Underscoring the sentiments: A transgressive unlocking of personal artistry in piano performance

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A thesis submitted in partial fulfilment of requirements for the degree of Master of Music (Performance)

Sydney Conservatorium of Music, The University of Sydney, 2024.

The research reported in this thesis was supported by Research Training Program Funding.

Statement of Originality

This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes.

I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

Signature

Name

Jia Yuan Mao

Acknowledgements

This thesis represents the culmination of a challenging yet deeply rewarding journey, and it would not have been possible without the guidance, support, and encouragement of many people. First and foremost, I would like to express my deepest gratitude to my supervisors, Professor Neal Peres Da Costa and Dr Amanda Harris.

Neal, your unparalleled expertise, patience, and unwavering commitment to excellence have been an inspiration throughout this journey. Your insights have not only challenged me to grow as a researcher and thinker but have also profoundly transformed the way I approach and play the piano. I am deeply grateful for the dedication you have shown me.

Amanda, your thoughtful feedback, care, kindness, and understanding, along with your constant encouragement and belief in me, have made all the difference. I would not have made it to the end without your support. Both of you have been a source of strength and inspiration, and I could not have asked for better mentors.

I would also like to thank Dr Peter Phillips, whose generosity in providing recordings and introducing me to performances I would not have otherwise discovered has been invaluable. Your expertise has enriched my understanding and helped shape the direction of this project.

I wish to extend my gratitude to the wonderful faculty at the University of Sydney who have supported me in various ways. Associate Professor Christopher Coady, Professor Helen Mitchell, Dr David Kim-Boyle, and Lewis Cornwell, your guidance, advice, and encouragement have enriched my academic journey and made this experience all the more fulfilling.

To my friends and family, especially my late aunt Yannie, who believed in me even during the most challenging times: your love, encouragement, and unwavering support have been

my anchor. Thank you for standing by me, cheering me on, and helping me see this through to the end.

Finally, to all those who have inspired and supported me in ways big and small—thank you. This thesis is as much a reflection of your support as it is of my efforts, and I am forever grateful.

Abstract

This thesis investigates 19th-century performance practices as preserved on reproducing piano rolls, focusing on the works of Chopin and Schubert. It examines the expressive practices characteristic of the era—manual asynchrony, unnotated arpeggiation, metrical rubato, tempo modification, and embellishment—and details their role in shaping the individualistic interpretative approach of 19th-century-trained pianists.

Through a combination of artistic research, historically informed performance, and aural analysis, this thesis explores how these expressive practices can inform and enhance my own artistic agency as a performer. By critically engaging with these practices, I reflect on how they enable a more personalised approach to performance, contrasting with the constraints of modern textualist norms.

This research culminates in a lecture-recital that embodies this exploration, demonstrating how I have integrated these expressive practices in the performance of two works: *Largo* from Chopin's Sonata no. 3 in B minor op. 58 and *Andante sostenuto* from Schubert's Sonata in B-flat major D. 960. This process bridges historical traditions with personal creativity, illustrating how 19th-century expressive practices can foster interpretations that embrace new artistic possibilities.

Author's Note

This thesis comprises two components: a written dissertation and a creative work in the form of a lecture-recital. While the written dissertation focuses on the analysis of reproducing piano rolls and the expressive practices they reveal, the creative work applies these findings in performance, offering a practical demonstration of the insights gained.

This written dissertation includes references to audio recordings to support the analysis of 19th-century performance practices. These recordings are accessible in my examination files and via a dedicated Google Drive folder. The link to these resources is provided below:

https://drive.google.com/drive/folders/1ZgQxnbzcI73TkpG1bMRqlalqVtFaQTrV?usp=share_link

Throughout the dissertation, timecodes are provided in the format (Recording Name, 0:00–0:00) to indicate the specific section of the audio being discussed. For example, a reference such as (Chopin_Bauer, 0:26–1:06) directs the reader to a passage that begins 26 seconds into the Bauer recording and ends at 1 minute and 6 seconds. Readers are encouraged to listen to these excerpts alongside the text to fully engage with the analyses and interpretations presented.

The link to my creative work, the lecture-recital recording can be accessed here:

https://drive.google.com/drive/folders/1X5M2IXnRlh4tYxWSBgXDcG_xqQhUofWt?usp=share_link

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Abbreviations

DAW: Digital Audio Workstation

DRPRs: Digitised Reproducing Piano Rolls

HIP: Historically Informed Performance

M.M.: Maelzel's Metronome

MIDI: Musical Instrument Digital Interface

RPRs: Reproducing Piano Rolls

Chapter 1. Introduction

It was during one of my first piano lessons in my undergraduate degree, a decade ago, that I chanced upon a pivotal moment. I was learning Chopin's Nocturne in B-flat minor op. 9 no. 1, and unconsciously, I played the melody notes in the right hand slightly after the corresponding bass notes. It produced a beautiful sound. My teacher, Elizabeth Green, gently commented that while the effect was lovely, such a practice would not be well received by my examiners, emphasising that playing both hands precisely together was crucial for piano proficiency. She suggested that it might be something to explore later in life.

This moment marked the beginning of a subconscious disconnect between my own artistic vision and the prevailing aesthetics of modern piano performance. I felt discontent most strongly when playing expressive or sentimental works: slow movements evoking tenderness, affection, the elegiac or a sense of 'femininity'. Text-faithful performance, the modern style generally taught in conservatories and practised by the majority of classical music artists since the early-20th century,[1] felt unimaginative and restrictive. In this style, artistic decisions are confined within narrow parameters, with boundaries clearly demarcated.[2] Slower works are afforded a more malleable sense of time, but certainly, all notated elements are expected to be executed more or less precisely. With the advent of the textualist paradigm, urtext scores,[3] and access to a wealth of technically 'perfect' recordings,[4] modern performances of classical music have become increasingly uniform, producing a homogeneity of

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[1] Neal Peres Da Costa, *Off the Record: Performing Practices in Romantic Piano Playing* (New York: Oxford University Press, 2012), xxix.
[2] Daniel Leech-Wilkinson, *Challenging Performance: Classical Music Performance Norms and How to Escape Them.* Version 2.*2*, 2020, 19, https://challengingperformance.com/the-book/.
[3] Clive Brown, foreword to Peres Da Costa, *Off the Record,* ix.
[4] See Andy Hamilton, "The Art of Recording and the Aesthetics of Perfection," *The British Journal of Aesthetics* 43, no. 4 (October 2003): 345–62, https://doi.org/10.1093/bjaesthetics/43.4.345.

interpretation.[5] Feeling unable to fully explore the potential nuances of expression within these constraints, I found my performances of slow works to be sterile. Nevertheless, like many others, I acquiesced to the text-faithful performance norm, conditioned to believe in one broadly correct interpretation of any score.[6]

To my astonishment, I discovered that pianists trained in the second half of the 19th century performed Classical- and Romantic-era repertoire in a markedly different manner. This historical style, captured on early recordings,[7] is characterised by a highly individualistic use of various unnotated expressive practices. These practices portray a distinct and effusive conception of slow movements, with varied colours, emotions, and nuances, rendering familiar works with unfamiliar expression. This pre-modern sense of artistic expression is evident in many early recordings, but one in particular is a standout for me: Theodor Leschetizky's interpretation of Chopin's Nocturne in D-flat major op. 27 no. 2, preserved on a 1906 Welte-Mignon piano roll. Hearing his application of manual asynchrony,[8] unnotated arpeggiation,[9] a flexible sense of tempo and rhythm that greatly exceeds current boundaries, along with his re-composition of entire passages, is electrifyingly fresh. However, on first hearing I contemplated an uncomfortable contradiction: such a performance would likely be criticised or even condemned today, yet it was an emotive and poignant experience for me. I realised that these unnotated expressive practices imbued Leschetizky's performance with a

[5] David Dubal, *Evenings with Horowitz: A Personal Portrait* (Milwaukee: Amadeus Press, 2004), xix.
[6] Leech-Wilkinson, *Challenging Performance*, 19.
[7] These include acoustic recordings using the phonograph, graphophone and gramophone, as well as electrical recordings using microphones and reproducing piano rolls.
[8] Manual asynchrony refers to playing one hand after the other to create a momentary separation in vertically aligned material, typically between the melody and the bass.
[9] Unnotated arpeggiation is the separation of vertically aligned material without any marked arpeggio indication in the score.

compelling quality. His performance was sonic evidence that manual asynchrony—a practice I had intuited many years ago—was part of a broader range of expressive practices.

However, performing works from the Western musical canon in ways that diverge from current conventions presents significant challenges. While the rigorous training I received has been invaluable in developing my technical skills, it has also instilled a deep adherence to established expectations. This adherence has often conflicted with my desire to explore a more individual and creative approach to performance.

The prevailing norms of classical music performance, often viewed as the ultimate standard, are better understood as one interpretive framework among many. These norms, which emphasise fidelity to the score and technical precision, represent a relatively modern construct rooted in 20th-century values. By reframing them as one of many possible approaches rather than definitive or authoritative, I have begun to explore alternative pathways with confidence and artistic freedom.

This textualist paradigm, however, is perpetuated through both implicit and explicit forms of policing within the classical music field. The expectations imposed by various stakeholders create significant pressure to conform.[10] This environment fosters a fear of criticism and a compulsion to adhere to established conventions, stifling creativity and discouraging performers from pursuing unorthodox approaches.

This thesis draws on literature to examine the conditioning that underpins these norms, challenging their perceived authority and advocating for a more inclusive view of performance practices. By framing the process of challenging performance conventions as

[10] Leech-Wilkinson, *Challenging Performance*, 92.

both a personal and sociological endeavour, this research aims to empower me to explore alternative traditions—such as Historically Informed Performance (HIP)—and integrate these into my artistic practice.

The second issue involves engaging with 19th-century expressive practices, both technically and musically, in the performance of 19th-century repertoire. This artistic research project draws on these historically grounded practices as a means of expanding creative possibilities in performance. Through the analysis of early recordings, specifically reproducing piano rolls, this study investigates the temporal, rhythmic, and expressive nuances characteristic of 19th-century trained pianists. These practices are then actively embodied in performance, forming the basis for a creative exploration that bridges historical insight with contemporary artistry. Through this process, the research seeks to demonstrate how historically informed approaches can serve as a catalyst for personal artistic growth and expression.

The thesis is structured as follows: Chapter 2 reviews the current performance norms, highlighting their roots in the early 20th-century and reframing their dominance as the definitive standard in performance. By drawing on relevant literature, it positions current conventions as one of many interpretive approaches, setting the stage for the exploration of alternative practices. The discussion introduces HIP practices as a framework for challenging current performance conventions, particularly in the context of 19th-century repertoire. This review transitions into an outline of my artistic research methodology, detailing the specific techniques employed to analyse and incorporate 19th-century expressive practices into my creative work.

Chapter 3 provides an overview of 19th-century expressive practices—manual asynchrony, unnotated arpeggiation, metrical rubato, tempo modification, and embellishment—drawing on the scholarly literature to define the terms and concepts used throughout the subsequent

analysis. The chapter begins by discussing the general principles behind performance as upheld by 19th-century-trained pianists, offering a broader philosophical context that governs the use of these expressive practices. This context lays the groundwork for a deeper exploration of the technical and expressive tools employed by 19th-century-trained pianists.

Chapters 4 and 5 present an analysis of reproducing piano rolls of my selected creative work repertoire. Chapter 4 focuses on four renditions of Chopin's *Largo* from Sonata no. 3 in B minor op. 58. Chapter 5 examines two renditions of Schubert's *Andante sostenuto* from Sonata in B-flat major D. 960. The analysis explores how performers of the era incorporated the practices established in Chapter 3 to shape their interpretations. These findings serve as a foundation for how such techniques can be embodied in my own performance style.

The conclusion summarises the project's contribution to the field and invites the reader to engage with my creative work, the lecture-recital. By demonstrating these expressive practices in context, reflecting on my artistic process, and performing the selected repertoire, I aim to illustrate the transformative potential of historically informed approaches.

Chapter 2. Literature Review and Methodology

> Modern performance practice, as a reaction to the self-indulgence of the late nineteenth century has held the composer's score sacred. A more academic point of view has prevailed in our conformist world. Trusting the letter of the score has too often passed for respect for the composer. This and the deadly perfection of recording have helped to homogenize musical interpretation, producing blandness which threatens musical life and alienates many young performers from the spirit of music.
>
> – David Dubal[11]

2.1 Historical Origins of Modern Performance Practice

While it is generally assumed that modern performance is the culmination of an unbroken tradition, evidence suggests that the early 20th century saw a deliberate movement to establish these new practices. In piano playing, this approach was prompted by pianists such as Artur Schnabel (1882–1951).[12] Leon Botstein categorises Schnabel's legacy in advancing modern performance practices under three categories. First was the sanctification of the score, in which strict text fidelity, without alteration, improvisation, and subjectivism, was seen by Schnabel as essential to uncovering the true meaning of the music. Second was his belief that there was a correct way to interpret and 'recreate' the score. The third was that, no matter how masterful the performer, a correct interpretation was ultimately unattainable, leading to the notion that great music is always better than it can be played.[13]

Schnabel's views bear striking similarity to Theodor Adorno's perspective on performers and interpretation. In 1954 Adorno explained that:

> There is an absolutely correct interpretation, or at least a limited selection of correct interpretations. The measure of interpretation is the height of its failure. Therefore:

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[11] Dubal, *Evenings with Horowitz*, xix.
[12] Leon Botstein, "Artur Schnabel and the Ideology of Interpretation," *The Musical Quarterly* 85, no. 4 (December 2001): 587–94, https://doi.org/10.1093/mq/85.4.587.
[13] Botstein, "Artur Schnabel and the Ideology of Interpretation," 590–91.

