces it to a narrow range of engagements, cuts itself off from the exuberant possibilities of all the unpredictable things that happen when we as embodied creatures interact with the rich physicality of the world'.[59] It is these very exuberant possibilities that Cage captures in his poem; and it is the exuberant (im)possibilities of the body that Nancarrow so powerfully and poetically explores and extends in his radical posthuman études.

---

[58]Hayles (1999), 284.

[59]Hayles (2002), 107.

Étude 12: Technologies of the Impossible—Nicole Lizée's *Hitchcock Études*

> Electronic music doesn't take the body away. It gives us a new body.[1]

The Canadian composer Nicole Lizée's three sets of piano études—*Lynch Études* (2016), *Kubrick Études* (2013), and *Hitchcock Études* (2010)—push the genre beyond the boundaries of the human body by supplementing the live human pianist with an electronic soundtrack and a video projection. As their titles suggest, cinema is an important component of these works; they consist of sets of études in which sonic and visual material is taken from films by the named directors.

The *Hitchcock Études*, which will be the focus of this chapter, are a set of seven short études, designed to be performed in sequence. The score includes a video and an audio file that play simultaneously with the live pianist.[2] On the video, short film clips from a specific Hitchcock films are altered, looped, and distorted. Each étude focuses on a different scene or motive from *Psycho*, *The Man Who Knew Too Much*, *Rope*, or *The Birds*, as indicated by the étude titles (below in Figure 12.1). The audio file similarly contains an electronic soundtrack that mixes distorted audio from the original film scene with newly composed electronic sounds. The pianist plays alongside the film and electronic

---

[1]Noe (2012), 60.

[2]Morano notes in his dissertation that these can come in the form of a CD and a DVD. However, the score of the *Hitchcock Études* that I purchased was actually accompanied with an mp4 video file and an mp3 audio file. Morano (2016), 33.

soundtrack, synchronised by wearing headphones with a clicktrack.[3] For practical

purposes, the score itself includes not only the piano part, but also another line loosely

notating the electronic soundtrack and occasional verbal descriptions to assist the live

pianist.

1   '*Psycho* — Saul Bass Étude'

2   '*The Man Who Knew Too Much* — Doris Day Étude'

3   '*Psycho* — Stutter Étude'

4   '*Rope* — The Party Étude'

5   '*The Birds* — Schoolhouse Étude'

6   '*The Man Who Knew Too Much* — Phonograph Étude'

7   '*Psycho* — Shower Étude'

Figure 12.1. Titles of Lizée's Hitchcock Études.

According to Lizée, her goal in composing these études was 'to stretch and reimagine the

scope of what an étude could imply'.[4] Stretching beyond not only the body, but also

beyond the étude itself, Lizée thus uses the étude to pose questions about the body and

technology. Are these études for piano or for electronics, for example: or both? Who is

being trained, and how? The *Hitchcock Études* are not only Lizée's first set of études, but

also her first pieces to incorporate live instruments, electronics, and video, a combination

that now forms the bulk of her compositional output. Given the role of the étude in

training not only performers but also composers, using her very first set of études as a

---

[3]A video of pianist Megumi Masaki performing the *Hitchcock Études* can be found online at

https://vimeo.com/80063226 [accessed 1 July 2019] as well as on the commercial CD/DVD

Bookburners (2014).

[4]Lizée (2019), email correspondence with author.

study seems especially appropriate. The questions and problems being posed are in their most basic state, in keeping with the genre itself.

One of the most striking aspects of these études is how immersive they are, for both performer and listener. The sonic boundaries between live and recorded sounds—human and machine sounds—are unclear, and Lizée uses sonic effects that consistently emphasise interaction between electronic sounds and the bodies of both performer and listener. The interaction between live and recorded sound is especially pertinent because of fact that several études refer specifically to scenes in which music appears in the film. Thus, the music also blurs the line between sounds that seem to be occurring within the world of the film and sounds that occur outside of it.

For example, the material in the second étude, '*The Man Who Knew Too Much—Doris Day Étude*' is taken from a scene in which actress Doris Day sings the now-famous tune 'Che Sera, Sera (Whatever Will Be, Will Be)'. Rather than retaining the original audio from the film, in which Day sang with orchestral accompaniment (although she appeared to be playing piano), Lizée crafts a new melody by jumping between different pitches in Day's original song. Day appears seated at the piano, her head uncannily changing positions as her vocal pitch changes. Day's new melody is accompanied by a piano part performed by the live pianist. Day's hands are not visible in the scene, and so the sound produced by the live pianist seems to be filling the role of the piano on screen. To further the confusion between real and fiction, Lizée inserts herself into the visuals, sitting at the piano next to Doris Day.

Figure 12.2. Lizée at the piano with Doris Day. Hitchcock Études (Video), 00:05:48

Likewise, the fourth étude ('*Rope*—The Party Étude') also features a living room

scene at the piano. Lizée's edit incorporates three separate moments from *Rope* (1948),

one of Hitchcock's most experimental films. The first features Mrs. Atwater (played by

Constance Collier) asking Phillip (played by Farley Granger) to play the piano, to which he

obliges with a performance of Poulenc's surreal and ironic 'Mouvement Perpetuel no. 1'

(1918). In the second clip, Phillip is looking at his hands in horror after Mrs. Atwater has

told him that his hands will make him famous. In the final clip, Rupert (played by James

Stewart) stands over Phillip at the piano with a metronome ticking while Phillip plays. In

the opening of the étude, we first hear the original soundtrack of Phillip playing the piece

on the piano, although the soundtrack has been slightly altered to sound distant and

distorted.[5] When the live pianist joins for a few phrases, it is hard to tell whether the

piano sounds are coming from the speakers or from the live instrument.

Later in the étude, Lizée further expands the texture by adding a drum beat to the

---

[5]Lizée's score describes the track for the pianist as 'Warped piano'. Lizée (2010), 23.

electronic soundtrack in bar 259.[6] The beat is unambiguously dance-like, and conjures for the listener the sense of a different, more energetic party than the one pictured on screen. This is a striking example of the capacity for electronic sounds to affect listening bodies, making the listener want to dance. The desire to dance is echoed on screen, as Lizée edits an image of Phillip staring at his hands to appear as if Phillip is moving his body back and forth. The dance-like environment is at once in the listener's body and the body on screen, and yet it is also in neither place, but rather simply in a disembodied electronic drumbeat.

In the fifth étude, '*The Birds*—Schoolhouse Étude' the musical material is vocal. In the scene, a group of schoolchildren are singing the children's song 'Risseldy, Rosseldy' (which Lizée spells as 'ris-tle-tee, ros-tle-tee'), conducted by their teacher Anne Hayworth (played by Suzanne Pleshette).

---

[6]This moment occurs at 10:11 in the video track.

Figure 12.3. 'Risseldy-Rosseldy' in 'The Birds—Schoolhouse Étude'.[7]

When the classroom has completed a verse, arriving at the repeated 'now, now, now',

Lizée begins to loop these last three notes of their singing, to create a trance-like, rocking

ostinato, to which the piano adds harmonising chords. Although the piano sounds are

consonant, unlike in the previous two études discussed, they feel as if they come from a

different world than the classroom scene on screen. Lizée emphasises this juxtaposition

in the next scene of the étude, in which very similar music is used to accompany the next

scene of the film: in which the children run away from the school while birds swoop past

---

[7]Lizée (2010), 29-30.

attacking them.[8] The sound of the children singing 'now, now, now' makes this scene feel almost more harrowing than in the original moment from *The Birds* (1963), in which the only sounds are screeching birds and screaming children. It is a moment in which Lizée uses musical material from the film to create a sense of disjunction—it is obvious that this music is designed as soundtrack, rather than a reflection of the action in the film.

In étude three, '*Psycho*—Stutter Étude', Lizée does not choose a musical moment in the film. Instead, Lizée treats the spoken *stutter* of character Norman Bates (played by Anthony Perkins) as if it were 'musical material'.[9] The piece opens with an introduction (which Lizée calls a 'stutter collage'[10]) using electronics and video alone, in which several brief stutters are heard and visually emulated by frequent cuts between disconnected scenes, and faltering moments in which the screen temporarily goes black. After this, the piano enters alongside the main visual film material for the piece: the famous parlour scene from the beginning of *Psycho* (1960). In the featured scene, Bates first tells the character Marion Crane (played by Janet Leigh), 'You-...you eat like a bird', before clarifying: 'I hear the expression "you eat like a bird" is really a fa-fal-fals-falsity, because, w-because... birds really eat a tremendous lot.'[11] In Lizée's adaptation, only excerpts of Bates' phrase are used. As a stuttering version of the original stutter, these are looped consistently throughout the étude, serving as—in Christopher Morano's words—a 'visual and audio ostinato'.[12] The pianist begins by playing synchronously with the sounds from the film, but as the piece progresses, the pianist's figures become longer and more dense, eventually exceeding the rhythmic patterns of the stuttering phrase. The piece ends with the voice becoming so distorted that it is no longer understood as words, taking over

---

[8] 13:58-15:43 in the film.

[9] Lizée cited in Morano (2016), 32.

[10] Lizée (2010), 1.

[11] *Psycho* (1960). 00:35:29-00:35:49

[12] Morano (2016), 36.

from the piano as an electronic texture.

All of these études mix sonic and musical material, blurring the boundaries between what happens on stage, on screen, and on the soundtrack. In the process, they confuse distinctions between the two traditional kinds of sound in cinematic and theatrical analysis: diegetic and extradiegetic sound.[13] Sounds that begin as representations of what is happening sonically in the narrative become the backdrop for glitching visuals, just as sounds that have been added by Lizée become incorporated into the visual world. The sounds in these études also operate on the boundary of what Pierre Schaeffer called 'acousmatic' sound: sound that is audible but whose source is invisible.[14] Both the performed and recorded sounds in the *Hitchcock Études* transcend distinctions between acousmatic and non-acousmatic. For example, the piano sounds in both the 'Doris Day Étude' and 'The Party Étude' seem to have multiple sources: the piano on screen, the piano on stage, and the 'invisible' speaker.

Although these two distinctions—diegetic and acousmatic—refer to sonic and musical properties, they are both properties that refer to the relationship between sound and the visual images on screen. In order to be defined and understood, these sonic properties require a visual referent. Similarly, the relationship constructed between the technological sounds and performing bodies—and the way in which the études construct and expand the limits of the body—is reliant on the property of sight. The études are for video as much as they are for live performer, and they are intended for viewing as much as listening.

The idea that visual display might be an important part of virtuosic performance in the concert étude is not necessarily novel. The visual as a phenomenon of virtuosic display extends back to the 19th century. As Dana Gooley writes, 'the experience of Liszt

---

[13]In film theory, diegesis refers to anything that happens—especially sonically—within 'the spatio-temporal world depicted in the film'. *Oxford Reference* (2019).

[14]Schaeffer (1966).

in performance was as much about watching as about listening'.[15] However, in Lizee's piece, the importance of the visual is made more complicated by the medium of film and cinematic allusion. In particular, the use of film—and references to Hitchcock in particular—create an implicit association with narrative.

Given the role that narrative plays in viewing Lizée's altered films, I suggest Katherine Hayles' model of literary hypertexts and technotexts as a tool that helps to elucidate the experience of listening to Lizée's *Hitchcock Études*. Hayles defines a 'hypertext' as having three necessary components: 'multiple reading paths; text that is chunked in some way; and some kind of linking mechanism that connects the chunks together so as to create the multiple reading paths.'[16] In the context of cinema, scholarship on the hypertext has tended to focus on film media that have prompted extra-cinematic online discussion, or film media in choose-your-own-adventure formats. However, hypertextual analysis might also offer useful insight into performance, especially because—in comparison to analogue text—performance already incorporates many hypertextual features.

In the *Hitchcock Études*, there are several ways in which the performance of this piece fulfils these three hypertextual criteria. For example, when Hayles refers to 'chunked' text, she specifically means sections of text that are 'separated typographically from one another'.[17] Although the performance does not consist of written text or typography, the material of the piece is clearly chunked, especially insofar as it is presented in different media. Though through-composed, the piece consists of 'chunks' of seven separate études each using different scenes from several different films. Equally, it contains disparate chunks of musical material played by the live pianist, sonic material on the soundtrack, and visual material on screen. The chunks are connected—as Hayles

[15]Gooley (2004), 11.

[16]Hayles (2002), 21.

[17]Hayles (2002), 26.

requires of the hypertext—by a linking mechanism. In the case of these études, the linking

mechanism that connects these distinct groups of material is their presentation in time.

Unlike a book, performance defines the temporality at which it is experienced; thus, the

different chunks are automatically linked together by virtue of being perceived

simultaneously or sequentially.

Finally, the piece permits 'multiple reading paths' because of the many ways of

understanding the material live. In the conventional literary hypertext, these reading

paths often take the form of making active choices about which passages or websites to

engage with next, in the form of a 'choose your own adventure' story. The listeners'

engagement with live musical performance is obviously different, as it is chronologically

structured and ordered. However, the experience nonetheless passes back and forth

between different modes of engagement. The simultaneous presence of multiple media

means the listener makes conscious and unconscious choices at all points and is forced to

move not only between different narratives, but also between different approaches to

narrative—or, more accurately, between seeming narrative and a lack thereof. When the

same scene becomes looped over and over, the effect is no longer narrative but instead

conjures some other relationship to visual material. The viewer's attention is always split

between the different media, passing between sound, video, and simultaneous

apprehension. Lizée's use of looped visual and sonic phrases creates a multiplicity in the

act of reading and watching: each time the same scene is pictured, it is viewed

differently.

In her book *Writing Machines*, Hayles also develops a notion of the 'technotext',

another useful device for understanding what is at stake in the *Hitchcock Études*. The

term technotext, for Hayles, refers to literature that deliberately foregrounds its own

materiality and is inherently dependent on a specific medium. The *Hitchcock Études* does

this most strikingly in the use of scenes that feature a piano on screen, emphasising the

relationship between the reference to the piano in the cinematic 'text' and the material

piano performing the music.

Understanding Lizee's *Hitchcock Études* as hypertexts and technotexts provides a useful way of thinking about how they are performed, heard, and viewed. Hypertextual analysis recognises the importance of narrative to a listener/viewer's perception of the études, as well as to Lizee's composition. In her composition, the listener's visual understanding of the characters is punctured by the characteristic features of the hypertext, and in particular, its 'ruptures, juxtapositions, and implied links'.[18] The combination of film and live pianist in performance, and the way in which these worlds intertwine, also creates juxtapositions and implied links between the screen characters, the human pianist, and the venue of the performance.

In particular, the listener-viewer's experience is subverted and altered through the hypertext's characteristic 'ruptures' and through the cinematic device of the cut. From the 1960s onward, film theorists have attended to the ways in which the juxtaposition of shots is more than a device to efficiently communicate narrative in a visual medium, but also the mechanism through which viewers are constructed as observing subjects. In narrative cinema, 'films are articulated and the viewing subject spoken by means of interlocking shots'.[19] As Kaja Silverman describes, it is through these relationships between different shots that the spectator becomes a subject of film.

> A prime agency of disclosure is the cut, which divides one shot from the next. The cut guarantees that both the preceding and the subsequent shots will function as structuring absences to the present shot. These absences make possible a signifying ensemble, convert one shot into a signifier of the next one, and the signified of the preceding one. Thus cinematic coherence and plenitude emerge through multiple cuts and negations.[20]

---

[18]Hayles (1999), 251.

[19]Silverman (1983), 201.

[20]Silverman (1983), 222.

Lizée's use of interlocking shots, however, is unconventional, as it relies on repetition, loops, and nonsensical juxtapositions. In Lizée's hands, the use of absurd repetitions and jump cuts between closely related visuals disrupts the construction of subjectivity and undermines the 'cinematic coherence' that is normally created through cut scenes. When the viewer sees two scenes juxtaposed, the first instinct is to read them as continuous and narrative. When the same scene appears again—and again—on screen, it becomes clear that it could not be continuous. As such, the viewer is not only aware of their distance from the film's narrative, but also becomes conflicted and aware of their discontinuity as a viewing subject.

This technique is especially powerful in '*Rope*—The Party Étude', perhaps because Lizée's characteristic looping and cutting is in such stark juxtaposition with the cinematic style of *Rope* itself. The film is famous and unusual for the opposite quality: extremely long takes that create the illusion that the film is shot from only one perspective. Rather than moving between disconnected scenes to create coherence, in *Rope* the camera is in almost constant motion, 'gliding around the characters at this party like it's an invisible eighth guest.'[21] By constantly switching between the camera's different perspectives— from looking at the pianist, to looking out the window, to looking closely at the pianist's hands, to scanning the whole room—Lizée creates the feeling that the spectator is not a single coherent guest. Instead, the spectator feels as if they contain and perceive multiple viewpoints and temporalities simultaneously. The full weight of these hypertextual implications is contained not only within Lizée's étude, but also in its relationship to the original film; as Lizée writes, she aimed to both 'rely on and to subvert the audience's preexisting knowledge of the material'.[22] It does not necessarily require a viewer or listener to know the original Hitchcock, but this knowledge informs and inflects any interpretation or experience of listening.

---

[21]Crow (2018).

[22]Lizée (2010), i.