> fortuity of the performer's efforts in his work, as something is *always* wrong. An infinite number of paths lead into a work of art, but there is only one centre.[14]

These sentiments encapsulate the textualist approach to performance, one that prioritises fidelity to the score in the pursuit of a 'correct' interpretation. Yet, this pursuit of perfection is inherently paradoxical: the closer one strives for absolute fidelity, the more one exposes the impossibility of achieving it. This ideology persists to the present day, but at what cost? While this textualist approach may claim to be the most authentic way to honour the composer's intentions, it risks diminishing the performer's role as an active interpreter of music. It is based on the assumption that the composer's notation encapsulated all aspects of performance. But this is fallacious. During the long 19th century, a 'correct' performance, which followed the score markings meticulously, was considered the goal of students. A beautiful performance on the other hand was one imbued with higher levels of artistic expression.[15]

2.2 Current State of Classical Music Performance

Dubal's epigram above points to current tensions in the fields of classical music performance. He critiques modern performance practice as a reproduction of the text and thus, interpretations are reduced to uniform, predictable renditions. In this framework, the perceived authority of the score and the pressure to adhere to standardised norms overshadow the performer's creative voice. Nicholas Cook argues that within this textualist framework, performers lack individual artistic agency, essentially producing a musical facsimile while

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[14] Theodor W. Adorno, *Towards a Theory of Musical Reproduction: Notes, a Draft, and Two Schemata*, ed. Henri Lonitz, trans. Wieland Hoban (Cambridge: Polity, 2006), 91–92.
[15] The distinction between 'correct' and 'beautiful' performance, along with its implications, will be explored further in Chapter 3.

suppressing their own opinions and interpretations.[16] Cook terms this limitation the "paradigm of reproduction", which constrains performance thinking to textualist values and restricts the performer's role in creating meaning. He proposes categorising performance as an entity distinct from the score, capable of conveying unique meaning beyond the text.[17] This perspective significantly impacts the composer-performer relationship by shifting the balance of power toward the performer, thereby allowing for a greater dimension of creativity and expression during performance.

2.3 Upholding the Tradition

However, a major obstacle to emancipating classical music performance from this musicological tethering is what I term 'epistemological policing'. This concept refers to the enforcement of the rigid performance norms based on entrenched beliefs that the score alone conveys meaning, and that fidelity to the score is the only way to achieve true artistry. Building on Daniel Leech-Wilkinson's critique of current performance practices, this policing operates through institutional gatekeepers—teachers, adjudicators, record companies, agents, and critics—who perpetuate a narrow definition of what is considered 'correct'.[18]

Performers, myself included, internalise these expectations, engaging in self-policing that unconsciously reinforces restrictive practices—often with debilitating effects.[19] Juniper Hill highlights this phenomenon in her compilation of experiences from young classical musicians, who recount the challenges of an overemphasis on literal perfectionism within the

[16] Nicholas Cook, *Beyond the Score: Music as Performance* (New York: Oxford University Press, 2014), 13–17.
[17] Cook, *Beyond the Score*, 23.
[18] Leech-Wilkinson, *Challenging Performance*, 92.
[19] Leech-Wilkinson, *Challenging Performance*, 38.

performance sphere today. Many young classical music performers recall authoritarian teaching methods that promote an ideologically 'correct' style, and the accompanying shame of questioning these norms.[20] This environment fosters a self-destructive internal monologue, inducing stress and anxiety while cultivating an existential fear. As Hill observes, these "powerful social mechanisms encourage conformity and work as adverse motivators against individuals' intrinsic desire to be creative."[21]

However, artistic success often hinges on a performer's ability to conform to these established norms in the most 'persuasive' way.[22] Those who excel at embodying these ideologically 'correct' conventions are often elevated as exemplars of classical music performance. Competitions in particular serve as a crucible for these conventions, rewarding those who conform most successfully and often act as a springboard for emerging artists to launch their concert, recording, and teaching careers: the next generation of 'gatekeepers'. Lisa McCormick observes that performers on the international competition circuit exhibit "a near-fanatical obsession with faithfulness to the score," believing that "to impose one's personality, or take liberties with the musical markings, is seen as hubris."[23] Ironically, the most conventional—and therefore the least controversial—performer often emerges as the winner.[24]

The advent of sound recordings has further amplified these pressures. As Andy Hamilton observes, the aesthetic of perfection encouraged by modern editing techniques has adversely

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[20] Juniper Hill, *Becoming Creative: Insights from Musicians in a Diverse World* (New York: Oxford University Press, 2018).
[21] Hill, *Becoming Creative: Insights from Musicians in a Diverse World*, 12–13.
[22] Leech-Wilkinson, *Challenging Performance*, 50.
[23] Lisa McCormick, *Performing Civility: International Competitions in Classical Music*, Cambridge Cultural Social Studies (Cambridge: Cambridge University Press, 2015), 132, https://www.cambridge.org/core/books/performing-civility/B0B20C533C7B7881053B4FE67A3D821B.
[24] Lisa McCormick, "Higher, Faster, Louder: Representations of the International Music Competition," *Cultural Sociology* 3, no. 1 (March 2009): 13–14, https://doi.org/10.1177/1749975508100669.

affected performance interpretation.[25] The technical possibilities of producing a flawless recording have driven up performance standards, fostering a culture with much less tolerance—among both performers and listeners—for note imperfections and similar flaws. This pursuit of technical perfection has also contributed to the standardisation of interpretations and instrumental styles.[26] Furthermore, Anna Scott notes that "performer agency is constrained by the hi-fi concert ideal: an amalgam of performance and high-fidelity recording norms that have co-existed for so long that they are now virtually indistinguishable."[27] These insights underscore how epistemological policing reinforces a restrictive paradigm, by perpetuating a cycle of conformity and perfectionism that discourages experimentation and innovation.

2.4 Inauthentic Claims to 'Authenticity'

The claim of 'authenticity' is often used to justify a 'correct' performance, one that is faithful to the composer's intentions as supposedly encapsulated in the score. This belief serves as the linchpin for the textualist paradigm, anchoring its claim as the singular, unbroken tradition of performing classical music. To challenge this notion, it is useful to examine the historicity of this construct to demystify its purported tenets.

Sound recordings of 19th-century-trained pianists—made at the turn of the 20th century—exhibit a high degree of performer agency, with many unnotated expressive practices,[28] including a flexible approach to the notated pitch, rhythm, and tempo as well as noticeable

[25] Hamilton, "The Art of Recording and the Aesthetics of Perfection," 356.
[26] Hamilton, "The Art of Recording and the Aesthetics of Perfection," 356.
[27] Anna Scott, "Creative Processes in Recreating Early Recordings," in *Recorded Music in Creative Practices*, ed. Georgia Volioti and Daniel Barolsky (London: Routledge, 2024), 87.
[28] Peres Da Costa, *Off the Record*, xxix–xxx.

embellishments of the text.[29] In comparison to current performance practice, these early recordings present a distinctly different aesthetic which Richard Taruskin describes as "premodern."[30]

Although Schnabel's approach to text fidelity is today seen as universal, he was, in fact, deviating from the prevailing performance practices of his era. Despite his training in the 19th-century tradition under Theodor Leschetizky (1830–1915), Schnabel rejected late 19th-century expressive practices common among his contemporaries.[31] Comparing early recordings of Schnabel with those of his contemporaries reveals that his approach was divergent.[32] But his was the ascendant style: Schnabel's playing was praised by audiences of the 1930s and 40s for its novel, unembellished approach, with critics admiring its "sense of organicism."[33]

Despite its perceived ideological superiority, the textualist perspective on performance is in fact a 20th-century construct that disregards the broader and more diverse traditions of 19th-century interpretation. Cook challenges the paradigmatic status of the textualist approach by positioning it as another historical style.[34] Taruskin goes a step further, critiquing the current trend of text reproduction as an "obsolete" imitation of a historic style.[35] These critiques

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[29] Clive Brown, *Classical and Romantic Performing Practice 1750-1900* (Oxford: Oxford University Press, 2004), 415.
[30] Richard Taruskin, *Text and Act: Essays on Music and Performance* (New York: Oxford University Press, 1995), 168.
[31] Botstein, "Artur Schnabel and the Ideology of Interpretation," 588.
[32] See Robert Philip, *Early Recordings and Musical Style: Changing Tastes in Instrumental Performance, 1900-1950* (Cambridge: Cambridge University Press, 1992).
[33] Arved Ashby, *Absolute Music, Mechanical Reproduction* (Berkeley: University of California Press, 2010), 87.
[34] Cook, *Beyond the Score*, 87.
[35] Richard Taruskin, *The Danger of Music and Other Anti-Utopian Essays* (Berkeley: University of California Press, 2008), 447.

challenge the hegemony of the textualist approach, urging us to re-examine the traditions of performance.

This re-examination is crucial for the artistic agency of performers. As Leech-Wilkinson posits, the belief in a single 'correct' way to perform classical music is fundamentally mistaken—not just ethically, but also historically and factually. Yet this belief is upheld by institutions and gatekeepers that enforce conformity, stifling performer's creativity and denying them recognition as equal contributors alongside composers. This enforcement fosters a culture of anxiety and pressure, with many musicians experiencing physical and psychological strain. It also discourages young musicians, who may leave the field in frustration, and limits the broader potential of classical music to offer fresh artistic possibilities.[36]

2.5 Challenging Performance

Evidently, the textualist approach to performance should be seen as a stylistic choice rather than an irreproachable obligation. Shifting towards a more tolerant and inclusive practice—one that empowers performers with greater artistic agency to create diverse interpretations of canonical repertoire—has significant creative, social, and cultural implications. Importantly, such a shift must acknowledge and validate these potentially differing experiences, recognising their intrinsic value. However, for performers conditioned by the textualist paradigm, moving away from this defined aesthetic remains a significant challenge.

One solution is to engage in performance through the lens of Historically Informed Performance (HIP), specifically by examining the stylistic practices of 19th-century-trained

[36] Leech-Wilkinson, *Challenging Performance*, 213.

musicians performing 19th-century music. This approach is grounded in historical evidence from written documents and reproducing piano rolls (RPRs) made at the turn of the 20th century. These sources reveal that performance parameters such as articulation, rhythm, and tempo were employed with a degree of flexibility, creating a level of variation that is not generally heard in modern renditions. For instance, Robert Philip's comparative study of historical and modern recordings highlights a gradual narrowing of tempo and rhythmic flexibility in performances of the same work throughout the 20th century.[37] Neal Peres Da Costa's research on Romantic-era pianism emphasises the originality of expression exhibited by 19th-century-trained pianists, who employed unnotated expressive practices such as manual asynchrony, unnotated arpeggiation, metrical rubato, and tempo modification to achieve richly-nuanced, idiosyncratic interpretations.[38] Clive Brown's work offers invaluable insights into 19th-century performance practices, such as embellishment and ornamentation, which illuminate the central role these practices played in Romantic interpretations.[39] Such unnotated expressive practices open a vast array of artistic possibilities, contrasting sharply with the precise, score-bound, and impersonal characteristics of modern pianism.[40] Fostering individualism through a plurality of interpretations fosters a discourse that moves beyond mere reproduction, celebrating difference over conformity.

The wide variance in the execution of these practices evidenced on RPRs emphasise the differences in when and how 19th-century-trained pianists employed them. This diversity not

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[37] Philip, *Early Recordings and Musical Style*, 7–37.
[38] Peres Da Costa, *Off the Record*, xxvii–xxx. Metrical rubato refers to the rhythmic alteration of melody notes while maintaining a steady accompaniment. This practice includes techniques such as dotting, over-dotting, tripletising, and notes inégales. Tempo modification on early recordings reveal more liberal and frequent tempo changes within a bar, a phrase and between sections. Many of these alterations are unnotated. Embellishment involves the discretionary or spontaneous addition of small ornaments such as appoggiaturas, trills, turns ranging to more extensive alterations such as fioraturas and free improvisation.
[39] Brown, *Classical and Romantic Performing Practice*.
[40] Bruce Haynes, *The End of Early Music: A Period Performer's History of Music for the Twenty-First Century* (New York: Oxford University Press, 2007), 49.

only highlights the interpretive possibilities realised by individual performers but also points to the potential for further exploration of these practices in contemporary performance. Taruskin argues that by engaging with historically informed performance styles—a burgeoning but still underexplored field—performers can create "something new and vital."[41] This implies that, beyond the goal of replicating past styles, new and unique interpretations of 19th-century repertoire can emerge.

While the textualist paradigm still dominates mainstream piano performance, it is important to acknowledge that this landscape is gradually shifting. A growing number of performers—both within and beyond HIP circles—are incorporating elements of 19th-century expressive practices into their playing in diverse ways.[42] Some aim to emulate historical models closely, while others adopt these practices more freely, creating performances that are focused on expressive possibility rather than historical authenticity. Thus, the boundaries between "mainstream" and "historically informed" performance are becoming increasingly porous. Recognising this evolving diversity invites a more nuanced understanding of present-day pianism—not as a monolithic field, but as a practice in flux, undergoing subtle yet noticeable transformation. This growing re-engagement with these practices should therefore be seen as a progressive move toward artistic plurality and expressive freedom.

2.6 Research Methodology

This project adopts the research frameworks used in artistic research or practice-led research and Historically Informed Performance (HIP). The aim is to explore how 19th-century expressive practices, exhibited on RPRs, can inform and enrich my artistic practice. While

[41] Taruskin, *The Danger of Music*, 447–48.
[42] See Leech-Wilkinson, *Challenging Performance,* 230–244.

this process may also challenge contemporary performance norms, its core objective is the development of my personal artistic creativity.

2.6.1. Methods in Historically Informed Performance

Since the mid-20th century, a significant focus of HIP has been the translation of written sources of historical performing practices into sound. However, written evidence, including pedagogical treatises, historical editions, and verbal advice, cannot fully elucidate their meaning to a modern performer without a referential point: aural evidence. For example, the practice of manual asynchrony, in which one hand plays after the other, is described by many writers as a slight or momentary separation of the hands, intended to produce a myriad of effects, including variations in dynamics, length of delay, and timbre.[43] However, a written explanation cannot fully convey the myriad expressive effects achievable through various combinations of timing and dynamics. Moreover, written texts of the period were often not detailed enough and were never intended to prescribe every instance or method of employing manual asynchrony. Without aural evidence, the fluid nature of this practice remains challenging to grasp, as the terms historically used to describe manual asynchrony—such as 'subtle,' 'unnoticeable,' or 'minute delay'—carry different connotations today. These shifting aesthetic boundaries can lead to misinterpretation of the practice as it was understood in its original context. Modern pianists, trained to execute perfect synchronicity of the hands, might interpret the practice conservatively, limiting its application and potentially restricting the range of effects. This leads to the issue of performative bias. David Kjar notes that translating text into sound is "involuntarily shaped by our own performance aesthetic. Due to the desire

[43] Malwine Brée, *Die Grundlage der Methode Leschetizky* (Mainz: B. Schott's Söhne, 1902), trans. Theodore H. Baker as *The Groundwork of the Leschetizky Method* (New York: Schirmer, 1902), 73; Peres Da Costa, *Off the Record*, 45.

to create a compelling performance, the findings fit comfortably within the interpreter's performance ideal."[44] This means that a performer's ingrained musical tastes, cultivated over many years or even decades, can clash with the 19th-century practices evidenced on RPRs, leading to distortions in how these practices are assimilated, even by the most dedicated practitioners. Additionally, discrepancies between sources pose challenges. Peres Da Costa's comparative study of early recordings and contemporaneous written texts reveals significant differences between the two. Recordings often include elements not conveyed in the texts and sometimes even contradict stated advice.[45]

The ideological inconsistencies within HIP also warrant consideration. Taruskin, John Butt, and Bruce Haynes[46] have critiqued the tendency of HIP performers to selectively adopt certain historical practices while disregarding others. For instance, in his critique of Malcolm Bilson and John Eliot Gardiner's recorded cycle of Mozart piano concertos, Taruskin notes that while these performances employ 'original instruments', they neglect to include the improvised embellishments and unnotated additions that Mozart's audiences would have heard.[47] This is likely because, while HIP seeks to distinguish itself from modern performance practices, many practitioners are concerned with being validated and accessible to mainstream audiences and performers. This underscores a broader issue within HIP: the prioritisation of emblematic markers of 'authenticity', like period instruments, over practices that are more divergent from modern norms, such as improvising embellishments, thereby reinforcing a selective paradigm of what qualifies as 'historical'.

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[44] David Kjar, "The Plague, a Metal Monster, and the Wonder of Wanda: In Pursuit of the Performance Style," *Per Musi*, no. 24 (2011): 83, https://doi.org/10.1590/S1517-75992011000200010.
[45] Peres Da Costa, *Off the Record*, 309.
[46] See John Butt, *Playing with History: The Historical Approach to Musical Performance* (Cambridge: Cambridge University Press, 2002); Haynes, *The End of Early Music*; Taruskin, *Text and Act*; Taruskin, *The Danger of Music*.
[47] Taruskin, *Text and Act*, 165.

However, it is important to recognise that, before the age of recording around the turn of the 20th century, we cannot definitively know what constituted an 'authentic' historical performance style—nor, for me, is that the point. Haynes states that "totally accurate historical performance is probably impossible to achieve" and even if it were, it is impossible "to know it has been achieved."[48] Therefore, the study of historical performance practices is not about reconstructing a forgotten or even lost sound world but about equipping ourselves with a broader set of creative tools, including practices that might seem unconventional, extreme, and challenge our contemporary norms. By doing so, we can interpret works through new perspectives, making historical performance practices an evolving process that connects the past to the present in innovative and meaningful ways.

This study prioritises the analysis of reproducing piano rolls (RPRs), which provide invaluable insight to 19th-century performance practices. These rolls mechanically recorded performance elements such as note pitches, durations, positions, and tempo, automatically transcribing them onto paper rolls.[49] This process ensures a high degree of accuracy in representing these features. Consequently, they serve as a reliable basis for analysing nuances in timing, rhythm, phrasing, and texture, which are critical to understanding the interpretative approaches of the pianists who created them.

Beyond this, RPRs preserve the performances of pianists from an era predating the widespread adoption of sound recording technology, offering rare and direct access to 19th-century stylistic trends. They allow us to study the playing styles of renowned figures, such as Theodor Leschetizky (1830–1915), who left no sound recordings. By capturing structural elements with precision, these rolls reveal individual interpretive nuances in expressive

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[48] Haynes, *The End of Early Music*, 10.
[49] Peres Da Costa, *Off the Record*, 39.

practices such as manual asynchrony, unnotated arpeggiation, and metrical rubato. As such, RPRs are an invaluable resource for understanding performance practices that might otherwise have been lost.

However, it is crucial to acknowledge their limitations, as certain elements, such as dynamics, pedalling, and tone, were not always accurately captured.[50] Dynamics for the Ampico and Duo-Art systems were manually added by an editor,[51] while on the Welte-Mignon system, dynamics were reportedly captured automatically, though the efficacy of this claim remains in question.[52] Pedalling data was recorded automatically, but the limitations of the reproducing piano system made it nearly impossible to reproduce the nuanced effects of live pedalling, as the system simplified data and struggled to emulate the precise control and timing of a performer.[53] Similarly, tone proved challenging to reproduce, as the mechanical nature of the systems often resulted in a more uniform and less expressive sound. As Holliday observes, "Dynamics and pedalling give a reasonably accurate account of what went on in the recording studio, especially in the case of composer-pianists, such as Rachmaninoff, who were fastidious in reworking a roll to their ultimate satisfaction. Since a Studio Master was often responsible for notating dynamics and pedalling in the piano score as a work was performed, early recording sessions partook of a subjective element."[54] This combination of subjectivity and manual intervention means that RPRs, while valuable, are better understood as "veritable portraits of great artistic wealth" rather than a "photographic representation…"[55]

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[50] Peres Da Costa, *Off the Record*, 39–40.
[51] Peres Da Costa, *Off the Record*, 31.
[52] Kent Holliday, "Some American Firms and Their Contributions to the Development of the Reproducing Piano," in *Perspectives on American Music, 1900-1950*, ed. Michael Saffle (New York: Routledge, 2000), 123.
[53] Peres Da Costa, *Off the Record*, 34–35.
[54] Holliday, "Reproducing Piano," 134.
[55] Holliday, "Reproducing Piano," 134.

These limitations define the scope of my analysis, which focuses primarily on the structural elements recorded automatically, such as pitches, durations, timing, phrasing, and tempo. Other aspects, such as dynamics and pedalling, are approached with caution, considering their technical limitations and subjective authenticity. By maintaining a critical approach to RPRs, I seek to extract insights into the 19th-century performance practices well captured by the medium while recognising its inherent constraints.

Taruskin describes early recordings, which include RPRs, as the "hardest evidence of performance practice imaginable." [56] Kjar reinforces this perspective, noting that "a recording for the most part is sonically intact, and therefore its content is unaffected by our value judgment. These recordings may reveal performances or instruments that are not only different from our own, but are in conflict with what we think is good music making." [57]

In addition to RPRs, I consulted written performance advice as a complementary resource. While such texts provide valuable context and guidance, they often generalise practices rather than addressing specific repertoire. Therefore, aural evidence is essential to bridging the gap between written insight and practical application and forms a crucial part in developing my vocabulary of expressive practices and shaping my artistic approach.

2.6.2. Methodological Approach

My methodology centres on a cyclic and iterative process, integrating aural analysis, emulation, practical experimentation, and creative application. I now describe each step of this process in turn.

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[56] Taruskin, *Text and Act*, 168.
[57] Kjar, "The Plague, a Metal Monster, and the Wonder of Wanda," 83.

Aural Analysis

This study analyses performances preserved on RPRs, which were digitised into MIDI files and generously provided by Peter Phillips. From 2006–2011, Phillips developed specialised equipment to digitise piano rolls into MIDI files, which can then be played through a MIDI-playback enabled piano such as the Yamaha Disklavier or through virtual instruments in a Digital Audio Workstation (DAW). This process preserves the original performance details, such as the timing and duration of notes, providing a reliable and detailed resource for analysing historical performance practices.[58] MIDI data derived from these rolls also include velocity points for each note, enabling a nuanced representation of relative dynamics. However, pedalling data in MIDI is binary (on/off) and does not capture subtleties such as half-pedalling; therefore, it will not be discussed in this study.

To render these MIDI files into audio, I used the DAW Logic Pro to process the data through a Steinway Grand Piano sample, a high-fidelity virtual instrument. The resulting audio files, direct reproductions of the MIDI data, were used for my aural analysis of expressive practices. These audio files will henceforth be referred to as Digitised Reproducing Piano Rolls (DRPRs). The DRPRs analysed are available in my examination files and on OneDrive, which can be accessed here: https://drive.google.com/drive/folders/1ZgQxnbzcI73TkpG1bMRqlalqVtFaQTrV?usp=share_link

In addition to DRPRs, I engaged with remastered audio recordings of the original piano rolls where available, such as Harold Bauer's and Benno Moiseiwitsch's recordings of Chopin's

[58] Peter Phillips, "Piano Rolls and Contemporary Player Pianos." (PhD, University of Sydney, 2016), 7.

Sonata no. 3 in B minor op. 58. However, for the other pianists I studied, such as Olga Samaroff and Frieda Kwast-Hodapp for Chopin, and Carl Friedberg and Richard Buhlig for Schubert's works in my research repertoire, no commercial recordings were available.

While these remastered recordings were not the primary focus of my analysis, they provided an invaluable reference point for understanding the interpretative possibilities of the performances. The decision to prioritise DRPRs in my analysis reflects a commitment to a consistent methodology, allowing for precise comparisons of expressive practices in the same medium across all performers. Nevertheless, the dynamics and pedalling in the remastered recordings of Bauer and Moiseiwitsch informed my broader contextual understanding of each pianist's interpretative approaches.

Although DRPRs provide high-quality audio playback, I also utilised Logic Pro to facilitate detailed visual analysis of performance elements such as repeated notes, articulation, and timing. These tools together allow for an exploration of performance details that might otherwise remain inaccessible, making them indispensable tool for analysing the preserved performance practices of these pianists.

My analysis focuses on detailing how these practices were used and the emotional impact they conveyed to me in performance. This emotional evaluation is inherently personal, serving to inspire and inform my interpretative decisions, rather than to objectively generalise about historical performance norms. Insights gained during this stage often reveal new possibilities for interpretation, which promote further experimentation and refinement in later cycles.

Recording Emulation

Recording emulation is a novel HIP research method that involves as meticulous as possible an imitation of the expressive nuances of a specific recording. By striving to precisely imitate the nuances captured on a RPR—down to the details of timing, articulation, and phrasing—this process enables the performer to embody a particular style of playing. Leech-Wilkinson states that "copying exactly is hugely demanding: it involves giving up important aspects of one's own musicianship to embody another's. For it does have to be embodied, learned by one's own body so that it feels natural as one plays, in order to produce convincing performances."[59] This process of emulation builds directly on insights gained from my aural analysis, serving as a bridge between observation and practical application.

Scott furthers this perspective, emphasising how recording emulation is a powerful method for reclaiming artistic agency in the face of modern performance norms. As Scott argues, recreating performances captured on early recordings requires performers to confront the gravitational pull of modern norms, pushing them to the limits of what they can hear, know, and do. This process transforms mimicry into creativity and ultimately, liberation. Emulation, therefore, is not merely about imitation but about engaging in a dynamic problem-solving process that challenges the boundaries of one's artistic self.[60] In this way, embodying past styles through emulation provides the foundation for emancipating the performer's creativity.

[59] Leech-Wilkinson, *Challenging Performance*, 22.
[60] Scott, "Creative Processes in Recreating Early Recordings," 103.