The material focus of technotext analysis also lends insight into the experience of the performer. For one, the way in which the music is read by the performer challenges traditional notions of score and text. Although the notes of the score are notated traditionally, a necessary part of performing the piece is listening to a click track. The click track is not only necessary for syncing the audio in the piano with the electronic soundtrack and the video. It is also crucial for executing some of the subtle and precise tempo changes in the piece, which can occur as frequently as every bar (see Figure 12.4). In this example, the pianist must play at a metronome mark of crotchet=88 for two bars, followed by crotchet=84 for one bar, and then returning to crotchet=88 in the next bar. These sudden shifts make the score impossible to perform without the clicktrack, even though it is, of course, fully legible from a traditional notational perspective. This phenomenon is most obvious when listening to the piece alongside the score, as it is extremely difficult to follow along on the page.


Figure 12.4. 'Psycho—The Shower Étude, bars 511-514'.[23]

---

[23]Lizée (2010), 49.

The click track is not simply a convenient aid, then, but a necessary collaborator for the process of score-reading, rendering it legible. For Hayles, 'illegibility is not simply a lack of meaning, then, but a signifier of distributed cognitive processes that construct reading as an active production of a cybernetic circuit and not merely an internal activity of the human mind.'[24] Karen Barad claims similarly that posthuman collaboration always forms part of the act of understanding. She writes that 'intelligibility is not a human-based affair. It is a matter of differential articulations and differential responsiveness/engagement'.[25] The necessity of technological collaboration for even the basic process of score reading speaks to the *Hitchcock Études* as a technotext, reconstructing subjectivity through a posthuman lens. The pianist of the *Hitchcock Études* thus must already be a cyborg, reading through and with the click track.

In keeping with the designation of the piece as an étude, too, the cybernetic circuits created by illegible texts and distributed cognition also cause bodies to change: 'In this broader context, illegible text reminds us of the changes our bodies are undergoing as they are remapped and reinterpreted by intelligent machines working within networks that bind together our flesh with their electronic materiality'.[26] Indeed, for Hayles and other posthuman feminist thinkers, the use of hypertextual strategies is a fundamentally embodied practice. In general, Hayles argues that although posthuman scholarship has sometimes neglected the body, a posthuman approach emerging out of feminist new materialisms might reframe the body as central to the experience of media and to the interaction between human and nonhuman agents.[27] Likewise, in her book *Hypertext and the Female Imaginary*, Jaishree Odin suggest that because of their discontinuity and

---

[24]Hayles (2002), 51.

[25]Barad (2003), 824.

[26]Hayles (2002), 51.

[27]Understanding the 'disembodiment' that has plagued posthuman studies and reembodying the field is the project of her 1999 book,*How We Became Posthuman.*

potential for subversive representation of under-theorised voices, hypertextual media might be used to shed light on 'the embodied status of the human and the situated nature of experience'.[28] Not only does Lizée's writing use technology as an extension of the body, it also sheds light on the nature and constitution of the body itself.

At times, Lizée's emphasis on embodiment is explicit. For example, in the 'Doris Day Étude', the pianist is asked to sing as well as play. Lizée's notated instructions read: 'Vocal style should mimic Doris Day (warm, sensual, sweet vibrato).'[29] The singing is optional, but when executed, it offers a 'warm, sensual' reminder of the body of the pianist. With the singing voice, the pianist becomes more apparent as a breathing body and vocal instrument. As it turns out, Day's own voice in the original film—*The Man Who Knew Too Much*—is also used to call attention to herself; she deliberately sings loudly and recognisably so that her son, who has been kidnapped and is elsewhere in the building, can hear her.

Figure 12.5. 'The Man Who Knew Too Much—Doris Day Étude', bars 71-72.[30]

---

[28]Odin (2010), ix.

[29]Lizée (2010), 71.

[30]Lizée (2010, 71.

The film scenes that Lizée chooses to explore are often moments in which embodiment is made present and palpable for the viewers. In 'The Party Étude', one visual to which Lizée keeps returning is a close-up shot of Phillip's hands. In the original film, Mrs. Atwater has just drawn attention to his hands in order to read his palms, suggesting that they will bring him fame. Lizée omits this scene, choosing to loop instead the moment immediately afterwards, in which Phillip is looking down at his outstretched palms in horror. Although Mrs. Atwater's comment was an innocent remark about his skill as a pianist, Phillip seems to believe it is a sign that he will be caught for the murder he has just committed. Lizée zooms in to focus just on the hands, alternating shots of the hands with shots of Phillip at the piano. Phillip's body is treated as especially meaningful in this moment—Mrs. Atwater's knowledge of the secret comes from her encounter with his *hands*, and Phillip fears that his hands have given him away. The sight of two large hands visible on the screen while piano music is playing also draws attention to the live hands of the pianist as well and therefore to the embodiment of live performance.

*Figure 12.6. Philip's hands in 'Rope—*The Party Étude'. *Hitchcock Études* (Video), 00:10:01

This attention to embodiment within the musical and visual text demonstrates the importance of attending to the body as also relevant to the technological components of the piece. Viewing the piece as a hypertext and technotext—thus emphasising embodied presence and materiality—encourages us to see this interaction between the body and machine as one of entanglement, rather than separation. One way in which we might understand this relationship is by thinking of the various technological components as prosthetics: 'an artificial body part that supplements the body, but a part that carries an operating system different from the body's organic processes'.[31] In this way, Lizée's études operate at the limit of the body by literally extending it using various technological supplements.

For example, one aspect of the piece that might be seen as prosthetic is the click track. The click track effectively offers a metronome as technical support to the pianist, literally attached to their body in the form of headphones. Sonic features might function as prosthetics, too: moments in which electronic and pianistic sounds play in unison create the sonic impression that the live pianist has been extended and enhanced by electronic sound. As Guy Garnett suggests, electronic sound conveys the impression of 'Other' and an 'aesthetics of the machine',[32] and according to Iverson, the differences between acoustic and electronic sound 'reinscribe a binary definition: the acoustic is natural, the electronic is technological'.[33] Thus, their simultaneity in the piece heightens the sense of the technological sound as supplementing the live body. Furthermore, the video screen is a prosthetic that extends the pianist's visual display in both size and capability.[34] Equally, though, the instrument of the piano is already a prosthetic. As Julian

---

[31]Wilson (1995), 243.

[32]Garnett (2001), 21.

[33]Iverson (2015), 158.

[34]Adding to this impression, some pianists have recorded the piece and published it on YouTube so that both

Johnson writes: 'like all tools and machines, the musical instrument is a prosthetic augmentation of the human body, enabling the body to exceed itself (to sound faster, higher, louder than any voice, and to enable the individual to do so often in multiple parts simultaneously)'.[35]

The logic of the prosthetic comes largely from recent work in disability studies. Jennifer Iverson has aptly summarized some of the concerns and dangers of using the prosthetic as a theory or metaphor, focusing on its potential to re-inscribe the binary logic between a body that lacks and a technological prosthesis that mitigates against that perceived lack. However, as she describes in the music of Bjork, the prosthetic also has the potential to powerfully undermine that very same distinction. She writes that electronic music might '[prepare] listeners to move out of the binary between abled and disabled'[36] by questioning the idea of an original, whole body and '[positing] the technologically mediated body as normative'.[37] Instead of understanding the prosthetic as a corrective, it might instead be understood as ubiquitous; as Katherine Hayles writes, 'the body [is] the original prosthesis we all learn to manipulate, so that extending or re-placing the body with other prostheses becomes a continuation of a process that began before we were born'.[38]

How does Lizée's use of the click track—understood now as a 'prosthetic'—reconfigure how we understand the body? It would be easy to suggest, for example, that the click track is a corrective prosthetic that enables a flawed body to accomplish an

the live pianist and the video are visible. Rather than placing the two side-by-side, the technique used is one of transparent overlay, suggesting that both are equally important, entangled, components of performance. See, for example, Andrew Burashko's recording from February 2017 <www.youtube.com/watch?v=T0P0RG1UInw>

[35]Johnson (2015), 142.

[36]Iverson (2016), 155.

[37]Iverson (2016), 160.

[38]Hayles (1999), 3.

otherwise impossible task. In this respect, the click track would be seen as a prosthetic that constructs the body in the way that disability theorists David Mitchell and Sharon Snyder describe: 'A body deemed lacking, unfunctional, or inappropriately functional needs compensation, and prosthesis helps to effect this end'.[39] Without the click track prosthetic, the naked body of the pianist would be insufficient for performing this piece and unable to follow the score. Viewed in this way, the click track prosthetic would not only reinforce the idea of the body as flawed in relation to a particular ideal, but also construct that ideal as contained within the musical score, thus reinforcing notions of the work.

However, I believe Lizée uses the click track in such a way that subverts rather than reinforces these notions. For example, although the clicktrack functions specifically to help the pianist execute an otherwise illegible score, Lizée's composition suggests that the score is not a perfect ideal towards which performance strives. Instead, the score itself is an imperfect representation of sound. This is especially because of the important role that transcription plays in her composition. In the 'Stutter Étude', for example, the material on the score is taken from Lizée's transcription of Norman Bates' speech and stutter in *Psycho*. Both the transcription—which Lizée notates in the score so that the pianist can follow it—and the pianist's figures use precise rhythmic subdivisions of semi-quavers, quintuplets, and sextuplets. In addition to these punctuated notes and utterances in different subdivisions, the metre also changes between 4/4 and 5/4+1/8 (see Figure 12.7). Like many passages in the *Hitchcock Études*, this would be difficult to realise accurately without the aid of the click track. However, the click track does not entirely aid in the realisation of the score itself; if there were no video and electronics, such a track would not be necessary. It is, in fact, the characters on screen to which the score, and performance, aspire, and the notation is derived from these sounds. As Lizée

---

[39]Mitchell and Snyder (2000), 6.

has described, 'transcription...has expanded [her] world and notation language'.[40] This emphasises the fact that the notation emerges as a secondary property from the process and goals of the composition. If the imperfect representation offered by the score is the click track's goal, this undercuts any illusions that the body might be made 'perfect' through a corrective prosthetic.

Figure 12.7. 'Psycho—Stutter Étude', bars 177-182.[41]

Likewise, the characters the pianist imitates are not themselves perfect bodies. This is particularly true in the passage I have just described: the imperfection of Bates' stuttering voice is precisely what makes his rhythmic cadence so complex and difficult to imitate. It

---

[40]Lizée (2019), email with the author.

[41]Lizée (2010), 17.

is this imperfection that results in the complexity of Lizée's transcription in the score, and which necessitates the click track to perform. Again, this allows the prosthetic to operate in a way that does not suggest a flawed body becoming whole. Instead, the corrective click track simply transforms the body from one flawed state to another, recognising the imperfections always present in the material body. The malfunctioning body becomes the norm to which the performer must aspire.

This music also alters the mentality that the click track is a corrective supplement by depicting the body as always technologically mediated. In this light, the use of a prosthetic simply places the click track-equipped body on a continuum between human and machine. For example, Lizée suggests that in her music, technology operates as a collaborator working alongside the human performer, rather than simply a bodily extension. As she writes, 'this process is the ultimate way by which glitch becomes a true chamber music partner'.[42] This understanding offers an interesting perspective on the limits of the body. Treating technological devices as collaborators reflects an understanding of agency in which humans and machines are equal partners.

A striking depiction of the body in relation to technology occurs in '*Rope*—The Party Étude', in which a click track-like device appears on screen: Phillip's metronome. In the original scene from *Rope*, Rupert picks up the metronome and asked Phillip: 'Do you use this?' while turning the metronome on.[43] Lizée begins shortly after this moment, when the metronome is already playing and Phillip, who is being questioned by Rupert, asks: 'What do you suspect?' Lizée incorporates the audible metronome sound into her electronic soundscape. The moment is particularly interesting when reading the piece as a technotext, as it draws attention to the medium and materiality of the live performance: the sounding metronome on-screen mimics the track in the pianist's ear (although it does not click exactly alongside it!). From the perspective of the prosthetic, this moment

---

[42]Lizée, email with the author.

[43]Hitchcock (1948), 00:48:42

references the ubiquity of the metronome as a practice device for pianists and musicians. Especially in technical contexts—in the context of études—the metronome is a constant feature of musical learning. Seeing the pianist on screen with a visible metronome portrays the pianist's body as already technologically mediated by mechanical supports and tools.[44]

Lizée also questions whether the metronome is really a tool to perfect the body. As with Björk, whose music 'never asks us to believe that technological or sensory prostheses will make our becoming bodies whole or well',[45] in Lizée's reworking of this moment, the metronome never seems to be a norm to which Phillips should aspire. For one, the metronome click is slightly offset from the rhythm of the melody that Phillip—and the live pianist—are playing in unison. Furthermore, as Lizée loops the short clip over and over, she slightly varies its length (see Figure 12.8). Each time she restarts the phrase (for example, at the beginning of bar 305), the metronome click sounds early. The prosthetic, then, seems to falter amidst a live human body that stays consistent. This impression is made even more clear when Lizée adds another layer of sound, an irregularly clicking electronic sound that amplifies the sense of technological irregularity (beginning at 00:11:05).

---

[44]Ironically, Rupert dismissively tells Phillip in the film, 'I thought only beginners [use a metronome]'.

[45]Iverson (2016), 170, referencing Erin Manning's concept of the 'becoming body'.

Figure 12.8. 'Rope—The Party Étude, bars 304-309'.[46]

Mark Wigley—who writes about architecture and buildings as a prosthetic—

suggests that when using a prosthetic, 'the body itself becomes artifice'.[47] The artifice of

the body is a common theme throughout the *Hitchcock Études*. The loops and cutting

techniques used by Lizée in the film make the characters seem to move in jarring and

sudden ways. The body of the performer also often seems artificial or strange. The fact

that the listener is often uncertain whether pianistic sound occurs live or on the

soundtrack means that the live pianist's body seem artificial when those expectations are

subverted. The artificiality of the body also becomes apparent when the body seems to

be constructed out of multiple disjunct parts. This aligns with the way that Samuel Wilson

describes the prosthetic, claiming that 'not only is the body extended as a part within a

system of technology, but the body itself comes to be thought of as a system of

---

[46]Lizée (2010), 29.

[47]Wigley (1991), 9.

constituent parts.'[48] This is true from the perspective of the performer, whose

subjectivity is exposed as split. And it is also true from an aesthetic perspective, even

insofar as the pianist's body must simultaneously complete several different tasks that

seem to work together as a system—listening to the click track, listening to the

soundtrack, and ideally watching the video, alongside 'simply' playing the piano.

It is not only the stuttering Bates' body that 'fails' in the *Hitchcock Études*.

Throughout, the sonic and visual aesthetic is pervaded by what Lizée calls 'glitch'. The

term alludes to an 80s and 90s movement in electronic music marked by sounds that

seem to have been created in error, such as vinyl scratches and static.[49] In Lizée's music,

the phenomenon of glitch extends even beyond sound. The video, too, often features

seemingly faulty visuals. This theme is set up by the opening étude, '*Psycho*—The Saul

Bass Étude', which takes its visual material from graphic designer Saul Bass' famous title

sequence for the 1960 film. In the sequence, Bass presents the typography as horizontal

and vertical bars, which are often offset from each other, giving the impression of a

television screen in which the image is composed of horizontal lines that do not line up.

The use of glitch as a pervasive aesthetic principle throughout the piece yet again

emphasises failure itself as a norm and questions the notion of a whole body.

---

[48]Wilson (2017), 145.

[49]In electronic and computer music, the term 'glitch' to refer to a genre of style of music dates to the late

1990s. Early studies of this musical trend can be found in Kim Cascone, 'The Aesthetics of Failure: "Post-

Digital" Tendencies in Contemporary Computer Music' *Computer Music Journal* 24.4 (2000) and Torben

Sangild, 'Glitch—The Beauty of Malfunction', *Bad Music: The Music We Love to Hate*, ed. Christopher

Washburn and Maiken Derno (New York: Routledge, 2004).

Figure 12.9. Psycho (1960), distorted title sequence. *Hitchcock Études* (video), 00:00:38.

Lizée's music also does this in a way that is fundamentally tied to the medium of the cinema. Mary Ann Doane suggests that the traditional relationship between sound and image in the cinema is to construct organic whole bodies. Of early 'talkies', she writes: 'The attributes of this fantasmatic body are first and foremost unity (through the emphasis on a coherence of the senses) and presence-to-itself. The addition of sound to the cinema introduces the possibility of re-presenting a fuller (and organically unified) body, and of confirming the status of speech as an individual property right.'[50] According to this reading, one might think that the addition of live music in Lizée's video and sound pieces further extends the possibility of the full and coherent body, from the perspective of both the film and the performers. However, Lizée's études instead understand technological mediation as normative and the human body as porous. This subverts the assumption that the body is improved or made whole by its electronic appendages, thus also upending the logic that cinematic sound makes the body whole.

---

[50]Doane (1980), 34.

By destabilising the idea of the body as whole, coherent, and capable of perfection, the prosthetic relationships and posthuman entanglements in Lizée's *Hitchcock Études* thus also reflect on the étude as a genre. The idea that the étude—a virtuosic genre—might be situated at the intersection between technology and the body nevertheless has a longer history. As Julian Johnson writes:

> [The] ambivalence of the mechanical and the human, technology and nature, is enshrined in the figure of the piano virtuoso, bringing together a contradictory set of interrelated *topoi*. On the one hand, the virtuoso is a kind of heroic figure who, in the realm of performance technique, extends the boundaries of human endeavour like some aesthetic explorer; on the other, the machine-like precision and speed calls up the spectre of something inhuman, either a supernatural and diabolical force, or else that of the machine.[51]

Johnson writes here about the 19th century virtuoso, yet this legacy carries forward to Lizée's virtuosity études. The performer in Lizée's études *both* extends the body (through new techniques and prosthetic limbs) and *also* becomes herself more machine. These two poles need no longer be in tension as they were previously, however. As Samuel Wilson writes, in the context of the 20th and 21st centuries, '[the] prostheses [of music and instruments] have more recently been instrumental in enabling us to posit and interrogate the body in a historical moment in which its matter is itself in question'.[52] Lizée's études— as bodily extension and mechanical reconfigurations—are thus also questions about the composition of the body and offer a recognition of its status as inherently incomplete and already technological.

Changing notions of the body, especially in its relationship to technology, thus also change the kind of work—or 'study'—that an étude might do. Lizée is explicit that her use of the étude involves experimentation. She writes:

---

[51]Johnson (2015), 143-144.

[52]Wilson (2017), 150.

The idea of the 'étude' extends into other components—the film techniques, dramatic elements, glitch as a performance practice, recontextualization of typically non-musical elements (the use of a stutter as musical material, for example), and even the role of the click track. I wanted the études to encompass as wide of a range of challenges as film does.[53]

Indeed, as études for the performer, they confront novel problems for the body according to an understanding of the body as an amalgam of parts rather than a fixed and stable unit. According to Lizée, 'all performances call for precision but in the case of glitch pieces it embraces the unlikely, the unnatural, the irrational.... It's this kind of precision that creates a new type of virtuosity. The glitch lures the performer to interact and express differently and to add new performance practices to their roster.'[54] This kind of virtuosity is explicitly posthuman in the way that it treats performer and machine as continuous and collaborative. The tension required of the performer is to be precise in a way that attends to the fallibility of technology, or technology's glitch. In this way, it brings the human and machine closer together.

As Lizée suggests, learning these pieces forces the performer to assimilate new sets of skills, which they are then able to incorporate into future practice and performance. This again reflects a tension at the heart of the étude as a genre—that it both reinforces and subverts the concept of the work. Here, as in the 19th century, the étude is evidently composed as a standalone (set) of piece(s) and designed for the concert hall. Going along with the public presentation in concert, it creates the illusion of a coherent sense of meaning, and a guise of authenticity. At the same time, the evident pedagogical ends of the piece lend a slight challenge to the idea of a work as artwork *for its own sake*, as does the gain that a performer might accrue in the service of other pieces.

The same is true of Lizée's understanding of the pieces as 'chamber music',

---

[53]Lizée (2019), email with the author.

[54]Lizée (2019), email with the author.

referring to the click track in particular as an 'irrational ensemble member'[55] in the performance. This speaks to a truly posthuman orientation of distributed creativity and collaboration. It is not simply that she sees the click track, electronic soundtrack, and video as accompanying or playing alongside the pianist; instead, in her words, she 'strived to stretch and reimagine the scope of what an étude could imply that could address different ideas about what [she] thinks chamber music or concert music could be.'[56] The identification of posthuman collaboration as a kind of chamber music is telling, especially as Lizée suggests that 'it is essential for the performer to form a partnership with this new instrument/ensemble member and to accept—even assume—its traits'.[57] Indeed, pianist Christopher Morano has detailed several techniques for learning the piece that involve active partnership between the human pianist and technological apparati, such as slowing down the video/soundtrack/click track for practice at various speeds, and memorizing the soundtrack itself.[58] As performance études, the notion of a 'chamber music' étude is already novel—études are traditionally exclusively for solo instruments. The idea that the étude could specifically train the interaction between a human pianist and an electronic soundtrack furthers the notion that the étude pushes at the limits of the body.

These are not only études for performers, though, and draw on the tradition of études also being exercises or studies of composition. They allow Lizée to develop and explore new compositional techniques, specifically in the realm of film and glitch, and provide examples which other composers might follow. It is notable that Lizée also describes learning during her compositional process. For example, her method of transcription has 'tested and stretched my capacity as a notator and composer. There were moments of pain. But I'm better for it - it brought me to different places and

---

[55]Lizée (2019), email with the author.

[56]Lizée (2019), email with the author.

[57]Lizée (2019), email with the author.

[58]Morano (2016), 43.

opened my brain.'[59] Likewise, Lizée recounts her growth as a film editor, especially in the

composition of the *Hitchcock Études,* her first work for film with live instruments. She

describes: 'when there comes to a point when I don't immediately know how to create

something visually I have to figure out a way.'[60]

These techniques not only stretch Lizée as a composer, but also expand the

boundaries and capabilities of film itself, reinforcing a posthuman approach in which

machines—like humans—can extend, grow, and learn. Lizée mentions in the introduction

to her piece that she was inspired by Douglas Gordon's art installation *24 Hour Psycho,* in

which Hitchcock's *Psycho* (1960) is stretched to take place over an entire day. Her

reading of Gordon's work is that it '[uncovers] the unforeseen 'micro-narratives' lurking in

Hitchcock's film',[61] something she also strives to accomplish. By looping, slowing, and

experimenting with short scenes, Lizée allows viewers of the *Hitchcock Études* to see

these films and characters in new ways. In Lizée's hands, the medium of film gains new

abilities, and becomes capable of commentary, interpretation, and uncovering.

There are other relevant post-human collaborators in the piece, besides the

technological ones already discussed. As I have described, all of the visual material in the

piece is taken from films by Alfred Hitchcock—distorted, re-edited, and looped. These

films—and the scenes that Lizée chooses to explore—are rich in cinematographic and

historic allusions. As Lizée claims, 'these characters have seriously been in my brain for

years: their timbres, inflections and visual expressions.'[62]It is not only in Lizée's brain that

the characters have been percolating, of course, but also in the lens of cinematographic

history, and they are also already in many viewer's and performer's brains when they

view and perform the *Études.* The characters themselves are thus active participants in

---

[59]Lizée (2019), email with author.

[60]Lizee (2019), email with the author.

[61]Lizée (2010), 1.

[62]Lizée (2019), email with the author.

the performance, as 'instruments and ensemble members'.[63] Indeed, even if the pianist

has never seen the films to which the *Hitchcock Études* refer, it is necessary in practising

to become intimate with—as Lizée has—'their timbres, inflections, and visual expressions'.

The act of playing these pieces, which in many cases requires imitating and synchronising

with such idiosyncratic sonic gestures as Norman Bates' stutter and Doris Day's

exaggerated singing—each meticulously transcribed by Lizée—performs a kind of intimacy

with the characters on screen. When the pianist is memorizing the soundtrack, they are

not merely collaborating with a technological device, but also memorizing the intimate

rhythms and patterns of a character's voice: in the case of Norman Bates, a voice that by

its failure is particularly revealing. Alongside the characters, Nicole Lizée, and the pieces'

performers, also collaborate with Alfred Hitchcock, in what Jason Stanyek and Benjamin

Piekut might describe as an *intermundane* interpenetration between living and dead.[64]

   Given the proposition at the heart of this project—that concert études in the 20th

and 21st centuries offer a way to examine and understand the limits of the body—Lizée's

technological étude experiments probe the limits of the body in ways that are distinctly

posthuman. On the most basic level, it is obvious that Lizée uses the étude to extend the

limits of the body by incorporating electronics and video into the live performance.

However, the more interesting way in which the limits of the body are questioned in

these études concerns how these technological entanglements question the nature and

composition of the body itself. The technological implements that function as prosthetics

are used in such a way as to reject the idea that prosthesis might make flawed bodies

whole. Active collaboration between human and technological performers makes the

boundary between the two more flexible, as do Lizée's playful experiments with

subverting hierarchies of imitation between human and machine. These études not only

---

[63]Lizée (2019), email with the author.

[64]see Stanyek and Piekut (2014).

offer a commentary on contemporary doubts about the unity of the body, but also use

the étude—an embodied practice of performance—to enact and construct a 'new body'.[65]

---

[65]Noe (2012), 53.

Étude 13: Case Study—Nicole Lizée's 'Stutter Étude'

Nicole Lizée's *Hitchcock Études* seem to push away from the idea that études are pedagogical works. Rather than being isolated sets of études, they are through-composed and designed exclusively for performance, as they include a full technological setup including video and audio. They are, in the most literal way, a spectacle to behold, visually and sonically. And yet, for the pianist that learns them, there is an undeniable pedagogical benefit. As pianists of mixed-music have noted, the performance of pianistic works incorporating video and electronics involves a learning curve for all performers. Zubin Kanga writes of works in this medium, that 'the skills required to perform these works are unique, and the skill for the composer in establishing a relationship between pianist and screen that is both innovative and effective is similarly new and relatively uncharted'.[1] As such, I suggest that the title of the étude carries with it a suggestion of pedagogy that conjures the idea of learning, and encourages pianists to confront the pieces in a pedagogical way, especially given the relative novelty of the skills involved, and their potential usefulness for the performance of other works for piano, electronics, and video. Taking this impulse seriously, I consider the latent aspects of pedagogy to be found in Nicole Lizée's *Hitchcock Études*. If there is pedagogy in them, what kind of pedagogy is it? For whom is its training—the pianist, the composer, the technology, or none of these?

I return here to the notion of study proposed by Frank Moten and Stefano Harney that I mentioned in Étude 10 on Ligeti's L'*Escalier du diable.* As Moten and Harney describe in *Undercommons*—a manifesto and critical exploration of radical knowledge

---

[1]Kanga (2017).

creation and learning—'study is something we do together… talking and walking around with other people, working, dancing, suffering, some irreducible convergence of all three, held under the name of speculative practice.'[2]

Their notion of study will linger throughout this reflection on pedagogy in numerous ways. In particular, I will take their suggestion that 'study' is 'speculative practice'. First, their assessment of 'study' treats it as both a verb and a noun. They avoid the infinitive—'to study'—instead emphasising that 'study' is a thing: in the case of music, it is quite literally a 'thing', as a piece of music. At the same time, they highlight that study is 'a thing we do': an action verb. Their use of the work 'practice' further calls on the embodied, process-oriented, and active nature of 'study', drawing on the praxis theory of the Frankfurt school, and indeed of critical pedagogy theory. With Paulo Freire, critical pedagogical *praxis* encompasses both 'reflection and action directed at the structures to be transformed'[3], and indeed, at the piano and in the musical study, a necessary component of learning is 'practising', through reflection, action, and repetition. Finally, the kind of practice that Moten and Harney propose is encompassed by 'study' is 'speculative'. I find this notion an inspiring and useful one with respect to the concert étude at the piano. A study asks a question—as each of the Études in my thesis have—but rather than relying on the pursuit of set answers, is a medium of wondering, questioning, and exploring the asking in practice.

Given this orientation, this pedagogical investigation will explore the questions for speculation that Nicole Lizée's *Hitchcock Études* raise. Perhaps the most obvious—about which Lizée has often spoken—is 'the use of a stutter as musical material'.[4] In several obvious ways, Lizée has treated the stutter as material for composition, which I have explored in the previous chapter. Yet the stutter is also used as musical material for the

[2]Moten and Harney (2013), 110.

[3]Freire (2007), 126.

[4]Lizée, email with the author.

performer, in collaboration with the video, and the soundtrack. In fact, the pianist learns, through repetition and coordinating, how to exactly imitate the unnatural rhythms of the stutter. Ironically, these are closely notated in the score—and transcription is an important part of Lizée's composition practice. To the listener, they sound like natural and irregular occurrences, as a stutter is, after all, a disruption or break to speech, rather than something calculated. However, for the performer, they must be executed precisely, alongside the clicktrack, in tandem with the electronics and video, and adhering to the precise notation in the score.

This novel musical material offers the pianist a pedagogical lens into aspects of sound they would not otherwise have access to, via notation. As Lizée writes, 'the process of transcription is a direct portal to the minutiae of sound. It is the epitome of active listening. It uncovers what is lurking underneath (whether real or imagined). Transcription and notation of sounds that weren't intended to be expressed in musical notation—corruption, malfunction, and foley sounds—leads one down another portal.'[5] In this respect, the question posed by the stutter is not simply 'how can the stutter be treated as musical material?', but also 'what is the relationship between diegetic and non-diegetic music?' and 'what is the relationship between human and machine?' After all, the performer is forced to tangibly confront the different kinds of sounds in the film, going back and forth between diegetic and non-diegetic sounds, between foley sounds and soundtrack. In the process, the pianist must become comfortable with both kinds of film accompaniment, and yet retain a certain detachment in order to stay with the soundtrack. By learning the notes and rhythms with precision, the pianist learns to become more like a machine, but in the process, has become more like a human after all.

From this pedagogical perspective, we imagine and are aware of all of the participants learning to imitate each other. For example, the pianist begins by playing

---

[5]Lizée, email with the author.

synchronically with the diegetic sounds from the film, punctuating especially Bates' stutter on 'fa-fal-fals'. Alongside music, and in its tireless repetition, the text begins to lose its semantic feeling and sound like a musical vocalisation: reminiscent, for example, of a 'fa-la-la'. As the piece goes on, the pianist's figures become longer and denser, exceeding the diegetic sounds, as does the electronic sound world, which begins to repeat the word 'because' and adds eerie sonic and visual echoes (an electronic stutter of sorts). As the piece ends, the voice eventually becomes so distorted that it is no longer understood as words but as sound, at first seeming to finish the sentence, but in fact doing so nonsensically. Although the pianist is the only performer on stage, these are not études for solo piano, but in fact collaborative études for multiple participants—human and technological—to learn and develop together in practice.

Of course, in thinking of the question or problem of the stutter as musical material, we must also attend to the implications of the stutter itself. Especially in Lizée's exaggerated treatment—in which the sound of the stutter is also emphasized by visual jump cuts—encountering the stutter makes us powerfully confront its source: the human body. As listeners—and as a pianist—it is as if we are working through the stutter with the character. Notice how, as the passage goes on, the piano line moves from simply punctuating the rhythm of the stutter, to creating an organic sense of emergence and growth within each utterance on the word 'because'—the word where his sentence fails. Each time, the gaps between Bates' stuttered syllables are filled in with more and more notes, coaxing, guiding, helping him to finish his sentence (the etymology of pedagogy containing, after all, 'agogic', meaning to guide). And so is it any surprise when his sentence finishes absurdly with a line not in the film at all—'because the body, because the body, because the body, because the body...'—which according to Lizée was created by combining the line with the first line of the following movement ('are you going to play', spoken by Mrs. Atwater) and distorting both. The problem of the body, the site of

217

learning for the performer, is thus put on display. In this respect, Lizée is engaging with an erotics of pedagogy, in which pedagogy is physical, engaged, embodied.

As I mentioned in the previous chapter, another important aspect of the stutter on screen and as music is that it represents a failure of the body—which relates to Lizée's ongoing interest in the 'fallibility of media', and in particular her aesthetic of glitch that emerges from 1990s electronic music and the exposition of technological error. Both fictionally and practically, these technological failures are paired with human failures: in the stutter on screen and in the human pianist. The notation in the score is meticulously and surprisingly precise, considering it is documenting the uncertainty of a stuttered phrase. As a listener, the placement of the words feels uneven and unpredictable, arriving always a beat earlier or later than anticipated. As such, the performer is caught between the uneven spacing of sounds and images, and the highly measured score. This is accomplished notationally using different subdivisions of beats, including semi-quavers, quintuplets, and sextuplets, and keeping many of the vocalisations on off-beats. Each of the three faltered utterances of the opening of the word 'falsity', for example, come on off-beats, until the full word finally released on the downbeat of the next bar (see Figure 13.1)

Figure 13.1. 'fal-, fal-, fals-, falsity' in 'Psycho—Stutter Étude'.[6]

Even with tremendous amounts of practice, there is always something different about the way a pianist interprets a rhythm like this—working backwards from a fully formed, metrical score—compared with the way the rhythm sounds on the track. Paradoxically, the pianist has a tendency to sound and feel more rhythmic and controlled, where the track has the illusion of freedom, because we are primed to hear and understand the text semantically and recognize the breaks in its flow as natural.

These problems—or questions—highlight tensions in the performance of mixed-music in general: a difference in perception between the appearance of music coming from electronic sources and music coming from live sources, and a difference between the way the performance of live sounds feels to the performer versus how it is perceived. Even when the performer succeeds at this task, there is always the horizon of failure; always the feeling that something isn't quite as expected. By emphasizing technological failures in the electronic components of her music, Lizée exposes failure as an essential

[6]Lizée (2010), 17.

aspect of human pedagogy—a part of a process of learning and growing—and also invites pianists to treat these pieces as pedagogical, and treat the different études as isolating specific problems of mixed-music performance that might train a new kind of human-machine virtuosity and eventually assist in the performance of other works.