Practical Experimentation and Creative Application

This phase focuses on experimentation, applying 19th-century expressive practices to repertoire. By integrating these practices into new musical contexts, I explore how they can evolve to inspire personal artistic creativity. This involves trialling expressive practices, combinations of them and refining them through supervisory workshops and repeated performances.

2.6.3. Research Phases

The research process is divided into two phases, reflecting a progression from imitation to independent artistic exploration.

Phase 1: Imitative and Experimental

This phase focuses on aural analysis and emulation of DRPRs in conjunction with written advice. The aim at this stage is to build a stylistic internalisation of 19th-century performance practices by applying these such practices to several works. The process began with the strict emulation of Leschetizky's 1906 performance of Chopin's Nocturne in D-flat major op. 27 no. 2, as preserved on a Welte-Mignon piano roll. Following this, I engaged in an exploratory application of these practices to selected works by Beethoven, Schubert, and Chopin. This experimental phase informed presentations of Beethoven's Piano Concerto no. 5 in E-flat major op. 73 and Chopin's Nocturne in B major op. 9 no. 3, where I demonstrated the initial stages of my embodiment of 19th-century expressive practices. Feedback from these presentations, alongside ongoing exploration, was instrumental in refining my approach.

Research Repertoire (Phase 1)

Chopin:

Nocturne in D-flat major, op. 27 no. 2

Nocturne in B major, op. 9 no. 3

Schubert:

Piano Sonata in G major D. 894

I. Molto moderato e cantabile

II. Andante

Beethoven:

Piano Concerto no. 5 in E-flat major op. 73

II. Adagio un poco mosso

Piano Sonata in A major op. 101

I. Etwas lebhaft und mit der innigsten Empfindung

III. Langsam und sehnsuchtvoll

Phase 2: Independent and Mature

Building on the insights gained in Phase 1, this phase shifts the focus to fostering a personal artistic approach. My interpretations evolve subconsciously, guided by growing familiarity with the 19th-century style and my own artistic instincts. Aural analysis of DRPRs of my creative work repertoire remains central in this phase, as the insights gained inform the specific practices I emulate and experiment with. While I do not emulate these DRPR performances in their entirety during this phase, I focus on isolating each expressive practice within specific excerpts to build my stylistic vocabulary for these works. These excerpts, which are analysed and discussed in Chapters 4 and 5, serve as the bridge between the analytical and practical aspects of my research. This process allows me to internalise the 19th-

century expressive practices exhibited on the DRPRs in a flexible and creative manner, forming the foundation for my personal artistic approach.

The culmination of this research is the creative component: the lecture-recital, during which I perform the selected repertoire from Phase 2. These performances reflect the stylistic vocabulary developed through analysis and experimentation, demonstrating a personal approach that moves beyond imitation to reinterpretation. In this way, historical insights become tools for building a personal, imaginative, and emotionally resonant performance style.

Research Repertoire (Phase 2)

Chopin:

Piano Sonata no. 3 in B minor op. 58

III. Largo

Schubert:

Piano Sonata in B-flat major D. 960

II. Andante sostenuto

In summary, this chapter has examined the current state of performance practice and the need to challenge its established norms. I positioned 19th-century performance practices as a vital resource for expanding my artistic creativity and exploring new interpretative possibilities. In Chapter 3, I delve into the specific expressive techniques that define 19th-century style, providing a detailed overview of their historical context and application.

Chapter 3. Overview of 19th-Century Expressive Practices in Piano Playing

This chapter examines the 19th-century expressive practices that form the foundation of my aural analysis and artistic approach. My discussion primarily draws on contemporary secondary source scholarship, which heavily integrates evidence from 19th-century documentary sources, such as pedagogical treatises, alongside the insights gained from my analysis of DRPRs. These sources reveal key expressive practices—manual asynchrony, unnotated arpeggiation, metrical rubato, tempo modification, and embellishment—that characterised piano playing in this era and provides the technical framework for this study. To date, Peres Da Costa's *Off the Record: Performing Practices in Romantic Piano Playing*[61] offers the most comprehensive discussion of the documentary evidence of these practices and serves as an important reference. Other relevant scholarship includes Brown's work on historical performance practices,[62] Kenneth Hamilton's detailed examination of the individuality and artistic freedom of 19th-century pianists alongside his critique of the score-bound approach of modern interpretations,[63] and Philip's research on tempo flexibility in early recordings.[64] The application and expressive potential of these practices are demonstrated in my lecture-recital, where they are presented in specific musical contexts to demonstrate the stylistic nuances of each practice.

While this chapter focuses on the expressive practices that are central to this project, it is important to acknowledge that not all pianists of the time employed these practices in the

[61] Peres Da Costa, *Off the Record*.
[62] Brown, *Classical and Romantic Performing Practice*.
[63] Kenneth Hamilton, *After the Golden Age: Romantic Pianism and Modern Performance* (New York: Oxford University Press, 2008).
[64] Philip, *Early Recordings and Musical Style*.

same way—or even at all. The performance landscape of the time was far from homogenous, and interpretations varied widely among performers. For instance, pianists such as Edvard Grieg (1843–1907) used the practice sparingly his recordings of his own compositions.[65] Other pianists like Ferrucio Busoni (1866–1924) and Josef Hofmann (1876–1957), were openly critical of such practices, denouncing them in their writings and pedagogical philosophies.[66] Nevertheless, traces of these same practices occasionally surface in their recordings, suggesting a more complex relationship between ideology and practice.[67] These examples underscore that 19th-century pianism encompassed a broad spectrum of stylistic approaches, reinforcing the importance of understanding the period as one of evolving tastes, rather than a homogenous expressive tradition.

3.1 Artistic Agency and the Role of the Performer in the 19th century

The 19th century marked a period in musical performance when aesthetic priorities favoured beautiful, individualistic artistic delivery over rigid adherence to the written score. Performers were expected to engage with the music as active interpreters, bringing to life the expressive qualities that could not be fully captured in notation but deemed as essential for artistic performance. This involved the application of unnotated expressive practices, developed over a continuum of practice dating back several centuries, to create personal interpretations.[68]

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[65] Peres Da Costa, *Off the Record*, 92–93.
[66] Peres Da Costa, *Off the Record*, 90–91, 95.
[67] Peres Da Costa, *Off the Record*, 91, 96.
[68] Neal Peres Da Costa, "Performance Practices for Romantic and Modern Repertoire," in *The Oxford Handbook of Music Performance, Volume 1*, ed. Gary E. McPherson (New York: Oxford University Press, 2022), 356–57.

This emphasis on interpretation led to a distinction between 'correct' and 'beautiful' performance. Johann Nepomuk Hummel (1778–1837) described a 'correct' performance as relating "to the mechanism of playing, as far as it can be indicated by musical notation," whereas a 'beautiful' or 'expressive' performance required both sensitivity and the ability to communicate the emotional content of the composition.[69]

For Carl Reinecke (1824–1910), a technically correct execution is one that achieves note-perfect reproduction. However, an interpretation "characterized by beauty, intelligence and soul can only be learned when the player possesses the capacity to recognize and to interpret the general meaning inherent in a piece of music, and likewise the constantly changing moods that recur in it, according to his nature."[70] Reinecke further questioned the boundaries between a 'correct' and 'beautiful' performance, stating that "a correctly regular performance in certain circumstances may be the exact opposite of beautiful; a beautiful performance may apparently offend against all the rules."[71] This perspective underscores the centrality of the performer's artistic insight, granting them significant agency to shape the music through their intellectual understanding and emotional connection to the music.

Louis Spohr (1784–1859) also distinguished between two styles of performance: 'correct' and 'fine'. A 'correct' style represents a faithful delivery of the composer's notated score, adhering to "perfect intonation, exact division of the notes in a bar, and a strict observance of time."[72] However, Spohr asserts that a 'fine' style requires the performer to go beyond mere correctness by adding something of their own to the interpretation. This ability to

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[69] Johann Nepomuk Hummel, *Complete Theoretical and Practical Course of Instructions on the Art of Playing the Pianoforte.* (London: Boosey, 1828), vol. 3, 39.
[70] Carl Reinecke, ed., *W.A. Mozart: Twenty Piano Compositions* (Boston: Oliver Ditson, 1906), xiii.
[71] Reinecke, *W.A. Mozart: Twenty Piano Compositions*, xiv.
[72] Louis Spohr, *Louis Spohr's Grand Violin School*, trans. C. Rudolphus (London: Wessel, 1833), 179.

"intellectually animate the subject" allowed the performer to convey the composer's intentions while engaging the audience on an emotional level. Crucially, Spohr noted that such a style employs unnotated expressive practices, such as "The increasing of time in furious, impetuous, and passionate passages, as well as the retarding of such as have a tender, doleful, or melancholy character."[73]

Spohr's perspective resonates profoundly with me. He emphasises that it is precisely these unnotated expressive practices—the addition of something personal—that elevates a performance from 'correct' to 'beautiful'. This chapter explores these expressive practices, brought to life through the performer's insight, artistry, and intuition.

3.2 Manual Asynchrony

In piano playing, manual asynchrony refers to the practice of playing one hand after the other, creating a separation between the melody and corresponding accompaniment.[74] Performers can vary various aspects of this asynchrony, including its execution, timing as well as the tonal and dynamic quality of each hand.[75] This description draws on my observations of DRPRs and aligns with Peres Da Costa's codification of the practice in 19th-century performance practice.

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[73] Spohr, *Louis Spohr's Grand Violin School*, 179.
[74] This practice is also commonly referred to as 'dislocation'. See Peres Da Costa, *Off the Record*, 45; Hamilton, *After the Golden Age*, 30; Philip, *Early Recordings and Musical Style*, 6. However, I use the term manual asynchrony in this study because it better aligns with my understanding of the practice and reflects the updated terminology used by Peres Da Costa in his later work. See Peres Da Costa, "Performance Practices for Romantic and Modern Repertoire," 355.
[75] Peres Da Costa, *Off the Record*, 46.

Execution refers to which hand plays first. Typically, the bass note(s) played by the left is sounded first with the corresponding melody note played afterwards. Less common is the practice of playing the melody note before the corresponding bass note(s).

Timing describes the length of the time between the notes (delay), which can range from barely perceptible to very noticeable. This variation in timing affects how asynchrony is perceived by the listener. Table 3.1 presents four broad categories of asynchrony speeds—slow, moderate, fast, and very fast—that I have defined for the purposes of this study. These categories are intended as generalised levels to aid in the analysis and discussion of asynchrony, recognising that in practice, the delays can vary infinitely.

On early recordings, asynchrony is more frequently heard in slow, expressive works than in faster music. It is often employed in particularly emotive sections—such as the beginning of phrases, the start of bars, or during harmonically significant moments—to enhance expression.[76] Some pianists, however, use asynchrony at almost every possible moment whilst others take a more selective approach.[77] The aural effect of asynchrony can vary significantly and is context-dependant. For example, a moderate speed of separation can result in a languid effect, creating a sense of anticipation as the listener waits for the melody note. In contrast, a fast speed of separation can create an energised effect. Additionally, asynchrony allows performers to manipulate the dynamics of each hand independently, for contrast and clarity between melody and accompaniment. This dynamic control can further heighten the expressive effect, with subtle shifts in volume or timbre adding expressive nuance to the performance.

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[76] Peres Da Costa, *Off the Record*, 46.
[77] Peres Da Costa, *Off the Record*, 50.

Manual asynchrony was frequently employed in the rendering of polyphonic textures, enabling pianists to displace voices to separate each voice and clarify them within the texture. As Hamilton observes, the "displacement of parts in order to emphasise the voice leading" was a prevalent 19th-century performance practice for polyphonic playing.[78] Brée also notes that this practice could be used to bring out polyphony more distinctly, but only at important points such as where one part ends and the other begins.[79] By slightly offsetting entries in contrapuntal passages, performers can differentiate individual voices, shaping the interplay of lines through nuanced control of timing, dynamics, and timbre. This practice provided an interpretative solution to the challenges of synchronous playing on the piano, in which voice independence is not always clear due to the homogeneity of tone on the modern piano. Through asynchrony, pianists gain finer control over the relative loudness and tone of individual notes by temporally separating them.

[78] Hamilton, *After the Golden Age*, 147.
[79] Brée, *The Groundwork*, 72.

Table 3.1 Description of asynchrony speeds

Speed of Separation	Aural Effect
Slow	Notes sound rhythmically distinct, with a perceptible delay between hands. This creates a noticeable sense of separation, approaching the effect of a syncopated rhythm.
Moderate	Notes are audibly separate, but the delay is less pronounced than with a slow separation.
Fast	Notes are close together, with only a perceptibly slight delay.
Very Fast	Notes sound almost synchronised, with minimal perceptible separation. The effect approaches a fully synchronised execution.

3.3 Unnotated Arpeggiation

Unnotated arpeggiation refers to the separation of vertically aligned notes not marked with an arpeggio sign. This can include double notes, octaves, and chords. A performer can manipulate three aspects of arpeggiation: the speed, shape, and the placement.

Speed refers to how quickly or slowly the notes are separated. This can range from a rapid spread that is almost indistinguishable from a synchronised chord to a slower, more pronounced separation of individual notes. Sigismond Thalberg (1812–1871), in his treatise *L'art Du Chant Appliqué Au Piano* (1853), describes a technique known as *presque plaqué* (almost together), the execution of very rapid arpeggiation in which the notes are struck almost simultaneously.[80] The speed of arpeggiation can vary while executing vertically aligned material, with changes gradually or through irregular accelerations and decelerations.

[80] Sigismond Thalberg, *L'art Du Chant Appliqué Au Piano* op. 70 (Paris: Heugel, 1853), unpaginated [2].

Table 3.2 describes four categories of arpeggiation speeds that I have defined, along with their corresponding aural characteristics, to aid in the analysis and discussion of this practice.

Table 3.2 Description of arpeggiation speeds

Arpeggiation Speed	**Aural Effect**
Slow	Notes sounding broadly spaced, often accompanied by a slowing of tempo.
Moderate	Notes are distinctly separated but still fit within the notated rhythmic value.
Fast	Notes sound only slightly separated.
Very Fast	Notes sound almost together, with minimal perceptible separation (*presque plaqué*).

Shape refers to the order in which the notes are played.[81] Typically, arpeggiations ascend in vertical order from the lowest note to the highest note, but they may also descend from the highest note to the lowest note. In some cases, the shape is more intricate, involving non-successive note sequences, such as arpeggiating from the bass note to the soprano note before resolving to the alto note.

Placement pertains to the metrical positioning of the arpeggiation, whether it begins before, on, or after the beat. Placement affects the rhythmic integration of the arpeggiation within the musical texture and can alter the listener's perception of pulse and flow. Peres Da Costa notes that, while historical texts provide guidelines, there remains significant ambiguity about how such unnotated arpeggiations sound in relation to the metre. [82] Early recordings reveal,

[81] Peres Da Costa, *Off the Record,* 111.
[82] Peres Da Costa, *Off the Record,* 175–76.

however, that myriad variations of placement were employed, depending on the musical context and expressive intent. Unnotated arpeggiations were most commonly heard in slow movements of Classical and Romantic works, where they could serve various expressive purposes. These included softening the attack of a chord, delaying the melody note to emphasise voicing, highlighting particular chords for their harmonic colour, or creating textural contrast.[83] Such variations allowed performers to adapt the practice to the specific character and demands of the music, enriching the overall interpretation.

3.4 Metrical Rubato

Metrical rubato refers to the practice of altering the rhythm of melodic material while the accompaniment remains more or less stable. This involves stretching or compressing rhythmic values of melodic notes for emotional or artistic effect, including adjusting the length of single notes or groups of adjacent notes, sometimes to the extent that notes in one bar are displaced into the next.[84]

In the 19th century, Adolph Christiani (1810–1876) detailed multiple types of rubato, highlighting its varied usage. He stated that "a mode of performance by which some notes are protracted beyond their proper duration and others curtailed, without, however, changing the aggregate duration of each measure, is a rubato."[85] Within this framework, Christiani identified two specific approaches to what he termed the "real rubato": one where both hands synchronise their accelerations and decelerations, and another where the accompanying hand maintains strict time while the melody hand varies rhythm. He described the latter as the

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[83] Peres Da Costa, *Off the Record*, 101.
[84] Peres Da Costa, *Off the Record*, 189.
[85] Adolph Friedrich Christiani, *The Principles of Expression in Pianoforte Playing* (New York: Harper, 1885), 299.

"rubato of Chopin" and regarded it as the more beautiful and artistically compelling form of the practice.[86]

In his examination of historical texts that refer to rhythmic modifications, Peres Da Costa identifies two distinct categories: small-scale and large-scale alterations. Small-scale alterations modify the rhythm of individual or adjacent notes within a bar. These adjustments can introduce significant rhythmic variety, such as turning equal-value patterns into unequal ones with dotted, triplet or tuplet figures. Conversely, figures with unequal note values can be transformed into ones with equal note values. This rhythmic flexibility also includes agogic accentuation, in which a single note is emphasised by extending its duration to some extent.[87]

A subtype of small-scale alteration is the practice of inequality (*notes inégales*), in which sequences of equal-value notes (usually quavers or semiquavers) are played unequally, liltingly in a range of uneven rhythms.[88] Small-scale alterations are particularly effective, as emphasised by the influential 19th-century singing teacher, Manuel García II, in the repetition of motifs, melodies, and refrains, adding variety and interest to repeated material.[89]

Large-scale alterations modify the rhythm over a bar, multiple bars, or entire phrases.[90] García, emphasises that large-scale alterations are most effective when the underlying harmony remains stable, as this provides a foundation for rhythmic flexibility without disrupting the coherence of harmonic structure.[91] Acknowledging the impossibility of precisely notating the subtleties of such large-scale alterations, García admits that his

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[86] Christiani, *The Principles of Expression*, 299–300.
[87] Peres Da Costa, *Off the Record*, 196–99.
[88] Peres Da Costa, *Off the Record*, 220.
[89] Manuel García, *Garcia's New Treatise on the Art of Singing: A Compendious Method of Instruction* (London: Beale & Chappell, 1857).
[90] Peres Da Costa, *Off the Record*, 225.
[91] García, *New Treatise on the Art of Singing*, 51.

transcriptions are only an approximation of the tempo rubato his father employed.[92] By extension, this difficulty in notating rhythmic alterations would likely apply to other performers of the time. Moreover, the virtually limitless range of rhythmic possibilities further complicates efforts to codify these practices, as performers adapted alterations to suit their own approaches, resulting in highly individualistic interpretations. Much of the understanding of these practices must therefore come from aural evidence, which provide examples of how such alterations sounded.

In my experience as a performer experimenting with metrical rubato as well as listening to early recordings on which this practice is prominently featured, I have observed that these categories—small and large-scale alterations—are in reality often blended, creating a spectrum of rhythmic variation. Although classifying these changes separately can be useful for analytical purposes, their practical application is typically fluid and organic. To encapsulate this practical experience, I propose the term 're-rhythmisation' to encompass any combination of rhythmic alterations resulting from metrical rubato. Like re-harmonisation, this term aims to reflect the extensive range of possible modifications in performance and to simplify the analysis and discussion of these diverse rhythmic practices. To illustrate this concept, Figure 3.1 presents the score of Chopin's Nocturne in D-flat major op. 27 no. 2 (bottom two staves), alongside my transcription of Leschetizky's performance of the same work on his 1906 Welte-Mignon piano roll rendition (upper stave), highlighting the multitude of small and large-scale alterations that seamlessly integrate into his interpretation. The rapid nature of these alterations often renders it impractical to analyse them in isolation, as I experience these modifications as a cohesive performance.

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[92] García, *New Treatise on the Art of Singing*, 51.

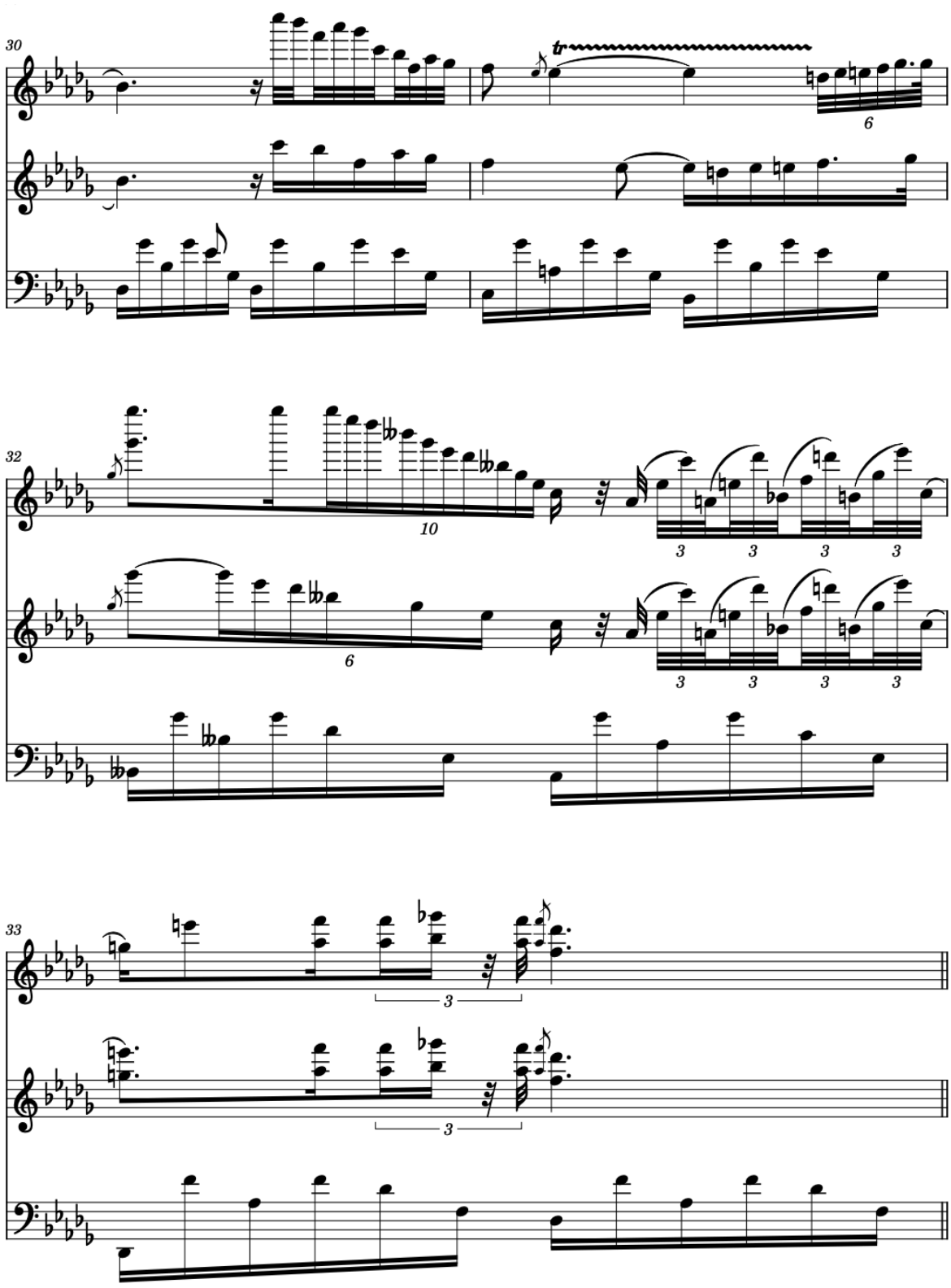

Figure 3.1 Chopin Nocturne in D-flat major op. 27 no. 2, bars 30–33, Leschetizky, 1906, piano roll

3.5 Tempo Modification

Tempo modification refers to unnotated changes of tempo within a bar, phrase, or section. Written sources reveal that 19th-century pianists embraced significant tempo modifications which far exceed the more controlled tempo changes favoured in modern practice. However, while these sources often specify where a modification might occur, they seldom clarify how much the tempo should change.[93] Philip conducted a comparative analysis of recordings of 19th- and 20th-century trained pianists performing the same work, measuring tempo changes at key structural junctures such as the beginnings of new phrases or sections.[94] In contrast, Peres Da Costa explores a similar group of pianists but focuses on the more minute changes in tempo between bars and phrases.[95]

In this thesis, I categorise tempo modifications into two distinct types: macro-level and micro-level tempo modifications. This provides the framework for understanding the extensive range of tempo elasticity employed by 19th-century-trained pianists. It builds upon existing literature by offering a taxonomy that distinguishes broader structural changes from more nuanced within-phrase variations.

Macro-Level Tempo Modifications

Macro-level tempo modifications, as observed on early recordings, occur at key structural points in a composition, such as the introduction of new material, transitions between sections, tonicisations and modulations, or shifts in mood and character. These macro-level changes were a hallmark of 19th-century performance practice. Philip notes that "Recordings

[93] Peres Da Costa, *Off the Record*, 304.
[94] Philip, *Early Recordings and Musical Style*, 7–37.
[95] Peres Da Costa, *Off the Record*, 251–308.

demonstrate that, in any movement containing contrasts of mood and tension, it was the general practice in the early twentieth century to underline the contrasts by changes of tempo. Lyrical and reflective passages would be played more slowly and energetic passages more quickly."[96]

This approach reflects a rhetorical performance style, in which tempo was not a fixed parameter but rather served as an expressive device to enhance contrasts in emotion and drama. Philip's research encompasses a broad sample of canonical repertoire from various periods, analysing recordings by numerous 19th- and 20th-century-trained pianists. His findings consistently demonstrate that tempo modification was employed to characterise structural changes.

Philip's analysis reveals that these tempo changes in early 20th-century recordings often sound bold and dramatic by modern standards. To illustrate these trends, I examine interpretations of Chopin's Sonata no. 3 in B minor op. 58, which exemplifies macro-level tempo modifications. In Philip's analysis of the first movement of the Chopin's Sonata, 19th-century-trained pianists such as Alfred Cortot (1877–1962) employed bold tempo shifts to characterise new thematic material. Cortot begins the movement at M.M. 108, accelerating to M.M. 148 in bar 31 when the theme shifts to a polyphonic texture, and then slowing to M.M. 84 in bar 41 at the introduction of a nocturne-like theme in D major.