Furthermore, Lizée's *Hitchcock Études* contain an orientation towards pedagogy that emphasises the fact that as a pianist, one is only a small part of the performance of such a piece. This is consistently emphasised in Lizée's pieces, perhaps most tellingly in the dynamic instruction: 'the dynamic of the piano should never overtake track except at the very end of the étude'.[7]

Listening to a click track provides a perceptual confusion for any performer, that makes us aware, if not of our *failings* per se, at least of the fact that human perception is not ubiquitous, or all-encompassing, but radically subjective. For example, significant research suggests that human performers do not execute rhythms with mathematical precision, even when these are extremely simple.[8] Listening to and performing with a click track is an experience that renders a performer sometimes frustrated, but also often humble, in the face of another way of rendering rhythm in the world—not objective, but simply other. It is an experience that places human and machine in conversation, in which both are asked to confront their relative inadequacies with respect to each other. Because Lizée's *Hitchcock Études* explore this problem by asking the human performer to imitate a human sound—in the case of the 'Stutter Étude', a faltering human voice—with mechanical precision, they emphasise the strangeness of this problem, as well as the way in which both human and machine are in a process of change and growth. Furthermore, they allow the limits of the human body to be reconfigured: understood in terms of what human and machine can accomplish together when learning from each other.

---

[7]Lizée (2010), 17.

[8]See Alf Gabrielsson, 'Perception and Performance of Musical Rhythm', in *Music, Mind, and Brain: The Neuropsychology of Music*, ed. Manfred Clynes (New York: Plenum, 1982), pp. 163-68.

CODA

So far, I have discussed these sets of études by Conlon Nancarrow, John Cage, György Ligeti, and Nicole Lizée separately, using different bodies of theoretical literature. Although the discussions have been quite disparate, historical correspondences between these four sets of works have emerged. For example, both Ligeti's *Études pour Piano* and Cage's *Etudes Australes* were written after their respective composers had heard—and been impressed by—Nancarrow's studies. John Cage was among the first people to hear Nancarrow's music and promoted it as early as 1960. The way in which Nancarrow's works deliberately push beyond the boundaries of the human at the keyboard can be clearly heard in Cage's *Etudes Australes*, written indeed just after Cage had visited Nancarrow in Mexico in 1974. Like Nancarrow, Cage experiments in the his *Etudes Australes* with multiple layers of writing, rather than being confined to the bounds of two hands, with using the entire range of the instrument, and with extremes of speed.

Likewise, Ligeti began composing his *Études pour Piano* soon after he was introduced to Nancarrow's music. In their early encounters, both composers were keen to comment upon pre-existing latent similarities in their works. Ligeti wrote to Charles Amirkhanian, Nancarrow's producer, that he was struck by 'analogies between his and my music (however, the style is at the base very different). He couldn't know my music, and I had no idea of his until May 1980—so the analogies are result of some common ideas which are "in the air" at a certain time, in a certain cultural-artistic context'.[9] If similar ideas were 'in the air' for both composers in 1980, the addition of tangible contact did not diminish the 'analogies' between their work thereafter. Ligeti turned to writing piano studies almost immediately after this encounter: his first set of *Etudes pour Piano* was

[9] Letter from Gyorgy Ligeti to Charles Amirkhanian, 4 January 1981.

published in 1985. The studies exploit many similar radical temporal layerings and push at the frontiers of human capabilities in much the same way as Nancarrow surpassed them. Ligeti's *Etude 14a*, famously, is so difficult that it was thought unplayable at the time it was composed. Further cementing the relationship to Nancarrow, Ligeti had it arranged for player piano to acknowledge its superhuman difficulty.[10]

Nicole Lizée is from a generation younger than that of Cage, Ligeti, and Nancarrow: she was born in 1974, as many of these pieces were being composed. Nonetheless, her conceptual and compositional lineage to Nancarrow is undeniable. Even if her own investigations are based on the temporal extremes that followed and were ushered in by Nancarrow's work, rather than an encounter with Nancarrow directly, her interest in using analogue means—live performers—to finely control precise, subtle shifts in tempo and simultaneous layers is remarkably like the fine control of the player piano. Indeed, the click track operates in much the same way as Nancarrow's player piano—as a way to control for the inability of live, human performers to manipulate tempo with extreme precisions. Similarly to Nancarrow, Lizée frequently employs nostalgic allusions and obsolete instruments in her work: her keyboard études feature clips from classic black and white films, her sonic palette includes frequent reference to 1-bit video game sounds, and in other pieces she has composed for the 1970s electronic game Simon.

Beyond their shared titles and these historical links and lineages, what else ties my analysis of these four sets of pieces together? All of the theories I have used explore different aspects of the limits of the body. I have emphasised the way that the étude genre is capable of expanding what is possible for human bodies: whether that expansion happens through challenging the body to accomplish new tasks, reframing how the boundaries of possibility are configured, or extending the body using technology.

In this way, I suggest that the étude also has the capacity to change our

---

[10]The arrangement was done by Juergen Hocker for performance in Donaueschingen in 1994, and can be viewed on YouTube: https://www.youtube.com/watch?v=r3rNy06IVdY

assumptions. The étude is unusual as a genre, as it is embedded in the body: both through the virtuosic display of the concert hall and the quotidian banality of practising. The fact that études are often concerned with fundamental problems of technique or composition means that they are also in a position specifically to reframe what we take for granted. Nancarrow's expansive collection of *Studies for Player Piano*, for example, each explore novel rhythmic and temporal relationships. Although they were not even composed for human bodies, they have radically shaped the kinds of temporalities with which later composers have experimented. As a result, performers have attempted rhythmic feats that previously would never have been dreamed to be possible.

Études quite simply have a way of getting inside of the body and under the skin; they not only show up in the concert hall but embed themselves in the bodies of those that practice and learn them. It is from this position that they are so fundamentally tied to divergent cultural trends—as I argued in Book I—and therefore offer a unique perspective on their cultural context. It is also from this position that they hold the power to challenge and change those very same bodies, which I suggest these late 20th and early 21st century études do by questioning the idea of the body in general.

In Book I, I emphasised the ways in which the étude as a genre was closely connected to cultural and aesthetic trends in the 19th century, even when these were in tension with each other. It is a genre that has the capacity to both reflect on and shape its context. In my reflections in the Coda, I will return to this idea. What revelations do these four sets of études offer about their respective contexts of composition and the period of 1950-2010? In what ways do they, and have they, shaped 20th-century aesthetics and culture?

One framework that I will use to discuss these études in relationship to one another is with respect to the title 'transcendental' that Liszt used to refer to his own études. Samson defines Liszt's transcendence as 'a sense in which virtuosity might reach beyond (transcend) not just our normal expectations of human skills, but anything

measurable or even imaginable within human existence'.[11] Indeed, both Chopin's and Liszt's études make a point of emphasising difficulty, pedagogy, process, and pushing the body beyond its means. While pushing the body outwards, these études also push form and structure inwards, finding ways to weave works made up of technical problems rather than themes, transcending also the bounds of what a work might be. They transcend, too, in their celebration of surplus, excess, and surface, allowing these layers to detach and exist as objects of value in their own right. Yet transcendental is also related to the Kantian idea of the transcendental subject. The idea that human beings exist as stable, perceiving selves—and that bodies might aspire to pre-determined ideals of the human—is tied to a 19th century concept of subjecthood that has been thoroughly questioned in the 20th century.

I reframe the four sets of études that I study as *post-transcendental*, in their encounters with virtuosity, the work of art, and the subject. The prefix 'post-' signifies, on the one hand, that they go beyond the previous limits of Liszt's 'transcendental execution'. They are more demanding, more extreme, and more adventurous than Liszt's technical experiments. Of course, this is partly the case because they are so much *later* than Liszt's études, and 'post' also refers here to temporal succession: the études of Cage, Lizée, Ligeti, and Nancarrow reflect what happens *after* the transcendental. They no longer adhere to a transcendental virtuosity, or a transcendental subject, or a romantic ideal of the work of art. The final meaning of post-transcendental in my analysis is the idea that these études are self-conscious and self-critical, reflecting and commenting on their genre and their relationship to the transcendental virtuosity of the past. Even the fact that each set is deliberately given the title of 'étude' or 'study' already sets up this self-conscious reflection. This relationship to the past, therefore, signifies both continuity and rupture, and the post-transcendental nature of these études inevitably implies a close connection between the pieces I have discussed in Book II and their antecedents

---

[11]Samson (2004), 87.

explored in Book I. Thus, in considering these études post-transcendental, I also significantly return to the themes that I introduced in Book I in order to show how they prefigured and setup the kinds of possibilities that later composers could explore.

At the same time, I wish to emphasise that the notion of the post-transcendental is not specific to the repertoire that I have studied here, or indeed even specific to the étude. The fact that it finds a natural home in the étude genre—and that these particular étude-titled pieces have key relationships and similarities—simply make the études a useful starting point for examining broader questions of 20th century virtuosity in a focused way. The reflections that follow will in fact reflect a more expansive notion of post-transcendental virtuosity that occur in a wide range of musics and cultural products, exemplified in rather than limited to the étude.

Virtuosity

> The performing arts [...] have indeed a strong affinity with politics. Performing artists-dancers, play-actors, musicians, and the like — need an audience to show their virtuosity, just as acting men need the presence of others before whom they can appear; both need a publicly organized space for their `work,' and both depend upon others for the performance itself.
>
> --Hannah Arendt[12]

In order to better understand the post-transcendental virtuosity of these pieces taken together, I turn to the work of another thinker on virtuosity outside of the musical sphere. Political theorist Paolo Virno offers a theory of virtuosity that clarifies the close relationship between the étude and the political world. According to Virno, 'all virtuosity is inherently political'[13] just as all politics is inherently virtuosic. He develops this

---

[12]Hannah Arendt, *Between the Past and Future* (New York: Penguin Classics, 1961), 45.

[13]Paulo Virno, *A Grammar of the Multitude: For an Analysis of Contemporary Forms of Life* (Cambridge: MIT

definition and understanding of virtuosity from both Hannah Arendt and Aristotle. For

Aristotle, there exists in human behaviour a distinction between *poesis* (production) and

praxis (action). The fundamental difference between these two lies in their material

instantiation. Whereas poesis results in the production of some object in the world, praxis

is action. It is this second kind of human behaviour, *praxis*, that Virno designates as

virtuosic, because it is 'activity which finds its purpose in itself without settling into a

finished product'.[14] Indeed, the suspicion and amazement with which virtuosos were

accorded in the 19th century was predicated precisely on this quality of finding purpose

exclusively in itself. The common charge of 'superficiality', for example, had to do with

the technical brilliance of the performer being not in the service of a musical work or an

idea, but rather for its own sake. As in the case of the piano étude, technical skill is both

the form and content of virtuosity.

Virno's theory of virtuosity is especially useful here because of his interest in a

change in the relationship between labour and politics in the late 20th century with the

era of post-industrialism. For Virno, this new age is characterised by new forms of labour,

in which all production is 'virtuosic'. With the rise of automation, the decline of the

factory, and the transition to 'knowledge economies' and 'cognitive capitalism', labour in

general has come to replicate the form of the culture industry.

This was not the case in the 19th century, as Chopin and Liszt were composing

études and defining the form of the virtuoso. Virno echoes Marx's assumptions about

labour under 19th century industrial capitalism, in which performing artists were the

exception: their labour consisted not of production, but instead of the action itself. In

contrast to the dominant mode of labour, virtuosos were exceptions in the 19th century.

This is not to say that virtuosos themselves were rare, as Paul Metzner's account of

virtuosity in Paris details, but rather that the kind of labour in which they were

---

Press, 2004), 53.

[14]Virno (2004), 52.

participating differed from the general conditions of capitalism.

As the economic conditions of capitalism have changed, the act of virtuosity has become more ubiquitous beyond the musical and performance sphere. Capitalism in general has taken on characteristics formerly reserved to performance. Virno's account lends credence to the notion of a close relationship between social conditions, political action, and virtuosic activity, while explaining a context in which 20th and 21st-century composers of études might take a radically different approach to the limits of the body.

All four of the composers that I have discussed wrote in the context of late capitalism and ubiquitous virtuosity described by Virno. I suggest that common threads between these works point to the creation of a distinct post-transcendental virtuosic technique. In general, this change is marked by a shift away from the idea of technique as something universal: a goal which—when achieved—would gain pianists access to the ability to perform other works. Instead, post-transcendental technique is reframed as material and contingent.

One aspect shared by these new virtuosities is a skilfulness of imitation. This is most pronounced in Nicole Lizée's études for piano, video, and glitch, in which the rhythms of the pianist are synchronised with the speech of characters in the film. I have described already the way in which the 'Stutter Étude' creates a sense of disorientation because pianist must be precise and deliberate in their execution, while the effect created by the stutter is haphazard and accidental. This disorientation is not only a phenomenological property of performance, or an aesthetic manifestation of post-human performativity and technological failure. Lizée describes:

> All performances call for precision but in the case of glitch pieces it embraces the unlikely, the unnatural, the irrational. Nothing is quantized - so I need to use whatever means possible to properly convey this new unreasonable instrument. Technically this will mean very specific metre changes, constant tempo changes, new written terms, etc. It's this kind of precision that creates a new type of virtuosity. The

glitch lures the performer to interact and express differently and to add new performance practices to their roster.[15]

Lizée's own reference to a 'new type of virtuosity' addresses the highly specific difficulty of imitating the irrational using extreme precision.

In contrast to the kinds of technical skills generally treated as virtuosic, what is noticeable about this piece is that its technical virtuosity is not replicable. Although based on imitation, the specific skill of imitating a voice is contingent on the particularities of the voice being imitated. This is exaggerated by Norman Bates' stutter: learning to perform this étude requires precisely conforming to an irregular and unpredictable rhythm. As a result, to perform another piece based on the rhythms of a different stuttering speaker would require a completely new training.

Thus, this new virtuosity is fundamentally tied to *particular* human bodies: not only the specific bodies of the performers, but also the body and speech patterns of the voice being imitated. Instead of virtuosity being a property that relates to a specific performer's body while striving towards a universal technical standard, here the performer's body achieves virtuosity by aspiring towards a particular technical effect. Not only is this technical effect highly specific, it is also an effect created by a failure of speech. As a failure of communication, the stutter itself is in fact almost the opposite of a traditionally virtuosic property. By creating a new virtuosity that is achieved by the difficult, skilful imitation of such a phenomenon, Lizée moves virtuosity away from a transcendental quality—an aspiration towards technical greatness that translates to a general, universal facility at the instrument—into something personal, contingent, and specific, and therefore non-transferable.

The contingency and specificity of this new virtuosity is echoed in Ligeti's technical experiments in 'Touches bloquées'. Where 19th century études were lauded especially

---

[15]Email from Nicole Lizée to the author, 4 Feb 2019.

for their usefulness—a common trope among piano teachers remains that anyone who can play all of the Chopin études can learn any piece in the piano repertoire—'Touches bloquées' trains skills that, while difficult, are decidedly non-useful. The tainted octaves in the middle section of the piece, for example, only make it more difficult to play conventional octaves. The piece's primary feature—the technique of playing keys which are already held down—requires retraining the ear against the expected relationship between striking a key and hearing a sound. As Jeremy Denk describes, 'Ligeti directs you toward the opposite of what your piano teacher always wanted'.[16] As in Nicole Lizée's 'Stutter Étude', the piece also requires using notated precision to create the effect of instability and change. Although the pianist is playing even, running quavers, the fact that some of these are already depressed creates the illusion of missing notes and faltering scales, which Ligeti describes in the opening expressive marking as *stotterned*, or "stuttering".

Cage's *Études Australes* also requires a kind of imitation. Instead of imitating a specific human, though, Cage requires the pianist to imitate a non-human, even non-planetary entity: the placement of stars on a map. As with the other études, this also creates a virtuosity that is not based on universal principles. By shifting the source of inspiration for the piece's goals away from human achievement and towards something unachievable by human means, Cage turns virtuosity into something determined by contingency, change, and materiality.

The contingent, material quality of virtuosic expression is most evident in Nancarrow's player piano studies. In these pieces, the idea of aspiring to transcendent human perfection is evidently not present, since there is no human performer. Nancarrow claimed to be using technology to extend the possibilities of music beyond the capabilities of human minds and bodies. That said, the way in which he did so was inherently tied to the material possibilities of the technology with which he was working.

---

[16]Denk (2012), www.nonesuch.com [accessed 1 July 2019]

Thus, this virtuosity is based not only on extending the human, but also on manipulating and extending Nancarrow's own specific machines.

In many ways, this kind of virtuosity shares many features with that of the 19th century. For example, both kinds of virtuosity share the quality of being superfluous, whether with respect to the notion of the work of art, or to the ideal human subject. The subversive and experimental nature of virtuosic expression was very much part of the discourse surrounding Liszt in the 19th century, and—as I explored in Book I—extended beyond musical virtuosity.

In this post-transcendental virtuosity, though, virtuosity has been transformed by rejecting and reframing the transcendental subject, reflecting new relationships between virtuosity and labour, and shifting from the transcendental and universal to the specific and contingent. Above all, the post-transcendental virtuoso abandons the sense that the body operates at its limits teleologically, towards a universal goal. The variety in these composers' specific techniques and approaches emphasises the fact that the limits of the body can be extended in many directions.