Over the course of the 20th century, tempo modifications became less pronounced. By the mid-20th century, performers like Dinu Lipatti (1917–1950) adopted a more measured approach, still exhibiting tempo modifications at the same points but to a lesser degree.

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[96] Philip, *Early Recordings and Musical Style*, 16.

Lipatti begins the movement at M.M. 120, accelerating modestly to M.M. 128 and then slowing to M.M. 80. In the late 20th century, Emanuel Ax (b. 1949) embodied modern ideals of tempo modification, keeping changes to a minimum. He begins the movement at M.M. 108, makes no tempo change at bar 31, and then slows to M.M. 96 at bar 41.[97] This reflects the changing modernist views towards tempo and the departure from the dramatic contrasts that characterised earlier performances.[98]

Philip's comprehensive analysis confirms that early 20th-century performances featured frequent and varied tempo modifications, creating a sense of ebb and flow throughout a piece. In contrast, modern performances are more restrained, with performers occasionally slowing down for lyrical passages, especially in 19th-century repertoire, but rarely applying accelerations.[99] These insights form the basis of my concept of macro-level tempo modifications, which describe deliberate, large-scale tempo shifts at key structural points. This approach not only underscores the expressive potential of tempo modification but also highlights the relative boldness of earlier performance styles.

Micro-Level Tempo Modifications

Micro-level tempo modifications occur within bars, between bars, or across phrases, creating subtle shifts that enhance the expressive detail of a performance. Unlike macro-level tempo modifications, which mark structural transitions, micro-level changes often involve often frequent, momentary adjustments that shape melodic lines, emphasise harmonic tension, and heighten emotional effect. For this analysis, I introduce the concept of a tempo range,

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[97] Philip, *Early Recordings and Musical Style*, 19.
[98] For the purposes of this discussion, I focus on this specific example as it aligns with my creative work repertoire, but Philip's conclusions remain consistent across his wider analysis.
[99] Philip, *Early Recordings and Musical Style,* 35.

representing the upper and lower boundaries of change in micro-level tempo modifications. This framework provides a tool for describing and analysing the nuanced tempo elasticity evident in DRPRs.

Peres Da Costa's analysis of early recordings provides evidence of the use of micro-level tempo modifications. His study highlights the subtle tempo changes between bars and phrases in various early recordings, revealing how performers employed these nuanced adjustments to enhance musical expression.

For instance, in his examination of recordings across the 20th century of Chopin's Nocturne in D-flat Major op. 27 no. 2*,* Peres Da Costa measured the duration of each bar in seconds and calculated percentage differences to identify tempo changes between bars. His findings reveal that 19th-century-trained pianists such as Theodor Leschetizky (1830–1915), Vladimir de Pachmann (1848–1933), and Frank La Forge (1879–1953), frequently employed micro-level tempo modifications from one bar to the next. The data illustrates that no two bars were the same length and these pianists in particular lengthened and shortened individual bars to a noticeable degree.[100] By contrast, later pianists, including Livia Rév (1916–2018), Daniel Barenboim (b. 1942), and Kathryn Stott (b. 1958), still exhibit micro-level tempo modifications but within a far narrower range: their playing sounds more or less consistently in time, reflecting the late 20th-century modernist shift towards steady tempos across bars and phrases.[101]

These findings validate the presence of micro-level tempo modifications and highlight their evolution alongside broader aesthetic shifts in performance practice. Peres Da Costa's

[100] Peres Da Costa, *Off the Record*, 252.
[101] Peres Da Costa, *Off the Record*, 252–53.

analysis of percentage changes in bar durations provides detailed evidence of these changes, though the complexity of this approach may make it challenging to interpret for broader applications. In response, my concept of tempo ranges (utilised in Chapters 4 and 5) offers a more accessible framework to represent localised tempo fluctuations. While less precise than percentage-based calculations, tempo ranges effectively illustrate the elasticity in tempo that define 19th-century performance traditions. By adopting this framework, performers can more intuitively understand and explore the expressive possibilities of micro-level tempo modifications, bridging the gap between technical analysis and artistic interpretation.

3.6 Embellishment

Embellishment—the practice of elaborating on a score by adding notes, ornaments, or improvised elements—was an integral part of 18th- and 19th-century performance practice, reflecting the era's aesthetic ideals of creativity, expressivity, and individuality. According to Brown, musical notation during this period was viewed with far greater flexibility than it is today.[102] Performers were expected to treat the written score not as a definitive and unalterable document but as a framework to be interpreted and adapted to individual taste.

Brown categorises embellishment during this period into two types: the first involves the addition of florid material, such as fioritura and free extemporisation, which substantially alters the melodic line or introduces new material. The second encompasses more subtle rhythmic modifications such as appoggiaturas, trills, turns, and unnotated arpeggiation. The former, more elaborate type of embellishment was reserved for specific contexts, such as arias and instrumental showpieces, highlighting the performer's artistic and virtuosic flair.

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[102] Brown, *Classical and Romantic Performing Practice*, 415.

The latter was considered essential to musical performance, as its absence would diminish rhetorical and expressive impact.[103]

Leschetizky's 1906 piano roll rendition of Chopin's Nocturne in D-flat Major op. 27 no. 2,[104] provides a striking example of embellishment. His interpretation introduces altered octaves, unnotated ornaments, and the re-composition of melodic material, all of which exemplify a personalised and flexible approach to the score notation.

Key features of Leschetizky's interpretation include alterations to the register of bass and melodic notes. For instance, he frequently substitutes lower octaves for notated bass notes in bars 2 (Chopin_Leschetizky, 0:05–0:08), 65 (Chopin_Leschetizky, 5:04–5:09), and 69 (Chopin_Leschetizky, 5:19–5:25). In bar 42, he doubles the low B-flat in the bass (Chopin_Leschetizky, 3:19–3:23). Occasionally, he raises bass notes by an octave, such as on the second beat of bar 40 (Chopin_Leschetizky, 3:03–3:07). At bars 26, 46, and 62, Leschetizky adds a lower octave as a grace note to the recurring D-flat major arpeggio (Chopin_Leschetizky, 2:00–2:06, 3:30–3:36, 4:48–4:54).

Leschetizky also sparingly incorporates unnotated ornaments. In bar 12, he adds a turn to the second quaver of each dotted crotchet beat (Chopin_Leschetizky, 0:57–1:04). In bar 31, he adds a trill beginning on the principal note leading into ascending chromatic passage that follows. His most elaborate embellishments appear in bars 28–33, where he transposes the

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[103] Brown, *Classical and Romantic Performing Practice,* 415–18.
[104] Theodor Leschetizky, *19th-century pianists on Welte-Mignon.* Recorded 1906. Archiphon ARC-106, 1992. Leschetizky's piano roll rendition is available as a commercial recording and as a DRPR in my examination files and on Google Drive.

melody an octave higher and diminishes note values to create intricate demisemiquaver and tuplet patterns (Chopin_Leschetizky, 2:14–2:45).[105]

For me, Leschetizky's embellishments exemplify an individualistic interpretation of the score. The addition of the lower octaves enhances the gravitas of his playing, adding depth and resonance, and marks key structural points such as the opening D-flat major arpeggio. The trill in bar 31 adds a growing sense of urgency and momentum to the passage. These embellishments capture the improvisatory spirit of late 19th-century performance and encourage me to explore ways to incorporate this practice into my own playing.

This chapter has outlined key expressive practices—manual asynchrony, unnotated arpeggiation, metrical rubato, tempo modification, and embellishment—that defined 19th-century pianism. Through the insights of scholars such as Peres Da Costa, Brown, and Philip, I have highlighted how these practices fostered a performance style grounded in individuality and rhetorical expression. The discussion of metrical rubato and tempo modification introduced my concepts of re-rhythmisation as well as macro- and micro-level tempo changes, providing a framework for understanding the temporal elasticity of 19th-century traditions.

[105] These embellishments are visually represented in Figure 3.1, which was introduced earlier in my discussion of metrical rubato on page 37.

Chapter 4. Analysis of Digitised Reproducing Piano Rolls: Largo from Chopin Sonata no. 3 in B minor op. 58

4.1 Introduction

This chapter examines how 19th-century pianists employed expressive practices—manual asynchrony, unnotated arpeggiation, metrical rubato, tempo modification, and embellishment—through an analysis of Digitised Reproducing Piano Rolls (DRPRs). While written accounts provide valuable historical context, they often give general information about practices and cannot convey the level of detail needed to capture the aural subtleties of individual performances. Recordings, by contrast, allow us to hear these nuances directly, revealing subtle variations and effects that words alone cannot fully capture.

The analysis is central to this practice-led research, positioning DRPRs as primary sources to investigate how these practices were embodied in performance. By tracing the interpretative possibilities these techniques offer, I seek to integrate these into my own artistic approach. This process bridges historical performance traditions with contemporary interpretation, using these practices as a foundation for creative exploration and refinement in my performance style.

The selected repertoire for this analysis, drawn from the creative work component of my thesis (lecture-recital), includes: the third movement, *Largo*, from Chopin's Sonata no. 3 in B minor op. 58; and the second movement, *Andante sostenuto*, from Schubert's Sonata in B-flat major D. 960. During my undergraduate studies, I often felt a strong desire to push beyond the constraints of modern performance conventions when playing Chopin and Schubert, sensing that their music suggested greater interpretive possibilities than I could realise at the

time. Yet, even so, these recordings feel like a starting point, bolstering my enthusiasm to explore further the artistic possibilities within these works.[106]

This chapter analyses the expressive practices employed by 19th-century-trained pianists in their interpretations of the *Largo* from Chopin's Sonata no. 3 in B minor op. 58 (Table 4.1). The study focuses on four piano roll renditions, each providing unique insights into the pianist's interpretive approaches. The analysis examines specific excerpts that highlight the use of these expressive practices. It is not intended to provide an exhaustive account of every detail but rather to focus on moments that exemplify key interpretive decisions and stylistic trends that has informed my own artistic approach.

Table 4.1 Recording Information: Chopin Sonata no. 3 in B minor op. 58

Pianist	Recording Date	Recording Medium (Piano Roll)
Harold Bauer (1873–1951)	1917[107]	Duo-Art
Olga Samaroff (1880–1948)	1908[108]	Welte-Licensee
Frieda Kwast-Hodapp (1880–1949)	1920[109]	Welte-Licensee
Benno Moiseiwitsch (1890–1963)	1925[110]	Ampico

[106] This sentiment aligns with Brad Haseman's concept of 'an enthusiasm of practice', which underpins many practice-led research projects. For a detailed discussion, see Brad Haseman, "A Manifesto for Performative Research," *Media International Australia* 118, no. 1 (February 2006): 98–106, https://doi.org/10.1177/1329878X0611800113.
[107] Peter Phillips, "Duo-Art Classical MIDI and e-Roll Files," 2018, https://petersmidi.com/Duo-Art_classical-Title.pdf. This performance is also available as a commercial recording: Harold Bauer, *The Condon Collection, Vol. 19: Original Piano Roll Recordings* (Condon Collection Digital, 2017).
[108] Peter Phillips, "Welte Licensee Classical MIDI and E-Roll Files," 2018, https://petersmidi.com/Welte-Licensee-Classical-Pianist.pdf.
[109] Phillips, "Welte Licensee Classical MIDI and E-Roll Files."
[110] Peter Phillips, "Ampico Classical MIDI and E-Roll Files," 2018, https://petersmidi.com/Ampico_Classical-Pianist.pdf. This performance is also available as a commercial recording: Benno Moiseiwitsch, *Ampico piano rolls in the 21st century* (Eleced PAA-007, 2010).

4.2 Manual Asynchrony

This section examines the application of manual asynchrony in both homophonic and polyphonic textures in selected excerpts of Chopin's *Largo*, focusing on the individual executions of each pianist.

4.2.1. Manual Asynchrony in Homophonic Textures

The first theme from bars 4–16 features a lyrical soprano melody, a bass line, and chordal accompaniment in a three-part texture (Figure 4.1).

Harold Bauer

Bauer employs manual asynchrony consistently, with a moderate-speed asynchrony[111] where the bass anticipates the melody (Chopin_Bauer, 0:26–1:06). At certain harmonic shifts, he elongates this delay, adding emphasis. For example, in bars 7–8, the delay of the soprano melody is extended as the bass outlines a chromatic harmonic progression (Chopin_Bauer, 0:39–0:46). This elongation highlights the harmonic tension by expanding the moment temporally and lengthening the sense of anticipation as the chromatic line unfolds. A similar effect can be heard on beat 4 of bars 14 (Chopin_Bauer, 1:15–1:18 and 16 (Chopin_Bauer, 1:26–1:29), where the delayed soprano voice coincides with the arrival of the remote E major and G# major harmonies, respectively. These moments also coincide with a decrescendo hairpin, which, in 19th-century performance practice, often implied expressive gestures extending beyond dynamic changes. David Hyun-Su Kim categorises this as a closing-type hairpin, used to signal resolution and closure at the end of a phrase or section.[112] Bauer's

[111] These terms regarding asynchrony speed were defined earlier in Chapter 3, Manual Asynchrony.
[112] David Hyun-Su Kim, "The Brahmsian Hairpin," *19th-Century Music* 36, no. 1 (July 2012): 48.

elongation of the asynchrony between the hands amplifies the harmonic resolution implied by the decrescendo hairpin and aligns with Kim's definition of hairpins.