The Subject

One way in which these sets of études reflect new discourses and social ideas is in the rejection of 19th century ideas of subjectivity. The close connection in the 19th century between virtuosity and the subject makes this transformation logical. In many of these pieces, the notion of a transcendental subject who performs, listens, or composes is undermined by the ways that agency is dispersed amongst multiple human and non-human agents. This is evidently the case, for example, in the études of Lizée and Nancarrow. Although Nancarrow's *Studies* and Lizée's *Hitchcock Études* were written in different times and social contexts, both sets of virtuosic studies respond to and confirm a notion of the subject that is not unified, transcendental, or even centred in the human.

231

For Lizée, emphasis is placed on the subject as maximally dispersed, and caught between the many different technological, fictional, and human subjects composing and performing the work. Her études include performances from a live pianist, a pre-written video, a hidden clicktrack, an electronic soundtrack, and the many actors on screen. Her own characterisation of the piece as 'chamber music' explicitly emphasises collaboration as a virtuosic quality. Indeed, the subtitle of the piece describes these not as études for piano, but rather études 'for piano, video, and glitch'. Explicitly, then, the agents whose virtuosity is being trained and displayed in these études are multiple, composed of both humans and machines. The virtuosic subject here is post-transcendental, in that it has not only left behind the idea of a unified whole that acts and perceives, but is expanded and extended into a collaborative entity.

The way Nancarrow explores virtuosic expression through new forms of subjectivity is slightly different. In Lizée's *Hitchcock Études*, the human body is pushed beyond its own limits by acknowledging a continuity and collaboration with machines; the pianist is able to accomplish new feats of tempo relationships and technical skill with assistance from elements like the click track, while all of the performing agents collaborate to accomplish the virtuosity on display. Nancarrow, too, allows a machine— the player piano—to act as an extension of human ability. However, his innovation was to treat the human subject as optional, eliminating the human performer from music altogether.[17] Whereas 19th century virtuosity was essentially a form of self-expression, relying heavily on emerging concepts of human subjectivity and individual heroic dominance, Nancarrow reconfigures the étude to show that virtuosic expression is possible even in the absence of a human subject.

The punching machine, which Nancarrow used to perforate, by hand, a hole of each of the many notes in his studies, offers an especially interesting critique of the subject. The method of perforation is, naturally, related to the binary means of storing

---

[17]Even before the rise of electronic composition in the 1950s.

information in computing. In this respect, the punching machine is a digital 'inscription technology', which Katherine Hayles defines as 'a device [that initiates] material changes that can be read as marks'.[18] Yet inscription is only one part of the device's capacity for information storage and recognition. The information stored on the piano roll is digital: it can therefore be read on any number of devices, transferred into MIDI files, or even used to produce a completely different set of sonic (or non-sonic) data. However, the experience of watching and producing the music is inseparable from its material. For Hayles, this is called 'incorporation': 'an incorporating practice such as a good-bye wave cannot be separated from its embodied medium'.[19] The punching roll inscribes musical information, but the ghostly presence and embodied relations it conjures are incorporated.

Meanwhile, Ligeti's boundary-pushing études disrupt the virtuoso subject through different means altogether. Amy Bauer has used the term 'reluctant virtuoso' to describe the way that Ligeti's Études complicate the 19th-century relationship between virtuosity and subjectivity, especially insofar as the 19th-century virtuoso subject was portrayed as heroic.

> The heroic signifiers of both "Désordre" and "Vertige" conflict with a modernist practice whose reflexive codes establish a critical distance from a compromised virtuosic tradition. Performer and composer emerge from these collaborations neither as conquering Romantic heroes, nor cynical "anti-heroes" dismantling tradition, but unite, in Edward Said's summation, a humanist sympathy towards the past with a dogged resistance and self-reflective critique toward established attitudes. But Ligeti's critical études add something more: in the stubborn attempt to synchronize unwieldy cycles in both hands, or yoke a mechanically-produced aural illusion to pop harmonies and punishing tempi. Each work rises to a darkly comic apotheosis that results partly from the mechanical execution and repetition of

---

[18]Hayles (2002), 199.

[19]Hayles (1999), 199.

virtuosic tropes.... "Désordre" and "Vertige"—and the performers who labour under their signs— tacitly acknowledge the contemporary absurdity of the heroic virtuoso, while locating that figure in a radically transformed social space.[20]

Her assessment of the self-critique implicit in 'Désordre' and 'Vertige' is equally applicable to 'Touches bloquées'. In this étude, the virtuosic hero is compromised because failure is embedded in the piece. A performance of 'Touches bloquées' thus takes a self-critical stance toward the opposition between success and failure implied by its own extreme difficulty and the virtuosic tradition from which it emerges. Here, the 'reluctant' virtuoso subject is post-transcendental in another sense: the 'post' here refers also to self-reflection on the subject.

This self-consciousness is also manifested in the way that failure in 'Touches bloquées' reframes the idea of a transcendental subject's universality. Privileging the exceptional over the normal has always been part of the project of virtuosity. However, the aspirational and heroic quality of 19th century virtuoso rhetoric also tended towards extreme success as a goal towards which anyone might aspire. As demonstrated by queer theory, failure offers a more complex perspective of subjectivity, in which the performance of difficult, painful art can be a critical tool to disrupt notions of self, time and normativity.[21] In psychoanalysis, the critical potential of failure in fact emerges from the recognition of an essential failure within the self and the subject. There is, for Lacan, an 'impediment, failure, crack'[22] with which the subject is always plagued, and it is in this lacuna that the unconscious emerges. The idea of the *subject* relies on coherence, but the

---

[20]Amy Bauer (2018), unpublished draft, 'From Pulsation to Sensation: virtuosity, modernism and heroic codes in the reception and conception of Ligeti's first and ninth etudes', referencing Edward Said, 'Heroism and Humanism' *Al-Ahram Weekly Online* 463.

[21]See Halberstam (2011)

[22]'achoppement, défaillance, felure' from Jacques Lacan, *The Seminar, Book XI, 25*.

failure privileged by Ligeti in his Études exposes the impossibility of coherence and perfection.

Anxiety about contemporary subjectivity can also result in simply abandoning the subject altogether—a post-transcendental subject may be an absent one. This is, in some ways, the project of Cage's *Etudes Australes*. As Aden Evens writes, Cage's chance-based compositional methods were an attempt to '[eliminate] his own intention, his self, through aleatory and Zen techniques, which constitute his very methods of composition'.[23] Cage's repeated claims that he was giving 'sound itself' autonomy speaks to the recognition that the human does not have free reign over agency, but rather, that agency is something contained in particles, objects, waves, and sounds: 'One may give up the desire to control sound, clear his mind of music, and set about discovering means to let sounds be themselves rather than vehicles for man-made theories or expressions of human sentiments'.[24]

Although his *Etudes Australes* in some ways replicate the conventions of the 19th century étude and the virtuosic subject—composed as they were with a particular idea of transcendent virtuosity in mind (so transcendental that it might reach outer space!) and written to showcase the skill of a specific performer—Cage's allowance for chance privileges actors other than humans in both composition and performance. The notes of the piece, for example, were taken from the *Atlas Australis*, a map of the stars in the southern hemisphere, the selection of chords was taken from the shape of Grete Sultan's hands, and the specific chords chosen for each position were selected using chance operations from the Chinese book of divination, the *I Ching*.

Whereas the concert étude in the 19th century largely responded to and strengthened an emerging notion of individual human subjectivity, each of these

---

[23]Aden Evens, *Sound Ideas: Music, Machines, and Experience* (2005), 48.

[24]John Cage, *Silence* (1961), 10.

composers undercut the subject and abandon it in response to changing social and economic conditions.

Labour

The 20th century virtuosic études discussed in this thesis also demonstrate new forms of labour politics in performance and composition. Given the close relationship between virtuosity and labour illuminated by Paolo Virno, it is no surprise that the essential role of virtuosity in contemporary knowledge economies has also influenced changes in virtuosic musical performance. Thus, the development of a post-transcendental musical virtuosity in the works of Nancarrow, Cage, Lizée and Ligeti is a response to changing attitudes towards labour as much as towards changing notions of the subject. As I have described in Book I, the way in which the virtuosic étude originally emerged was in the context of specific notions of industrial capitalism and bourgeois sensibilities; equally, these four composers' post-transcendental virtuosity is actively related to the breakdown of these same ideas.

The earliest compositions of these four composers are those of Nancarrow, which he began writing at the turn of the 1950s at the very beginning of changes in capitalism. Nancarrow's own personal opinions about capitalism and labour are particularly revealing. Nancarrow himself was an avowed communist, part of the reason he left the United States for Mexico. In Mexico, he deliberately eschewed many traditional demands of capitalism and contemporary life[25]. Furthermore, the instrument of the player piano on which Nancarrow composed his studies was once a fixture of bourgeois aspirations in the United States.[26] Nancarrow's music seems an ironic response

---

[25]Ironically, he relied on a trust fund from his wealthy parents for sustenance during this time.

[26]See David Suisman, 'Sound, Knowledge, and the "Immanence of Human Failure"', *Social Text* (2010).

to de-skilling and alienation of labour, whereby he champions a new use of the player piano in which the instrument is no longer reproducing an original, but instead producing its own creation.

In the emerging landscape that Virno describes, in which virtuosity itself becomes the form of labour and value-production, Nancarrow's reframing of virtuosity at the hands of the player piano is also notable precisely because it did not participate effectively in capitalist economy. The pieces were distributed privately as tapes, and rarely earned money. Live performance, a venue by which some revenue might have been gained, was impractical, and generally presenters were uninterested in presenting the tapes 'live' for royalties. When the studies did eventually gain recognition and acclaim, this resulted in income for Nancarrow, but in the form of a prestigious grant—the MacArthur Fellowship—rather than payment for his studies in particular. And after he became more famous, he even turned away from composing for player pianos. Although this was for a number of practical reasons, including the deterioration of his machines, he also described that this was partly because there was more money in writing for live performers. That the extremely virtuosic player piano studies could not themselves make money seems another feature of their resistance to the demands of capitalism and traditional avenues of labour.

The relationship between these works and contemporary labour is also a function of the obsolescence of the instrument. As William Gaddis explored in his unpublished cultural history of the player piano, and posthumously published novel, *Agape Agape*, the capacity to have music performed automatically (to have mechanised even such a domestic pastime) is in many ways the epitome of Marxist alienation.[27] It certainly bears many similarities to the Fordist economic system that dominated the early twentieth century, in which machinery was not only a means but also a metaphor for an emphasis

---

[27]Gaddis, cited in Suisman (2012), par. 21.

on efficiency and productivity. According to Alan McKinlay and James Wilson, 'the machine metaphor was enormously broad, and deeply ambiguous, at once conveying a dehumanizing logic while also suggesting a bountiful meritocracy'.[28] In this model, labour became de-skilled and products become standardized, such that workers become interchangeable, seeing as they have been reduced to a small, de-subjectivised task within a much larger process. The relationship of the player piano to such broader trends of cultural production at large is hardly surprising. After all, in its early days, the player piano was seen as comparable to the phonograph in terms of importance and potential to change our approach to consuming music. It was scorned as sure to get rid of the amateur performer,[29] just as it was lauded as the harbinger of musical modernism.[30]

Nevertheless, the way we might read the player piano in these studies is crucially different. Nancarrow began writing these pieces in the late 1940s and continued through the 1980s. At the beginning of this period, player pianos were already at the dawn of obsolescence; by the end, they were almost non-existent. The moment at which technologies go out of fashion, though, is in fact the point at which Walter Benjamin suggests they are at their most interesting and revelatory.[31] No longer is there any fear that the instrument might overtake and replace the live performer, or mistaken belief that a new, idyllic world of player pianos might be at hand.[32] Nancarrow also wrote these pieces at a moment in which capitalism has begun to change—at the dawn of what we

---

[28]Alan McKinlay and James Wilson (2012), 48.

[29]A 1906 article entitle 'The Menace of Mechanical Music' claimed that it is 'simply a question of time when the amateur disappears entirely, and with him a host of vocal and instrumental teachers, who will be without field or calling'. Sousa (1906), 280.

[30]Adorno celebrates the barrel organ's cylinders for '[anticipating]... modernity itself'. Adorno (1984), 37.

[31]Armstrong (2007), 1.

[32]The Aeolian company marketed the player piano as a democratic invention that, in de-skilling musical performance, could thus bring music into the homes of the masses, 'just as the printing press opened the world of knowledge and literature... through to all men instead of to the few'. Dolan (2009), 139.

might call late capitalism. In the post-Fordist era, labour became more and more decentralised and global, as products become more finitely differentiated, even as they continue to be mass-produced in ever more global networks.

The player piano studies attest to this, for example, in the globalised environment in which Nancarrow composed them—living and composing in Mexico City, travelling to New York City, receiving visits from German player piano specialists to restore his instruments. At the same time, though, the process and content both articulate an alternative to this economic model. After all, the player piano was by this point an obsolete remnant of an earlier economic age. The instrument reached its highest levels of popularity in the 1920s, and by 1950, the phonograph and vinyl had already completely taken over the market for bringing standardized, recorded music into the home.[33] Rather than adapt to a new economic model, Nancarrow resisted by clinging to an old one, and exploring its radical possibilities.

In her dissertation on works for player piano, Wente suggests that the future Nancarrow explores is one in which composers are no longer burdened by the physical contingencies of performing bodies, and that his studies for player piano are an attempt to 'bypass the performer'.[34] Regardless of whether that analysis reflects his expressed opinions, I think that—from the perspective of labour—Nancarrow's studies invite us to see something more complicated at work. After all, the idea that the performer is something to be bypassed is a reflection of a model of music and musical performance in which a static concept of the music exists, which is then manifested in sound: whether by a performer or a performing instrument. What if, instead, we see all works of music (whether performed or not) as just that: works—in which the work of many labours, including instrument builders, composers, collaborators, instruments, tools, technology,

---

[33]Ord-Hume (1970), 41.

[34]Wente (2016), 240.

and (yes, if they exist) performers participate. After all, the labour of the Nancarrow studies is hardly invisible—in that manner that the labour is in our commodity-saturated world. Even though no physically-labouring performer is visible, the études foreground their (imaginary) difficulty: they sound 'hard to play'. The virtuoso phantom performer is not disappeared or bypassed, but rather contains multiple human and non-human entities and complicates our understanding of performing subjectivity.

In embodying such nuanced labour relationships in his Studies, is Nancarrow also producing a study of a communist utopian future? Not exactly. Nancarrow's move to Mexico, of course, was enabled not just by his willingness to eschew traditional financial structures and resistance to accumulation—it was also made possible by a large amount of privilege: his father had left him a significant inheritance in the form of a trust from which he sustained himself until receiving the highly prestigious MacArthur 'Genius' Award in 1982. At the very least, though, his use of the instrument—in the context in which he first composed the pieces, the environment in which they were first performed, and, of course, in our present reception—lends itself to being understood as allowing for a different kind of labour relationship. Rather than exemplifying the alienation of de-subjectivised labour, the Studies for Player Piano instead call for a more nuanced and complex attention to subjectivity and the kinds of agents that can act, relate, and have effects in the world.

Where Nancarrow subverts capitalist assumptions by translating the virtuosic labour of performance onto an obsolete medium, études also challenge the assumptions of contemporary capitalism by exposing labour, in the context of an economic system in which labour is often hidden. The invisibility of labour is also a feature of traditional virtuosic performance, and of the aesthetics of virtuosity in the 19th century. Even in works that are extremely difficult, the ability to make them seem effortless is valued as a performance quality. However, the piano études that I have discussed actually make such ease impossible, emphasising effort and difficulty instead. This is true of both Cage's

Études Australes and Ligeti's *Études pour piano*, for example, in which the work that the performers have put into execution is not only obvious to the listener, but also in some ways the goal of the performance.

Ligeti's études, for example, often dramatize a sense of endlessness and exhaustion. 'L'escalier du diable' creates the illusion of constantly rising in pitch, such that when the piece ends we have the sense that it might keep going indefinitely, and that it has been cut off prematurely—devastatingly limited by the constraints of the keyboard's size. The dynamic markings—extending up to *fffffffff—c*an only be realised by a visible and dramatic exertion of effort. This quality of exhaustion is complemented by the persistent emphasis on failures of execution. In 'Touches bloquées', the performer's perceived effort is a key effect: it emerges when the performer strikes keys that are not sounding and 'octaves' that are not consonant. As with many of Ligeti's études, this effect builds to an extreme point at the very end of the piece: the final seconds of the piece consist of the pianist visibly striking a series of keys without making any sound, because they are already depressed by the other hand.

The études also expose the labour of the listener, which generally goes unnoticed. Amy Bauer describes that 'the performative encounter with virtuosity engages the audience in a dialectic that exposes both the [labour] of performance and that of listening — of aurally following a dialogue with the moment through to its exhausting end'.[35] The labour of listening is partly vicarious—it is exhausting to watch a performer exhaust him or herself. Yet the labour of listening is compounded by the auditory complexity of Ligeti's études, which, like Nancarrow's studies, layer temporalities and rhythmic features in a way that does not render them easily legible to the ear.

The idea of the étude as a labour of difficult listening is equally applicable to Cage's *Études Australes*, despite their differences to Ligeti's études. The difficulty in these pieces is not in gradually building exhaustion or effort, though, but rather in the never-ending

---

[35]Bauer (2018).

sequence of seemingly-random chords. As the chords themselves were determined by a map and the *I Ching*, rather than by narrative logic, the listener of these études is caught constantly trying to make sense of the ordering and spacing of the gestures, even as they show themselves over and over again to not make 'sense'. As in the Ligeti Études, it is watching the performer that conveys the clearest sense of the effort in performance. In Cage's *Études Australes*, the division of notes between the right and left hands is determined by the score, and both hands cover the full range of the keyboard. This results in wide leaps across the keyboard and often cross over and under each other. The deliberate visual awkwardness of this effect makes the labour of the performer impossible to ignore. Unlike in skilfully executing an étude by Liszt, there is no way to toss off such hand crossings as effortless or invisible. The desire of all of these composers to expose the labour of the performer (whether human or machine), rather than to hide it, marks a clear difference between the contemporary étude and its 19th century predecessors.

The Work

In tandem with these concerns, it is worth returning to the other important cultural trend that shaped the development of Chopin and Liszt's concert études: the idea of *Werktreue*. As Jim Samson, David Trippett, and other scholars have described, *Werktreue* was a contradictory force for virtuosity in general, and the étude in particular, in the 19th century. The value accorded to virtuosic musical performance stood as a challenge to *Werktreue*, as it undermined the sanctity of a musical score and stability of a constant musical work. At the same time, the concert étude distinguished itself from the tradition of pedagogical pieces (*exercices* and *ubungen*, among others) by preserving unity, structural coherence, and aesthetic independence: all features of the concert étude that were qualities of *Werktreue*. Chopin and Liszt's études— particularly as they have persisted in the musicological and performance canon—thus also contributed to the idea

of the musical work. As a result, Chopin and Liszt's novel genre both contributed to and diminished the idea of the work simultaneously. As autonomous structures in which the formal coherence was in fact based on a physical, technical property, they emphasise a paradoxical middle space between virtuosity and the work.

Each of the études studied in this thesis approach the idea of the musical work in a different way, influenced by changes in the contemporary understanding of musical works at the level of discourse and composition. Nancarrow's studies, for example, offer a conflicted picture of artistic autonomy and the work-concept. On the one hand, they privilege coherent and logical structure, to a degree that even exceeds what most 19th century composers might have imagined. Nancarrow's studies are constructed to fit into rigid and carefully measured rhythmic templates, with the placement of each note fitting precisely into a mathematical structure. In many cases, Nancarrow's temporal and rhythmic structures were determined prior to any other aspect of the composition, representing a kind of ideal work to which the notes merely fit, almost falling in place to demonstrate the temporal ideas. Although the studies are identified primarily by cardinal number, Nancarrow often also gave them names in brackets to identify these fundamental relationships at the heart of the work, as simple as 'No. 14 (Canon 4/5)' or as elaborate as 'No. 27 (Canon 5%:6%:8%:11%)' and even ''No. 37 (Canon 150:160 5/7:168 3/4:180:187 1/2:200:210:225:240:250:262 1/2:281 1/4)'. Nancarrow's own life and personal aesthetic also imitates some aspects of the Romantic idea of the artist. He always composed alone, in a reclusive, hermit-like existence in Mexico City. A 'solitary genius', his musical ideas were also radically different from most other American composers of his era. Although he subscribed to a range of new music magazines, and clearly kept abreast of musical developments, he cultivated the sense that he was working completely alone and uninfluenced by his contemporaries.

On the other hand, although each study has a highly distinctive underlying rhythmic pattern, they often lack distinction in other ways. Melodically and harmonically, they

sound extremely similar, and even interchangeable. Nancarrow himself claimed ambivalence about the specific notes of his music: 'I don't think of a line, but of a collection of temporal relationships, and, in fact, the melodic line is simply a crutch in order to realize certain temporal ideas.'[36] Although some of the *Studies for Player Piano* stand alone in terms of character—such as the *Study no. 12 ('Flamenco')* and the *Boogie-Woogie Suites* (Studies 3a-e and Studies 45a-c)—most are written in a similar homogeneous style. In this sense, they undercut a romantic ideal of an autonomous, unique, self-generating work. Instead, their iterability returns to an earlier notion that musical pieces of the same genre might be interchangeable and fungible. This attitude is even seen in Nancarrow's reception of the pieces. In both recordings and publications, he was generally unconcerned with the specific pieces presented or in which order they would occur, instead allowing the practicalities of timing—and especially, his desire for recognition and sense of which studies would make the best impression—to dictate their appearance in the world.

In this respect, they are very similar to Cage's *Études Australes.* Aesthetically and sonically, the thirty-two studies are virtually indistinguishable from each other. Not only were all composed with the same methods, but also composed with methods that explicitly favoured the use of chance as a compositional tool. The notion of chance as composition could not be further from the idea that a musical work might be autonomous and self-sufficient. Indeed, this is one way in which Cage's rejection of *Werktreue* is more extreme than that of Nancarrow, for the use of chance was precisely one area in which the two disagreed. For Nancarrow, the composer's privileged form of agency was something that he was never able to give up. He was so dismissive of aleatoric practices, that he once asked Cage why he would choose musical notes by chance, if he was not prepared to eat mushrooms elected by chance procedures.[37]

---

[36]Nancarrow, quoted in Reynolds, 'Inexorable Continuities', *Soundings* 4, 28.

[37]Letter from Nancarrow to Peter Garland, September 2, 1982.

Compared to Cage's other pieces from this period, though, the *Études Australes*

stand much closer to the 19th-century ideal of a work than his radio plays (such as *An*

Alphabet, composed in 1982) or percussion works (notably *Child of Tree* for percussionist

playing plants as instruments). After all, they are presented as a fully—and densely—

notated score. However, Cage incorporates key aspects of performance-orientation and

virtuosic accommodations that tilt the études away from upholding traditional ideals of

the work. For example, while Cage asks the performer to calculate relative temporality

according to spacings on the page, he notes in the preface that 'circumstances sometimes

arise when it is necessary to "shift gears" and go, as the case may be, faster of slower'.[38]

Even the notes—the element of performance most typically thought to be fixed in non-

improvised music—he leaves malleable: 'Notes written for the left hand above the C two

leger lines above the treble clef may be omitted in a performance. Likewise, any notes

written for the right hand below the A on the lowest space of the bass clef may be

omitted.'[39] As Nicholas Cook suggests of the music of Brian Ferneyhough and the new

complexity movement, summarising Ian Pace, 'asking whether Ferneyhough's rhythms

can be played accurately is the wrong question'.[40] Instead, Cook observes that the social

meaning found in music may well be found in scores which are 'overdetermined', as these

demonstrate that performance is always something more than simply a poor

representation of the score. These particular 'overdetermined' scores not only privilege

performance, but also disrupt the traditional musical subjects by emphasising and

reinforcing the posthuman and inter-agential relationships at play in post-transcendental

virtuosic music-making. This implicit emphasis on performance and social relationships

undercuts the work's aesthetic power.

Meanwhile, the *Etudes Australes* also demonstrate a different orientation to the

---

[38]Cage, *Etudes Australes*, 1.

[39]*Ibid.*

[40]Nicholas Cook, *Beyond the Score: Music as Performance* (Oxford: Oxford University Press, 2013), 280.

work due to their relationship between form and content. As I have described, the use of chance rejects any presumption of autonomous creation or inherent structural coherence. Equally, there is no sense of any relationship between technique and form that marked the uniqueness. Again, this recalls the fungibility of Nancarrow's player piano studies, and 18th-century ideas of musical pieces as interchangeable. In fact, Cage's études in this respect are much more like didactic exercises, especially given the progression that Cage offers: the set of 32 études becomes more and more difficult as it goes along, since each successive piece contains a higher proportion of multi-note chords than the last.

Along these lines, it is perhaps Ligeti's *Études pour piano* that seem closest to the Romantic ideals that I have characterised as fundamental to the origins of the étude genre. Much more than the pieces of Nancarrow and Cage, Ligeti's études stand alone individually. The specific themes and tools on which each of the pieces is based are internally consistent, and distinct from one another. They often bear poetic titles ('Désordre', 'Arc-en-Ciel', etc.) and each identify clear questions or problems (technical or conceptual) that are explored and worked through over the course of the étude. Furthermore, the études maintain an internal integrity and consistency—of texture and figuration especially—that create a sense of logical and formal coherence. This is especially evident when listening to or performing several études in a row. Despite the surface level similarities between, for example, the most rhythmically complex of the études, listening, playing, and analysis reveals that the textures are clearly distinct from one another, and logically maintained within the whole. As a result, the pieces seem to hold up the illusion of the work of art as an organic product that germinates from the smallest of ideas into a self-sufficient whole. And yet these pieces, too, subvert some conventional ideas of the work. By almost always beginning as if *in medias res* and ending as if cut-off, the études convey the sense of being ripped out of some larger whole. The sense of ruptured eternity captured at the end of 'Desordre', for example, reminds both

listener and performer that the études cannot be self-contained, but gesture towards some much longer project.

Finally, Lizee's études challenge the work in an entirely different way. Acknowledging the fallacy of aesthetic self-sufficiency, Lizée instead bases her études on external works, the films of Alfred Hitchcock. Indeed, she compares her project to the work of filmmaker Douglas Gordon, who produced a slowed-down version of Hitchcock's *Psycho* in order to 'uncover the unforeseen 'micro-narratives' lurking in Hitchcock's film'.[41] In some ways, her études resemble an act of translation, and the musical material contained within them relies heavily on the transcription and translation of voices and foley sounds into rhythm and notation.[42] The études then, offer interpretations of Hitchcock as much as they represent works of their own, a clear challenge to artistic autonomy.

These late 20th- and early 21st-century études by Cage, Ligeti, Nancarrow, and Nicole Lizée each demonstrate the ways in which the étude genre has changed since its origins in the 19th century. Nonetheless, considering them in relationship to the culture of virtuosity, subjectivity, the work of art, pedagogy, and other cultural developments that shaped early keyboard études lends interesting insight into the relationship between music and culture today. In particular, it suggests that composers of keyboard études over the past 60 years have used these works to subvert traditional expectations of genre and performance, and to respond to corresponding changes in technology, subjectivity, and economics.

The study of performance alongside these cultural insights is a particularly important way of assessing the entangled relationships between music and society, in

---

[41]Lizée (2010), 1.

[42]Lizée (2019).

particular in works such as these that easily seem abstract and apolitical. The embodied

practice that is necessarily part of a performative understanding of music is an essential

part of the way in which musical works relate to their social and political environment, as

performing bodies inherently form part of the body politic: responding to, interacting

with, and constructively shaping society. Through the prism of the body, it becomes clear

that the étude is an experimental genre, pushing against existing boundaries, bodies, and

musical ideas.

CONCLUSION

The fascination of what's difficult/has dried the sap out of my veins.

- -W. B. Yeats[1]

The project of this thesis has emerged out of fascination. On the one hand, this is the

fascination of society with abnormal, extreme, and impossible feats of musical

performance, exemplified by the popularity within classical music of virtuoso performers,

and an ever-increasing trend in musical performance, competitions, and recordings

toward superhuman feats of accuracy, speed, and skill. This cultural fascination traces its

origins back to the virtuosos of the 19th century. Despite its longstanding presence, a

relative inattention to the topic within musicology—especially with respect to

embodiment—has motivated my research. In the context of 20th- and 21st-century

études, I have attempted to reframe the understanding of extremely difficult music by

recognizing the ways in which notions of difficulty are contingent upon particular bodies,

instruments, and contexts, shaped by society. The various theories through which I have

studied these feats of impossible performance—utopian thought, failure, and

posthumanism—have revealed that both the bodies that perform and the notion of

'possible' tasks are constructions of social and cultural context. As a result, these theories

call into question the very boundaries between possible and impossible: this inquiry is

situated instead in the liminal spaces between.

The thesis has also emerged out of my own fascinations. I have been captivated by

---

[1]*The Collected Poems of W. B. Yeats* (New York: Simon and Schuster, 1989), 93.

the practice of learning to perform pieces by Cage, Ligeti, and Lizée. This ongoing process

has been thrilling, challenging, frustrating, and rewarding in equal measure, but most

importantly, it has also motivated all of the theoretical approaches undertaken in my

thesis, whether or not these explicitly pertain to my own experience. My engagement

with the piano—and fascination with my own body's limits, constraints, and

(im)possibilities—not only informs my understanding, but is also the very mechanism by

which I am able to think through and with these musical works. From the perspective of

my own body, I show how these diverse methodological frameworks might be used to

understand the impossible in musical performance. I would welcome further

investigations into these relationships from other perspectives and through other bodies,

just as I intend to continue exploring them in my own work.

The choice to limit my study to these four specific composers was motivated as

much by my own fascinations as it was by the inevitable limit of time and space. I might

equally have considered any number of other étude composers from this time period,

including Marc-André Hamelin, David Rakowski, Unsuk Chin, Philip Glass, Nikolai

Kapustin, Olivier Messiaen, Louise Talma, William Bolcom, Daisuke Asakura, or Maurice

Ohana (among others), each of whom would have brought different insights and

questions. The study of études for instruments other than the piano—such a Brian

Ferneyhough's *Study 1 for Bass Clarinet*—would also further complicate and enrich our

understanding of genre and the body, given the piano's distinctive constraints and limits.

Additionally, the thesis as it stands draws a link between the four composers

studied and the earlier études of Fryderyk Chopin and Franz Liszt in the mid-19th

century. A more extensive study might also draw a genealogical link through other études

composed in the first half of the 20th century. The études of Claude Debussy would add

a particularly rich contribution to this narrative, as would the rhythmic experiments of

Olivier Messiaen and the pianistic explorations of Sergei Rachmaninoff.

Indeed, even the choice to limit my study to études in particular—rather than to

explore a more extensive range of liminal works, which might have included the New

Complexity Movement, or the paradoxical explorations of Fluxus composers, or works

outside of music from performance art and theatre—was primarily a function of the scope

of a doctoral thesis. Further exploration of relationship between pedagogy and

performance at the limits of the body, for example, might study Cornelius Cardew's *The

Great Learning* (1971), for any number of untrained singers and instrumentalists. Many

other composers and artists have also directly confronted notions of the impossible.

Particular relevant to the methodologies and approaches of this project is the use of

paradox in pieces like Tom Johnson's *Infinite Melodies* and *Failing: a very difficult piece for

solo string bass.*

An obvious extension of my research on posthuman virtuosity in Nancarrow and

Lizée would be the contemporary genre of Black MIDI, in which composers remix songs

using millions or billions of notes, and 'perform' these using piano training software on

YouTube.[2] Black MIDI songs stretch not only the limits of what might be possible at the

keyboard, but also push at the limits of the technology: the YouTube videos often include

visible lags because of the computer power involved in rendering the video files.

As I have explored throughout the project, however, limiting my work to études

offers an ideal starting point for further research. Études are cases in which these issues

are especially resonant, and so provide good examples for these first explorations. The

origins of the étude in pedagogy and as technical examples mean that there is historical

and logical basis for using observations made about études to discuss issues of virtuosity,

subjectivity, and labour in wider repertoire. Likewise, these observations are not meant to

suggest that the way the étude operates at the limits of the body is different from other

forms of music-making, historical or contemporary. In fact, the opposite is true. My

approach suggests that the étude is not limited to a genre but rather can be thought of as

---

[2]An arrangement of Queen's 'Bohemian Rhapsody' using 2.06 million notes can be found at

<www.youtube.com/watch?v=HjwzR3BqMZ4> [accessed 1 July 2019]

a way of approaching music. This notion emerges from the 19th century, in which—as the genre was emerging—many pieces that were not études were thought of as being, or having the potential to be étude. As such, étude-thinking is a practice that might be applied to any form of music-making. This is especially true of the act of performance. Performers apply étude thinking in their practising all the time, to any kind of music in which they are struggling with a problem, or seeking to improve. So, too, can étude-thinking be understood as part of any music-making from a scholarly perspective.

As I suggested in the introduction, I believe that limitations are productive, and constraints can reveal rather than obscure general truths. By studying 'impossible' music at the limits of the human body—revealing the fractures and gaps that this topic poses—I have explored how the act of performance engages at all times with the liminal space between possible and impossible, creating utopian leaps between instantiation and imagination. These are the same leaps that must be made in all writing about performance—which, as Carolyn Abbate memorably described, suffers from the non-negotiable 'present pastness [performance] must have to make possible any act of writing'.[3] The études studied in this thesis remind us of the possibility of making such imaginative leaps and the value of striving towards impossible goals. By harnessing the étude as a way of thinking, doing, and writing, what other impossible tasks might we accomplish?

---

[3]Abbate (2004), 530.