Notably, at bar 11 of beat 1, Bauer reverses this pattern: the soprano melody note precedes the bass with a fast-speed asynchrony, coinciding with the unexpected harmonic shift to G#6/5 and the crescendo hairpin (Chopin_Bauer, 0:56–0:58). This aligns with what Kim identifies as an accelerando-type hairpin, characterised by a localised accelerando effect.[113] The faster asynchrony speed and change in execution accentuates this nuance as the asynchrony voice order highlights this moment by momentarily disrupting the established texture, creating contrast before resolving to the established bass-soprano voice order at the dominant in bar 12.

[113] Kim, "The Brahmsian Hairpin," 48.

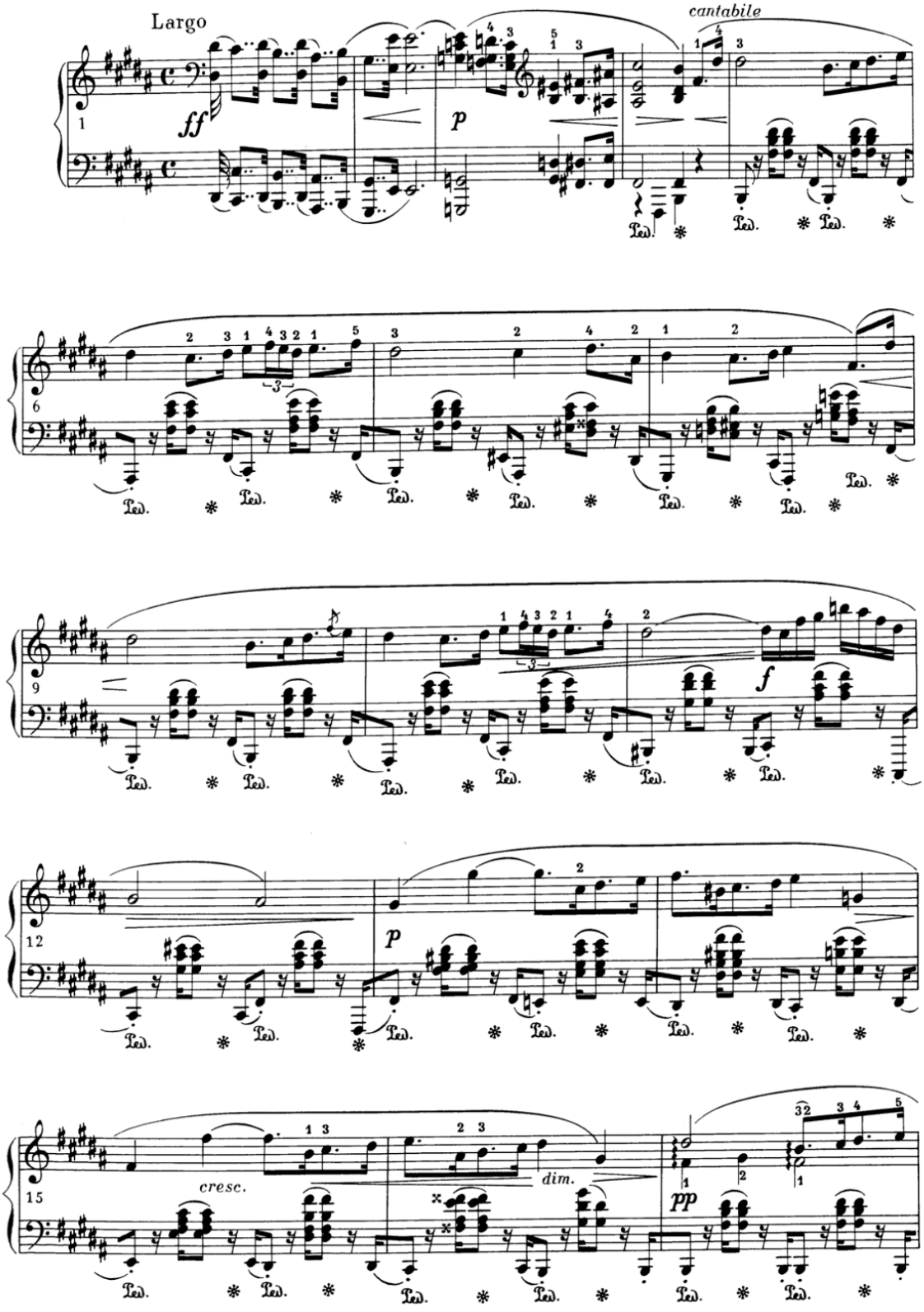

Figure 4.1 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 1–17

Olga Samaroff

Samaroff alternates between synchronised and asynchronised execution with the bass anticipating the soprano (Chopin_Samaroff, 0:22–1:23). Unlike Bauer, she employs a fast to very fast (*presque plaqué*) asynchrony, resulting in minute separations between the hands that are often difficult to discern aurally. MIDI analysis proved invaluable in this context, providing visual magnification, confirming whether the hands were aligned or asynchronised. Figure 4.2 is a MIDI representation of her performance of bar 1, with the black lines marking points of asynchrony—on beats 1, 3, and 4. At beats 1 and 3, the asynchrony occurs at a fast speed. At beat 4, the asynchrony is very fast and barely perceptible. This subtle variation is visually represented in the MIDI diagram, where the black lines highlight the space between the onset of the bass and melody notes. In the third black line, the distance is noticeably shorter than in the first two lines, indicating a relatively shorter delay or faster asynchrony speed on beat 4 than on beats 1 and 3. By magnifying the MIDI readout, these nuances in timing—which are challenging to hear—become clear.

At several points—such as beats 1, 2, and 3 of bar 8 (Chopin_Samaroff, 0:38–0:42), beat 1 of bar 11 (Chopin_Samaroff, 0:52–0:55), and beat 3 of bar 12 (Chopin_Samaroff, 1:01–1:03)—Samaroff synchronises her hands. Samaroff's moments of synchrony coincide with structurally important harmonies (tonic, dominant, or secondary dominant), and often occur at stronger beats of the bar, suggesting that synchrony was a deliberate expressive choice within her interpretation.

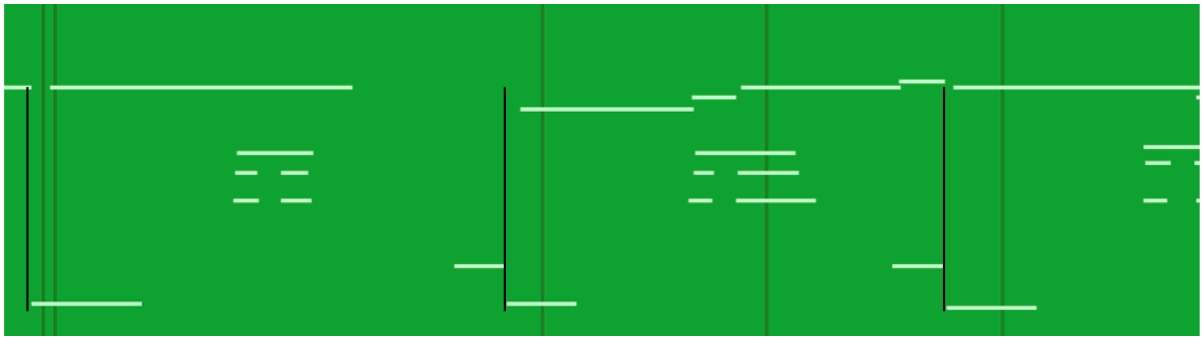

Figure 4.2 Chopin Sonata no. 3 in B minor op. 58 Largo, bar 1, Samaroff (MIDI) [114]

Frieda Kwast-Hodapp

Kwast-Hodapp's approach to manual asynchrony bears strong similarities to Bauer's, characterised by bass-led, moderate-speed asynchrony (Chopin_Kwast-Hodapp, 0:21–1:26). While her playing exhibits minute variations in asynchrony speed, her use of the practice does not present pronounced examples that warrant further analysis or contribute significantly to my emotional response to her interpretation.

Benno Moiseiwitsch

Moiseiwitsch combines synchronised and asynchronised execution with moderate-speed asynchrony (Chopin_Moiseiwitsch, 0:24–1:46). His approach is distinctive for his frequent playing of the soprano voice before the bass, in contrast to the bass-first asynchrony predominantly employed by Bauer, Samaroff, and Kwast-Hodapp. Moiseiwitsch's penchant for this execution enhances melodic assertiveness when compared to bass-led asynchronies.

[114] To highlight instances of asynchrony or unnotated arpeggiation, MIDI diagrams are used and to be interpreted as follows: the white horizontal lines represent the notes played, with their lengths corresponding to note durations. I have added coloured lines (red and black) for visual differentiation. Red, slanted lines indicate a point of asynchrony or unnotated arpeggiation, and the gradient of the line illustrates the relative length of the delay between the hands. The smaller the angle (closer to 0°), the longer the delay; the larger the angle (closer to 90°), the shorter. Vertical black lines signify points of synchronised playing or to mark reference points.

The effect is particularly noticeable as he elongates the time between soprano and bass at the tonic chords in bar 5 (Chopin_Moiseiwitsch, 0:24–0:30) and on beat 3 of bar 9 (Chopin_Moiseiwitsch, 0:55–0:56). At the turn of the 20th-century, Frank Merrick (1886–1981), a student of Leschetizky's, highlighted the expressive potential of this type of execution—in which the right hand precedes the left—as indispensable for intensifying expression.[115]

For me, the soprano-first execution imparts a sense of urgency and assertiveness to the melodic line. The melody steps forward, ahead of the bass, creating a bolder, declamatory presence than is otherwise possible. By contrast, when Moiseiwitsch leads with the bass, the soprano voice takes on a shade of tenderness and introspection. As a performer, I find the shift in character depending on which voice sounds first especially powerful, revealing the breadth of expression that can be shaped through variations of execution.

4.2.2. Manual Asynchrony in Polyphonic Textures

Manual asynchrony is also employed to highlight individual voices in polyphonic passages, such as in bars 17–19 (Figure 4.3) and 103–105 (Figure 4.4), where Chopin introduces an alto line alongside the soprano. While arpeggio symbols appear in bar 17, they are omitted in bar 18 and in bars 103–105, despite the material being almost identical. It seems likely that Chopin intended arpeggiation to continue, leading me to refer to these bars as points of implied asynchrony. The DRPRs analysed confirm this, as each pianist displaces the voices in both excerpts to highlight this polyphonic texture. Their varying approaches are discussed below.

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[115] Frank Merrick, "Memories of Leschetizky," *Recorded Sound: The Journal of the British Institute of Recorded Sound* 18 (1965): 336.

Harold Bauer

Bauer generally employs asynchrony, using it to shape the alto line in bars 17–19 (Figure 4.3) and 103–105 (Figure 4.4; Chopin_Bauer, 1:29–1:40). The alto sounds before the soprano and is considerably softer but its metrical placement subtly highlights it within the texture. Bauer's asynchrony speed is fast, creating a fleeting separation between the hands. This contrasts with the slower, moderate-speed separations in the preceding lyrical theme. However, there are notable exceptions. At the first chord in bar 17, he synchronises the soprano and alto voices despite Chopin's arpeggio sign. Similarly, on beat 3 of bar 18, Bauer aligns the voices, which has the effect of firmly outlining the V7 chord and de-emphasises the alto line. In bars 103–105 (Chopin_Bauer, 7:16–7:27), the asynchrony remains present but is less perceptible, largely due to the accompaniment texture shifting to a flowing arpeggio spanning a wide range, resulting in a denser texture that obscures the prominence of the alto line.