BIBLIOGRAPHY

Abbate, Carolyn, 'Music — Drastic or Gnostic?', *Critical Inquiry*, 30 (2004), 505–36

Adorno, Theodor W., 'Bloch's "Traces": the Philosophy of Kitsch', *New Left Review*, 1980,
49–62

Aimard, Pierre-Laurent, 'György Ligeti: Klavierweke | Performing Ligeti | Étude 13', *Explore
the Score*, 2017 <www.explorethescore.org> [accessed 27 April 2017]

Alarm Will Sound, 'Repertoire: Nancarrow, Conlon'
<www.alarmwillsound.com/repertoire_post/nancarrow-conlon> [accessed 2 July
2019]

Amirkhanian, Charles, 'Interview with Composer Conlon Nancarrow', in *Selected Studies
for Player Piano* (Berekeley: Soundings Press, 1977), pp. 7–24

Anderson, Ben, 'Recorded Music and Practices of Remembering', *Social & Cultural
Geography*, 5 (2004), 3–20

Anderson, Ben, 'A Principle of Hope: Recorded Music, Listening Practices and the
Immanence of Utopia', *Geografiska Annaler. Series B, Human Geography*, 84 (2002),
211–27

Anderson, Greg, *Greg Anderson Plays Ligeti Etude 13: The Devil's Staircase* (YouTube, 2006)
<https://www.youtube.com/1ZTaiDHqs5s>

Arendt, Hannah, *Between Past and Future: Six Exercises in Political Thought,* (New York:
Viking Press, 1961)

Armstrong, Tim, 'Player Piano : Poetry and Sonic Modernity', 1 (2007), 1–19

Attali, Jacques, *Bruits: Essai Sur L'economie Politique de La Musique* (Paris: Presses
Universitaires de France, 1977)

Bailes, Sara Jane, *Performance Theatre and the Poetics of Failure : Forced Entertainment,
Goat Island, Elevator Repair Service* (London: Routledge, 2011)

Barad, Karen, 'Posthumanist Performativity: Toward an Understanding of How Matter
Comes to Matter', 28 (2003)

Bazaras, Montiejus, 'Gyorgy Ligeti's Etudes for Piano, Book II: Variations on the Subject of
Infinity', *Hidden Archives, Hidden Practices Conference* (2019)

Beckett, Samuel, *Worstward Ho* (London: Calder, 1983)

Bennet, Jane, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press,
2010)

Bernstein, Susan, *Virtuosity of the Nineteenth Century: Performing Music and Language in
Heine, Liszt, and Baudelaire* (Stanford: Stanford University Press, 1998)

Bloch, Ernst, *The Spirit of Utopia* (Stanford: Stanford University Press, 2000)

_____, *The Utopian Function of Art and Literature: Selected Essays*, trans. by Jack
Zipes and Frank Mecklenburg (Cambridge, MA: Harvard University Press, 1988)

_____, *The Principle of Hope*, trans. by Neville Plaice, Stephen Plaice, and Paul
Knight (Cambridge, MA: The MIT Press, 1995)

Borgdorff, Henk, 'The Production of Knowledge in Artistic Research', in *The Routledge
Companion to Research in the Arts*, ed. by M. Biggs and H. Karlsson (London:
Routledge, 2010), pp. 44–63

Borges, Jose Luis, 'The Analytical Language of John Wilkins', in *The Total Library. Non-
Fiction 1922-1986*, ed. by Eliot Winberger (London: Penguin, 2001), pp. 229–32

Braidotti, Rosi, *The Posthuman* (Cambridge: Polity Press, 2013)

Broderick, Damien, 'New Wave and Backwash: 1960–1980', in *The Cambridge Companion
to Science Fiction*, ed. by Edward James and Farah Mendlesohn (Cambridge
University Press, 2003), pp. 48–63

Brodsky, Seth, *From 1989, or European Music and the Modernist Unconscious* (Berkeley:
University of California Press, 2017)

Brooks, William, 'Music II: From the Late 1960s', in *The Cambridge Companion to John
Cage*, ed. by David Nicholls (Cambridge: Cambridge University Press, 2002)

Bugallo-Williams Piano Duo, 'Conlon Nancarrow: Studies and Solos' (Wergo, 2004)

Bugallo, Helena, 'Selected Studies for Player Piano by Conlon Nancarrow: Sources,
    Working Methods, and Compositional Strategies' (PhD Diss., The State University
    of New York at Buffalo, 2004)

Burge, David, 'Review of Etudes Australes, Books 1-2; 3-4 by John Cage', *Notes*, 33
    (2017), 690–92

Butte, George, 'Suture and the Narration of Subjectivity in Film', *Poetics Today*, 29 (2008),
    277–308

Cage, John, *M: Writings 67-72* (Middletown, Conn.: Wesleyan University Press, 1973)

_____, *Etudes Australes Books 1 & 2 [Score]* (New York: Edition Peters, 1975)

_____, *For the Birds: John Cage in Conversation with Daniel Charles* (London: Boyars,
    1981)

_____, *X: Writings '79-'82* (Hanover: Wesleyan University Press, 1983)

_____, *Empty Words: Writings '73-'78* (Middletown: Wesleyan University Press, 1979)

_____, *Silence: Lectures and Writings* (MIddletown: Wesleyan University Press, 1961)

_____, 'The Future of Music: Credo', in *Audio Culture: Readings in Modern Music*, ed.
    by Christoph Cox and Daniel Warner (New York: Continuum, 2004), pp. 25–28

_____, *I-VI* (Hanover: Wesleyan University Press, 1997)

_____, *The Selected Letters of John Cage*, ed. by Laura Kuhn (Hanover: Wesleyan
    University Press, 2016)

Cage, John, and Jeff Goldberg, 'John Cage: Interviewed by Jeff Goldberg', *The
    Transatlantic Review*, 55/56 (1976), 103–10

Cage, John, and Richard Kostelanetz, 'His Own Music: Part Two', *Perspectives of New
    Music*, 26 (1988), 26–49

Cage, John, and Richard Kostelanetz, *Conversing with Cage*, (New York: Routledge, 1987)

Cage, John, and Roger Reynolds, 'John Cage and Roger Reynolds: A Conversation', *The
    Musical Quarterly*, 65 (1979), 573–94

Cascone, Kim, 'The Aesthetics of Failure: "Post-Digital" Tendencies in Contemporary

    Computer Music', *Computer Music Journal*, 24 (2000), 12–18

Chopin, Frédéric, *12 Études Op. 10: Édition de Travail,* ed. by Alfred Cortot (Paris: Maurice

    Senart, 1915)

Chopin, Fryderyk, *Frederic Chopin: Complete Works for Piano*, ed. by Karl Mikuli (New York:

    G. Schirmer, 1916)

Cilliers, Paul, 'Complexity and Postmodernism: Understanding Complex Systems', *South

    African Journal of Philosopy*, 18 (1998), 258–74

Clarke, David, and Eric Clarke, 'Music and Consciousness', *Leonardo*, 41 (2008), 420–21

    <www.mitpressjournals.org/doi/abs/10.1162/leon.2008.41.4.420>

Clendinning, Jane Piper, 'The Pattern-Meccanico Compositions of György Ligeti',

    Perspectives of New Music, 31 (1993), 192

Collins, Nick, 'Relating Superhuman Virtuosity to Human Performance', *Proceedings of

    MAXIS*, Sheffield Hallam University, 2002

Cook, Nicholas, 'Between Process and Product: Music and/as Performance', *Music Theory

    Online*, Vol 7 no. 2 (April 2001)

_____, *Beyond the Score: Music as Performance* (Oxford: Oxford University Press, 2013)

Cowell, Henry, *New Musical Resources* (New York: Knopf, 1930)

Crow, David, 'Alfred Hitchcock's Rope and the Illusion of the Uninterrupted Take', 2018

    <www.denofgeek.com/us/movies/rope/258105/alfred-hitchcock-s-rope-and-the-

    illusion-of-the-uninterrupted-take>

Csicsery-Ronay, Istvan Jr, 'Marxist Theory and Science Fiction', in *Cambridge Companion

    to Science Fiction*, ed. by Edward James and Farah Mendlesohn (Cambridge:

    Cambridge University Press, 2003), pp. 113–24

Daly, Ann, *Critical Gestures: Writings on Dance and Culture* (Middletown: Wesleyan

    University Press, 2002)

Metzer, David, 'Musical Decay: Luciano Berio's Rendering and John Cage's Europera 5',

Journal of the Royal Musical Association, 125 (2019), 93–114

Deleuze, Anna, 'Origins of the Fluxus Score', *Performance Research*, 7 (2002), 78–94

Deleuze, Gilles, 'Postscript on the Societies of Control', *October*, 59 (1992), 3–7

Denk, Jeremy, 'Ligeti/Beethoven (Liner Notes)', *Nonesuch Records*, 2012

    <www.nonesuch.com/journal/jeremy-denk-album-note-ligeti-beethoven-2012-05-

    15> [accessed 1 July 2019]

Derrida, Jacques, 'A Certain Impossible Possibility of Saying the Event', *Critical Inquiry*, 33

    (2007), 441–61

'Diegesis', *Oxford Reference: A Dictionary of Media and Communication*, 2019

    <www.oxfordreference.com/view/10.1093/oi/authority.20110803095717289>

Doane, Mary Ann, 'The Voice in the Cinema : The Articulation of Body and Space', *Yale*

    French Studies, 1980, 33–50

Dogantan-Dack, Mine, ed., *Artistic Practice as Research in Music: Theory, Criticism, Practice.*

    (Aldershot: Ashgate, 2015)

Dolan, Brian, *Inventing Entertainment: The Player Piano and the Origins of an American*

    Musical Industry (Lanham, MD: Rowman & Littlefield, 2009)

Dolan, Emily I., and John Tresch, 'Toward a New Organology: Instruments in Music and

    Science', in *Music, Sound, and the Laboratory from 1750-1980* (Chicago: The

    University of Chicago Press, 2013), pp. 278–98

Dolan, Jill, *Utopia in Performance: Finding Hope at the Theater* (Ann Arbor: Michigan

    University Press, 2005)

Drew, David, 'Introduction. From the Other Side: Reflections on the Bloch Centenary', in

    Essays on the Philosophy of Music (Cambridge: Cambridge University Press, 1985),

    pp. xi–xlviii

Drott, Eric, 'The End(s) of Genre', *Journal of Music Theory*, 57 (2013), 1–45

_____, 'Conlon Nancarrow and the Technological Sublime', *American Music*, 22

    (2004), 533–63

_____, 'Ligeti in Fluxus', *Journal of Musicology*, 21 (2004), 201–40

Eigeldinger, Jean-Jacques, *Chopin: Pianist and Teacher -- as Seen by His Pupils* (Cambridge:

>   Cambridge University Press, 1988)

Ellis, Katharine, 'Paris and the Regions from the Revolution to the First World War', in *The*

>   *Cambridge Companion to French Music*, ed. by Simon Trezise (Cambridge: Cambridge

>   University Press, 2015), pp. 362–78

_____, *Music Criticism in Nineteenth-Century France* (Cambridge: Cambridge

>   University Press, 1995)

Fabbri, Franco, 'A Theory of Musical Genres: Two Applications', *Popular Music*

>   *Perspectives* (Exeter: International Association for the Study of Popular Music,

>   1981), 52–81

Felman, Shoshana, *The Scandal of the Speaking Body* (Stanford: Stanford University Press,

>   2002)

Finlow, Simon, 'The Twenty-Seven Etudes and Their Antecedents', in *The Cambridge*

>   *Companion to Chopin*, ed. by Jim Samson (Cambridge: Cambridge University Press,

>   2011), pp. 50–77

Fletcher, Laura, and Thomas Moore, 'An Interview [John Cage]', *Sonus: A Journal of*

>   *Investigations into Global Musical Possibilities*, 3 no. 2 (1983), 16–23

Floros, Constantin, *György Ligeti: Beyond Avant-Garde and Postmodernism* (Frankfurt am

>   Main: Peter Lang, 2014)

Foster, Myles B., *The Philharmonic Society of London 1813-2912* (New York: John Lane

>   Company, 1912)

Freire, Paulo, *Pedagogy of the Oppressed* (New York: Continuum, 2007)

Fresh Air, 'Jeremy Denk: Playing Ligeti With A Dash Of Humor' (NPR, 2013)

>   <www.npr.org>

Frye, Northrop, *Northrop Frye on Milton and Blake*, ed. by Angela Esterhammer (Toronto:

>   University of Toronto Press, 2005)

Gabrowski, Christophe, and John Rink, *Annotated Catalogue of Chopin's First Editions* (Cambridge: Cambridge University Press, 2010)

Gallope, Michael, 'Ernst Bloch's Utopian Ton of Hope', *Contemporary Music Review*, 31 (2012), 371–87

_____, *Deep Refrains: Music, Philosophy, and the Ineffable* (Chicago: University of Chicago Press, 2017)

Gann, Kyle, *The Music of Conlon Nancarrow* (Cambridge: Cambridge University Press, 1995)

Garland, Peter, ed., *Soundings Book 4: Selected Studies for Player Piano* (Berkeley, 1977)

Garland, Peter, *Conlon Nancarrow: Chronicle of a Friendship*, *Americas: Essays on American Music and Culture, 1973–80* (Santa Fe: Soundings Press, 1982)

Garnett, Guy E., 'The Aesthetics of Interactive Computer Music', *Computer Music Journal*, 25 (2001), 21–33

Gay, Peter, *The Bourgeois Experience: Victoria to Freud, Vol. 4: The Naked Heart* (New York: Norton, 1995)

Geoghegan, Vincent, *Ernst Bloch* (London: Routledge, 1996)

_____, 'Bloch, Ernst', in *International Encyclopedia of Ethics*, 2013

Gooley, Dana, *The Virtuoso Liszt* (Cambridge: Cambridge University Press, 2004)

Gritten, Anthony, 'Distraction in Polyphonic Gesture', in *New Perspectives on Music and Gesture* (London: Ashgate, 2006), pp. 99–122

Gritten, Anthony, and Elaine King, eds., *New Perspectives on Music and Gesture* (London: Ashgate, 2006)

Grusin, Richard, ed., *The Nonhuman Turn* (Minneapolis: University of Minnesota Press, 2015)

'Gulbransen Player-Piano', *Literary Digest* (New York, 1921), 39

Habermas, Jürgen, *The Structural Transformation of the Public Sphere. An Inquiry into a Category of Bourgeois Society.*, trans. by Thomas Burger (Cambridge: Polity Press,

1992)

Halberstam, Judith, *The Queer Art of Failure*, *The Queer Art of Failure* (Durham: Duke

University Press, 2011)

Hamilton, Kenneth, *After the Golden Age: Romantic Pianism and Modern Performance*

(Oxford: Oxford University Press, 2008)

Hannula, Mika, Juha Suoranta, and Tere Vaden, *Artistic Research--Theories, Methods, and*

Practices (Helsinki: Academy of Fine Arts, 2005)

Harney, Stefano, and Fred Moten, *The Undercommons: Fugitive Planning & Black Study*

(Brooklyn: Autonomedia, 2013)

Haskins, Rob, *John Cage* (London: Reaktion Books Ltd, 2012)

Hayles, N Katherine, 'The Transformation of Narrative and the Materiality of Hypertext1',

Narrative, 9 (2001), 21–39

_____, *Writing Machines* (Cambridge, MA: The MIT Press, 2002)

_____, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature,*

and Informatics (Chicago: The University of Chicago Press, 1999)

Heidegger, Martin, *Being and Time*, ed. by trans Joan Stambaugh (Albany, NY: SUNY

Press, 1996)

Hennion, Antoine, '"As Fast as One Possibly Can": Virtuosity, A Truth of Musical

Performance?', in *Critical Musicological Reflections: Essays in Honor of Derek B. Scott*,

ed. by Stan Hawkins (Farnham: Ashgate, 2012), pp. 125–38

Hisama, Ellie M., *Gendering Musical Modernism: The Music of Ruth Crawford, Marian Bauer,*

and Miriam Gideon (Cambridge: Cambridge University Press, 2001)

Hitchcock, Alfred, *Psycho* (United States: Shamley Productions, 1960)

_____, *The Man Who Knew Too Much* (New York: Paramount, 1956)

_____, *Rope* (Universal, 1948)

_____, *The Birds* (Universal, 1963)

Hocker, Jurgen, 'My Soul Is in the Machine: Conlon Nancarrow (1912-1997)', *The Journal*

of Mechanical Music, 1997

_____, 'Videos', *YouTube* <www.youtube.com/user/playerpianoJH/> [accessed 2
July 2019]

Howells, Richard, *A Critical Theory of Creativity: Utopia, Aesthetics, Atheism and Design*
(New York: Palgrave Macmillan, 2015)

Huneker, James, *Franz Liszt* (New York: Charles Scribner's Sons, 1911)

Huneman, Philippe, and Charles T. Wolfe, 'Man-Machines and Embodiment: From
Cartesian Physiology to Claude Bernard's "Living Machine"', in *Embodiment: A
History*, ed. by Justin E. H. Smith (Oxford: Oxford University Press, 2017), pp. 241–
76

Iverson, Jennifer, 'Mechanized Bodies: Technology and Supplements in Björk's
Electronica', *The Oxford Handbook of Music and Disability Studies* (Oxford Handbooks
Online, 2016), 1–23 <www.oxfordhandbooks.com>.

James, Edward, and Farah Mendlesohn, *The Cambridge Companion to Science Fiction*
(Cambridge: Cambridge University Press, 2003)

Jameson, Fredric, *Archaeologies of the Future : The Desire Called Utopia and Other Science
Fictions* (London: Verso, 2007)

_____, *The Political Unconscious: Narrative as a Socially Symbolic Act.* (Ithaca: Cornell
University Press, 1981)

_____, 'Progress versus Utopia; Or, Can We Imagine the Future?', *Science Fiction
Studies*, 9 (1982)

Johnson, Julian, *Out of Time: Music and the Making of Modernity* (Oxford: Oxford
University Press, 2015)

Joseph, Branden W, 'John Cage and the Architecture of Silence', *October*, 81 (2014), 80–
104

Kallberg, Jeffrey, 'The Rhetoric of Genre: Chopin's Nocturne in G Minor', *19th-Century
Music*, 11 (1988), 238–61

_____, 'Mechanical Chopin', *Common Knowledge*, 17 (2011)

Kanga, Zubin, 'Through the Silver Screen : The Collaborative Creation of Works for Piano

and Video', *Contemporary Music Review*, 35 (2017), 423–49

Kanno, Mieko, 'Cage's Freeman Etudes: Sounding Out', in *MetaCage: Essays on and around*

Freeman Etudes (Leuven: Leuven University Press, 2009)

_____, 'Order Matters: A Thought on How to Practise', in *Artistic Experimentation in*

Music: An Anthology, ed. by Darla Crispin and Bob Gilmore, Orpheus In (Leuven:

Leuven University Press, 2014)

Katz, Jonathan D, 'John Cage's Queer Silence; Or, How to Avoid Making Matters Worse',

GLQ: A Journal of Gay and Lesbian Studies, 5 (1999), 231–52

Kawabata, Maiko, 'Virtuosity, the Violin, the Devil ... What Really Made Paganini

"Demonic"?', *Current Musicology*, 2007, 85–108

Korstvedt, Benjamin M, *Listening for Utopia in Ernst Bloch's Musical Philosophy* (Cambridge:

Cambridge University Press, 2010)

Kosnoski, Jason, 'Specter and Spirit: Ernst Bloch, Jacques Derrida, and the Work of

Utopia', *Rethinking Marxism*, 23 (2011), 507–23

Kostelanetz, Richard., *Conversing with Cage*, 2nd edn (New York: Routledge, 2003)

Krauss, Rosalind, 'Two Moments Form the Post-Medium Condition', *October*, 116 (2006),

55–62

Krims, Adam, 'Marxist Music Analysis without Adorno: Popular Music and Urban

Geography', in *Analyzing Popular Music*, ed. by Allan F. Moore (Cambridge:

Cambridge University Press, 2003), pp. 131–57

Le Guin, Ursula, *The Dispossessed: An Ambiguous Utopia* (New York: Voyager, 1996)

Lemoine, Henry, *Les Tablettes Du Pianiste: Memento Du Professeur de Piano* (Paris: Chez

Henry Lemoine, 1858)

Leppert, Richard, 'Cultural Contradiction, Idolatry, and the Piano Virtuoso: Franz Liszt', in

Piano Roles: Three Hundred Years of Life with the Piano, ed. by James Parakilas (New

Haven: Yale University Press, 2002), pp. 200–223

Levinson, Jerrold, 'Evaluating Musical Performance', *The Journal of Aesthetic Education*, 21
(1987), 75–88

Levitas, Ruth, 'Singing Summons the Existence of the Fountain', in *The Privatization of
Hope: Ernst Bloch and the Future of Utopia*, ed. by Peter Thompson and Slavoj Zizek
(Durham: Duke University Press, 2013), pp. 219–45

_____, 'In Eine Bess're Welt Entrückt: Reflections on Music and Utopia', *Utopian
Studies*, 21 (2010), 215–31

_____, *Utopia as Method : The Imaginary Reconstitution of Society* (Basingstoke:
Palgrave Macmillan, 2013)

Ligeti, György, 'Ligeti Talks to Adrian Jack', *Music and Musicians*, vol. 22 (1974), 24-30

_____, *Études Pour Piano, Premier Livre* (Mainz: Schott, 1985)

Lilienfeld, Robert, 'Music and Society in the 20th Century: Georg Lukacs, Ernst Bloch, and
Theodor Adorno', *International Journal of Politics, Culture and Society*, 1 (1987), 120–
46

Lizée, Nicole, *Hitchcock Études* (Canadian Music Centre, 2010)

_____, 'Megumi Masaki Performs Hitchcock Études for Piano, Electronic Soundtrack
& Video', *Vimeo*, 2011 <https://vimeo.com/80063226> [accessed 1 July 2019]

_____, 'Bookburners' (Centrediscs, 2014)

Loeckle, Wolf, and Sabine Liebner, 'Zeitproportionalnotation Trifft Overtonresonanzen:
Wolf Loeckle Im Grspräch Mit Sabine Liebner Über John Cages «Etudes Australe»',
Neue Zeitschrift Für Musik (1991-), 173 (2012), 8–11

Maddocks, Fiona, 'Ligeti/Beethoven: Piano Études; Sonata No 32', *The Guardian*, 13 May
2012

Marcus, Greil, 'Punk (1979)', *Greilmarcus.net*, 2014
<https://greilmarcus.net/2014/09/08/punk-1979/> [accessed 27 April 2017]

Mark, Thomas Carson, 'On Works of Virtuosity', *The Journal of Philosophy*, 77 (1980), 28–

Marx, Karl, *Capital : A Critique of Political Economy*, trans. David Fernbach
(Harmondsworth: Penguin, 1985)

McClellan, Michael, and Simon Trezise, 'The Revolution and Romanticism to 1848', in *The Cambridge Companion to French Music*, ed. by Simon Trezise (Cambridge: Cambridge University Press, 2015), pp. 111–32

McKinlay, Alan, and James Wilson, '"All They Lose Is the Scream": Foucault, Ford and Mass Production', *Management and Organizational History*, 7.2 (2012), 45–60

Metzner, Paul, *Crescendo of the Virtuoso: Spectacle, Skill, and Self-Promotion in Paris during the Age of the Revolution* (Berkeley: University of California Press, 1998)

Mitchell, David T., and Sharon L. Snyder, *Narrative Prosthesis: Disability and the Dependencies of Discourse* (Ann Arbor: University of Michigan Press, 2000)

Miyamoto, Naomi, 'Concerts and the Public Sphere in Civil Society Through Rethinking Habermas's Concept of Representative Publicness', *International Review of Th Aesthetics and Sociology of Music*, 44 (2013), 101–18

Morano, Christopher, 'A Performer's Perspective of Three Works for Pianist and Moving Images: Analysis with Performance and Practice Strategies' (University of British Columbia, 2016)

Moseley, Roger, 'Digital Analogies: The Keyboard as Field of Musical Play', *Journal of the American Musicological Society*, 68 (2015), 151–227

Moylan, Tom, *Demand the Impossible : Science Fiction and the Utopian Imagination* (New York: Methuen, 1986)

Muñoz, José Esteban, *Cruising Utopia : The Then and There of Queer Futurity* (New York: New York University Press, 2009)

Murcott, Dominic, 'Tomorrow's Music On Yesterday's Machines: In Search of an "Authentic" Nancarrow Performance', *Music Theory Online*, 20 (2014)

Musser, Jordan, 'Carl Czerny's Mechanical Reproductions' *Journal of the American*

Musicological Society, 72 (2019), 363-429

Nancarrow, Conlon, 'Conlon Nancarrow - Studies for Player Piano Volume I & II (Full)',

        Wergo, 1991 <www.youtube.com/GENsMqIDT0> [accessed 2 July 2019]

_____, 'Study No. 7', *Other Minds Records*, 1977 <www.youtube.com/TDs-gh3Bt1Y>

        [accessed 2 July 2019]

Nancarrow, Conlon, and John Cage, 'Conlon Nancarrow and John Cage: In Conversation,

        Moderated by Charles Amirkhanian', *Telluride Institute*, 1989

        <johncagetrust.blogspot.com/2015/06/cage-and-nancarrow-1989.html> [accessed

        21 August 2018]

Nancarrow, Conlon, and Bruce Duffie, 'Composer Conlon Nancarrow: A Conversation

        with Bruce Duffie', *Bruceduffie.com*, 1987 <www.bruceduffie.com/arts.html>

        [accessed 20 August 2018]

Nicholls, David, 'The Cambridge Companion to John Cage [Electronic Resource]',

        Cambridge Companions to Music. (Cambridge: Cambridge University Press,), p. 1

        online resource (xiii, 286).

Niecks, Frederick, *Frederick Chopin: As A Man and Musician* (London: Novello, 1902)

'Notation', *Grove Music Online* (Oxford University Press, 2001)

        <www.oxfordmusiconline.com>

Norris, Christopher, 'Utopian Deconstruction: Ernst Bloch, Paul de Man, and the Politics

        of Music', in *Music and the Politics of Culture*, ed. by Christopher Norris (London:

        Lawrence and Wishart, 1989), pp. 305–47

Obrist, Hans Ulrich, *A Brief History of Curating* (Dijon: Les Presses du Réel, 2008).

Odin, Jaishree K, *Hypertext and the Female Imaginary* (Minneapolis: University of

        Minnesota Press, 2010)

Ord-Hume, Arthur W., *Pianola: The History of the Self-Playing Piano* (London: George Allen

        & Unwin, 1984)

Ortiz, Luis, *Emshwiller: Infinity X Two* (New York: Nonstop Press, 2007)

Palmer, David L., 'Virtuosity as Rhetoric: Agency and Transformation in Paganini's

    Mastery of the Violin', *Quarterly Journal of Speech*, 1998

Parkhurst, Bryan J., and Stephan Hammel, 'On Theorizing a "Properly Marxist" Musical

    Aesthetics', *International Review of the Aesthetics and Sociology of Music*, 48 (2018),

    33–55

Perloff, Marjorie, *The Poetics of Indeterminacy: Rimbaud to Cage* (Evanston: Northwestern

    University Press, 1999)

Phelan, Peggy, *Unmarked: The Politics of Performance* (London: Routledge, 1993)

Priest, eldritch, *Boring Formless Nonsense: Experimental Music and the Aesthetics of Failure*

    (New York: Bloomsbury Academic, 2013)

Pritchett, James, *Music of John Cage* (Cambridge: Cambridge University Press, 1996)

Qureshi, Regula Burckhardt, ed., *Music and Marx: Ideas, Practice, Politics* (New York:

    Routledge, 2002)

Rabkin, Eric S., 'Science Fiction and the Future of Criticism', *PMLA*, 119 (2004), 457–73

Rakowski, David, *Études: Book I* (New York: Edition Peters, 2001)

Reynolds, Roger, 'Conlon Nancarrow : Interviews in Mexico City and San Francisco', 2

    (2017), 1–24

_____, 'Inexorable Continuities: A Commentary on the Music of Conlon Nancarrow',

    in *Soundings*, Book 4, Spring/Summer (1977), 26-39

Rink, John, 'Chopin's Study in Syncopation', in *Bach to Brahms: Essays on Musical Design*

    and Structure (Rochester: Boydell & Brewer, 2015), pp. 132–42

Robinson, Julia E, ed., *John Cage*, October Files (London: MIT Press, 2011)

Rothenbuhler, Eric W., and John Durham Peters, 'Defining Phonography: An Experiment

    in Theory', *Musical Quarterly*, 81 (1997), 242–64

Samson, Jim, 'Chopin and Genre', *Music Analysis*, 8 (1989), 213–31

_____, *Chopin: The Four Ballades* (Cambridge: Cambridge University Press, 1992)

_____, *The Music of Chopin* (London: Routledge, 1985)

_____, *Virtuosity and the Musical Work: The Transcendental Studies of Franz Liszt* (Cambridge: Cambridge University Press, 2004)

Sangild, Torben, 'Glitch—The Beauty of Malfunction', in *Bad Music: The Music We Love to Hate*, ed. by Christopher Washburn and Maiken Derno (New York: Routledge, 2004)

Scarry, Elaine, *The Body in Pain : The Making and Unmaking of the World* (Oxford: Oxford University Press, 1987)

Schaeffer, Pierre, *Traite Des Objets Musicaux* (Paris: Le Seuil, 1966)

Schroeder, David, *Hitchcock's Ear: Music and the Director's Art* (New York: The Continuum International Publishing Group, 2012)

Schumann, Robert, 'Die Pianoforte-Etuden, Ihren Zwecken Nach Geordnet', *Neue Zeitschrift Für Musik*, 4 (1836), 45–46

Service, Tom. 'Pierre-Laurent Aimard opens a world of imagination in Ligeti's piano music', *The Guardian* 2015 www.theguardian.com

Shklovksy, Victor, 'Art as Technique', in *The Critical Tradition : Classic Texts and Contemporary Trends*. Richter, D. New York: St. Martins Press, (1989) 775–785.

Silverman, Kaja, *The Subject of Semiotics* (Oxford: Oxford University Press, 1983)

Simms, Bryan R, *Composers on Modern Musical Culture : An Anthology of Readings on Twentieth-Century Music* (New York: Schirmer Books, 1999)

Sousa, John Philip, 'The Menace of Mechanical Music', *Appleton's Magazine*, 8 (1906), 276–84

Stanyek, Jason, and Benjamin Piekut, 'Deadness: Technologies of the Intermundane', *TDR/The Drama Review*, vol 54, Spring (2010), 14–38

Stefanou, Danae Maria, 'Placing the Musical Landscape Spatiality, Performance and the Primacy of Experience', (PhD Diss., Royal Holloway University of London, 2004)

Stojanović-Novičić, Dragana, 'The Carter-Nancarrow Correspondence', *American Music*, 29 (2011), 64–84

Stow, Simon, 'Worlds Apart: Ursula K. Le Guin and the Possibility of Method', in *The New Utopian Politics of Ursula Le Guin's The Dispossessed*, ed. by Laurence Davis and Peter Stillman (Lanham, MD: Lexington Books, 2005), pp. 37–52

Steinitz, R. *György Ligeti: Music of the Imagination*. (London: Faber and Faber, 2013)

Suisman, David, 'Sound, Knowledge, and the "Immanence of Human Failure"', *Social Text*, 28 (2010), 13–34

_____, 'Nancarrow in Context: A Critical History of Player-Pianos and Mechanical Automation', 2012 <conlonnancarrow.org/symposium/Program.html>

Szendy, Peter, *Phantom Limbs: On Musical Bodies*, trans. by Will Bishop (Oxford: Oxford University Press, 2016)

Taylor, Astra, *Examined Life* (Canada: Zeitgeist Films, 2008), <www.critical-theory.com/watch-judith-butler-the-examined-life>

Taylor, Diana, *The Archive and the Repertoire* (Durham: Duke University Press, 2003)

Tenney, James, 'Conlon Nancarrow's Studies for Player Piano', in *Conlon Nancarrow: Selected Studies for Player Piano*, ed. by Peter Garland (Berekeley: Soundings Press, 1977)

Thomas, Margaret E, 'Conlon Nancarrow , "Hot" Jazz , and the Principle of Collective Improvisation', *Music Theory Online*, 20 (2014) <www.mtosmt.org/issues/mto.14.20.1>

_____, 'Conlon Nancarrow's "Temporal Dissonance" : Rhythmic and Textural Stratification in the Studies for Player Piano' (PhD Diss., Yale University, 1996)

Thompson, Peter, and Slavoy Zizek, eds., *The Privatization of Hope: Ernst Bloch and the Future of Utopia* (Durham: Duke University Press, 2013)

Virno, Paolo, *A Grammar of the Multitude* (Cambridge: MIT Press, 2004)

_____, 'Virtuosity and Revolution: The Political Theory of Exodus', in *Radical Thought in Italy : A Potential Politics*, ed. by Paolo Virno and Michael Hardt (Minneapolis: University of Minnesota Press, 1996), pp. 13–37

Wallace, David Foster, 'Roger Federer as Religious Experience - Tennis', *The New York Times*, 2006

    <www.nytimes.com/2006/08/20/sports/playmagazine/20federer.html>

Weber, William, 'The History of the Music', in *Rethinking Music*, ed. by Nicholas Cook and Mark Everist (Oxford: Oxford University Press, 1999)

Weiss, Allen S., *Breathless: Sound Recording, Disembodiment, and The Transformation of Lyrical Nostalgia* (MIddletown, CT: Wesleyan University Press, 2002)

Wente, Allison Rebecca, 'Magical Mechanics: The Player Piano in the Age of Digital Reproduction', (PhD. Diss., The University of Texas at Austin, 2016)

Whittall, Arnold, 'In Memoriam: György Ligeti', *The Musical Times* 147 (2006), 2–4

Wigley, Mark, 'Prosthetic Theory : The Disciplining of Architecture', *Assemblage*, 1991, 6–29

Wilson, Robert Rawdon, 'Cyber(Body)Parts: Prosthetic Consciousness', *Body and Society*, 1 (1995), 239–59

Wilson, Samuel, 'The Composition of Posthuman Bodies', *International Journal of Performance Arts and Digital Media*, 13 (2017), 137–52

Wolfe, Gary K, 'Science Fiction and Its Editors', in *Cambridge Companion to Science Fiction*, ed. by Edward James and Farah Mendlesohn (Cambridge: Cambridge University Press, 2003), 96–111

Zabel, Gary, 'Ernst Bloch and the Utopian Dimension of Music', *Musical Times*, 131 (1990), 82–84

Zec, Milica, and Marina Abramovic, *Marina Abramovic on Rhythm 0 (1974)* (Marina Abramovic Institute, 2013) <https://vimeo.com/71952791> [accessed 27 April 2017]