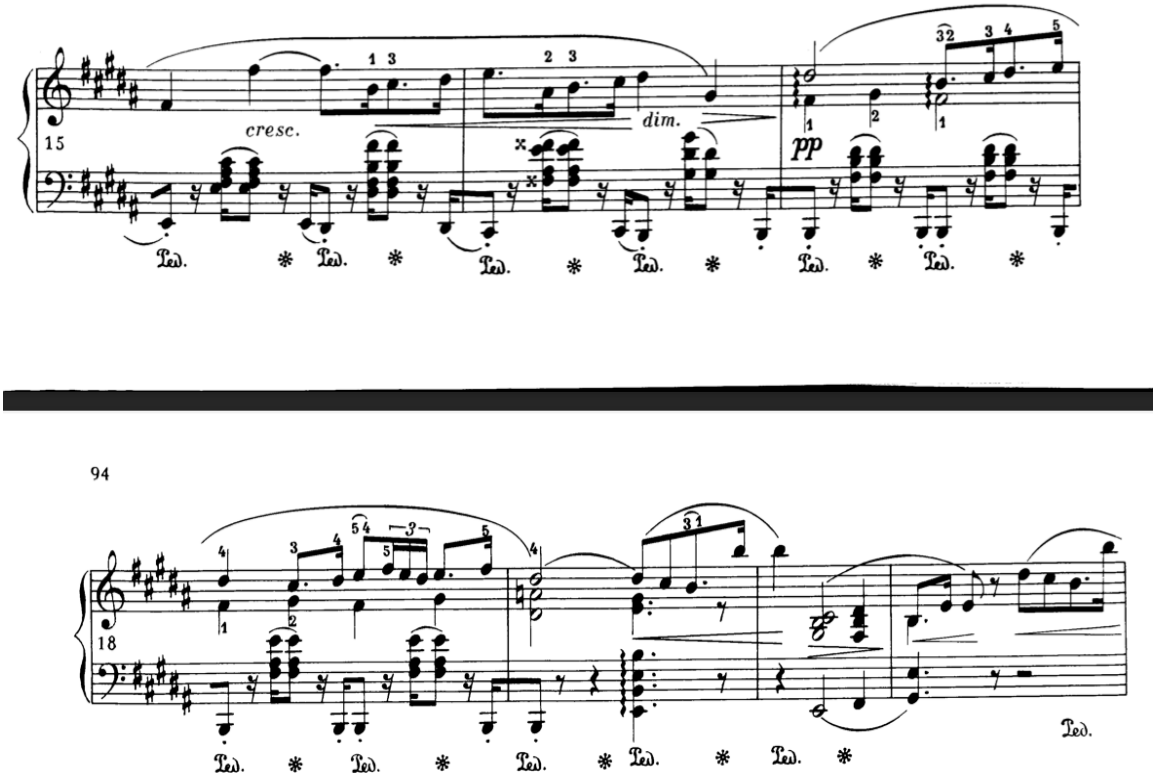

Figure 4.3 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 15–21

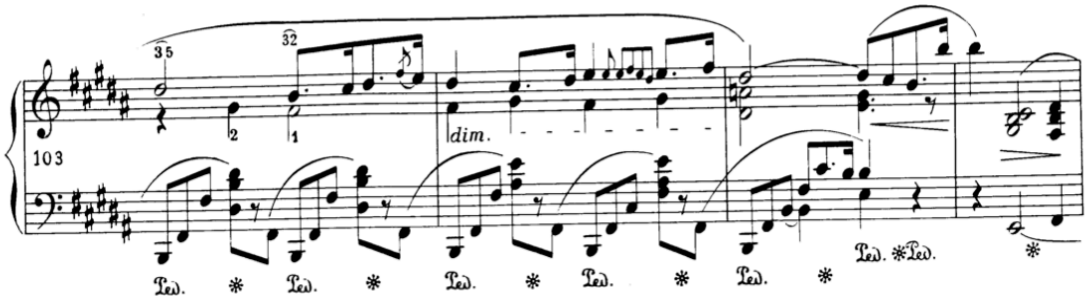

Figure 4.4 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 103–106

Olga Samaroff

Samaroff performs both notated and implied asynchrony in bars 17–19 (Figure 4.3; Chopin_Samaroff, 1:24–1:34). In bar 17, where Chopin marks arpeggio signs, Samaroff employs a moderate asynchrony speed, creating a pronounced separation between the voices. In contrast, at the points of implied asynchrony in bar 18, she shifts to a fast asynchrony speed, resulting in shorter separations. In bars 103–105 (Figure 4.4; Chopin_Samaroff, 6:47–6:56), Samaroff's separation of the voices becomes difficult to distinguish. Similar to Bauer, Samaroff firmly aligns the voices at certain points, at the V7 chord on the second and third beat of bars 18 and the second beat of bar 104. These instances of synchrony by both pianists may suggest a general interpretive trend: momentarily sacrificing the independent shaping of the alto line to emphasise harmonic tension at dominant harmonies.

Frieda Kwast-Hodapp

Kwast-Hodapp exhibits a notably flexible approach to asynchrony in bars 17–19 (Figure 4.3; Chopin_Kwast-Hodapp, 1:27–1:40), and 103–105 (Chopin_Kwast-Hodapp, 6:10–6:23), often diverging from Chopin's explicit notation. In bar 17, she omits both points where Chopin explicitly marks arpeggiation, sounding both voices together. Despite this, she

introduces asynchrony on the first two beats of bar 18, with fast separations that maintain close alignment between the alto and soprano lines.

In bars 103–105 (Figure 4.4), Kwast-Hodapp fully embraces the points of implied asynchrony, applying it consistently with a fast speed of separation to the alto and soprano voices. Her treatment of the alto line stands out for its dynamic emphasis, with a slightly louder projection than the soprano, giving the alto more presence in the texture. Unlike Bauer and Samaroff, who subtly highlight the alto voice through temporal displacement, Kwast-Hodapp combines asynchrony with dynamic contrast to project the inner voice, reflecting a broader interpretive choice to prioritise the shaping of the alto line.

Benno Moiseiwitsch

Moiseiwitsch applies asynchrony consistently throughout bars 17–19 (Figure 4.3; Chopin_Moiseiwitsch, 1:46–2:02) and 103–105 (Figure 4.4; Chopin_Moiseiwitsch, 5:31–5:44). His asynchrony speed is slow, with the separations sounding noticeably pronounced compared to the other pianists. This deliberate pacing lends the passage a syncopated quality, allowing each voice to emerge with greater independence and clarity.

In terms of dynamics, Moiseiwitsch gives the alto line significant prominence, often making it the most dynamically foregrounded voice in the texture. This emphasis creates a dramatic contrast between the inner and upper voices, enriching the polyphonic character of the passage.

Unlike Bauer and Samaroff who synchronise the hands more frequently, Moiseiwitsch synchronises the alto and soprano only at a single instance, on the tonic chord at beat 1 of bar 18 (Chopin_Moiseiwitsch, 1:49–1:59), momentarily reinforcing harmonic resolution before resuming his pronounced separation of the voices. This restrained use of synchrony

highlights his interpretive focus on shaping individual lines, allowing the alto voice to achieve an equally melodic role within the texture. This interpretive choice gives the passage a quasi-conversational character, an intimate inner dialogue between partners. Moiseiwitsch's slow asynchrony and dynamic control create a uniquely dramatic and textured performance, standing apart from the faster asynchrony speeds favoured by the other pianists.

4.3 Unnotated Arpeggiation

The use of MIDI data has been instrumental in analysing unnotated arpeggiation in this movement, particularly in confirming the arpeggiation shapes, speeds, or whether a chord is arpeggiated at all. In several instances, the arpeggiation occurs so quickly that it is barely perceptible to the ear, making the precise identification of these practices challenging through aural analysis alone. The MIDI data provides clarity, revealing subtle timing variations and shapes that define each pianist's interpretive choices. This analysis not only validates the presence of these techniques but also illuminates the complexity of the practice. By visually breaking down these effects, MIDI has enabled me to uncover the finer details of performance traditions that might otherwise go unnoticed, further enriching my perspective on the practice.

The following analysis relies on the accompanying MIDI diagrams to illustrate the unnotated arpeggiation practices. Each line or group of lines in the diagram corresponds to a specific chord in the passage discussed and is referred to sequentially from left to right. There are 9 groups of lines in each MIDI diagram, representing the 9 points of vertically aligned material in bars 3–4. Black lines represent points of synchrony and red lines represent arpeggiation.

Bars 3–4 in the Chopin present intriguing examples of arpeggiation, with variations evident from pianist to pianist (Figure 4.5). This passage highlights the breadth of interpretive

choices regarding speed and shape, offering insight into the nuanced application of unnotated arpeggiation.

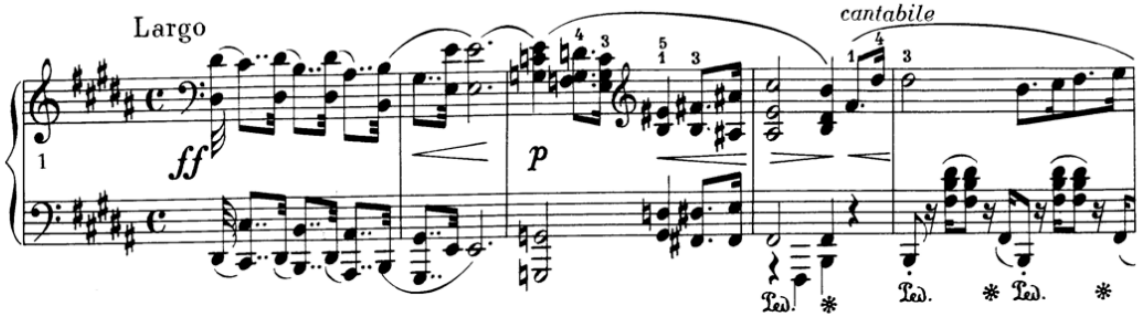

Figure 4.5 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 1–5

Harold Bauer

Bauer generally employs an ascending, moderate-speed[116] arpeggiation throughout bars 3–4 (Chopin_Bauer, 0:13–0:26). The notes in the arpeggiation are evenly spaced, with no abrupt changes in speed. Bauer's arpeggiation style softens the attack of the chord and contrasts with the stormy introduction in bars 1–2. To my ears, this shift imparts a sense of relief—a musical exhale that tempers the intensity of the opening octaves and ushers in the lyrical character of the first theme in bar 5. This interpretation resonates with Viennese pianist and pedagogue Ernst Pauer's (1826–1905) perspective, who described arpeggiated chords as imparting "softness, languor, despondency, and irresolution", contrasting it with the firm unarpeggiated chords that express "determination, strength, and earnestness."[117] At the B6/4 chord in bar 3, Bauer synchronises the soprano and bass voices, momentarily departing from his typical arpeggiation (fifth group, Figure 4.6). This choice subtly emphasises the tonic and

[116] These terms regarding arpeggiation speed were defined earlier in Chapter 3, Unnotated Arpeggiation.
[117] Ernst Pauer, *The Art of Pianoforte Playing* (London: Novello, Ewer and Co., 1877), 46.

draws attention to the harmonic resolution following the Neapolitan harmony, demonstrating a nuanced sensitivity to voice leading. At the harmonic climax on the V4/3 chord in bar 4 (seventh group, Figure 4.6), Bauer slows down through the arpeggiation, introducing a moment of suspense before resolving to the tonic. This deliberate deceleration highlights the dominant chord and illustrates Bauer's decision to convey tension with dramatic speed adjustments.

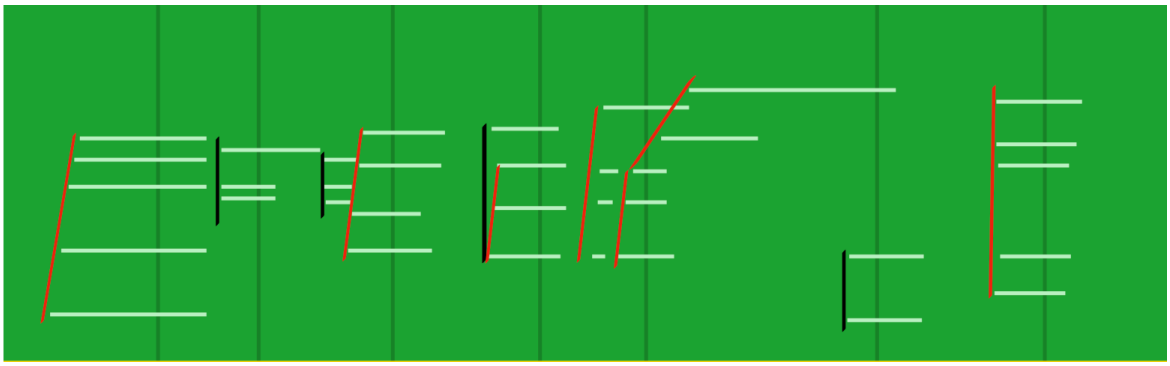

Figure 4.6 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 3–4, Bauer (MIDI)

Olga Samaroff

Samaroff's approach to arpeggiation in bars 3–4 is highly intricate and demonstrates significant variability in execution (Chopin_Samaroff, 0:11–0:22). While the general tendency is toward fast-speed, ascending arpeggiation with no synchronised chords, there are notable deviations. The use of MIDI playback proved especially valuable here, as discerning whether notes are synchronised or not from listening to the DRPR alone was challenging. The red lines in the MIDI diagram (Figure 4.7) correspond with each chord in bars 3–4.

For example, on the second chord in the MIDI diagram, Samaroff employs a descending arpeggiation shape. Particularly striking is the B6/4 chord (fifth group, Figure 4.7), where the soprano and bass notes are played nearly simultaneously, while the remaining inner voices

are arpeggiated more slowly. This creates a unique arpeggiation shape: bass, soprano, tenor, alto, breaking away from the conventional ascending shape.

Additionally, there is a dramatic shift in arpeggiation speed at the V7 chord (seventh group, Figure 4.7), as evidenced by the significant change in the gradient within the MIDI visualisation. The harmonic tension and acts as an expressive pivot within the phrase. Samaroff's execution in these bars exemplifies the complexity and creativity of her unnotated arpeggiations.

Historical sources, such as Frédéric Kalkbrenner's (1785–1849), *Méthode pour apprendre le piano-forte à l'aide du guide-mains, op. 108* (1831) advocate for distinct arpeggiations at points of harmonic dissonance.[118] While Kalkbrenner does not specify particular arpeggiation shapes, Samaroff's note orders serve to heighten the expressive impact of the moment, aligning with 19th-century ideals of creative expression.

[118] Friedrich Wilhelm Michael Kalkbrenner, *Méthode pour apprendre le piano-forte à l'aide du guide-mains, op. 108* (Paris: Pleyel, 1831), 12.

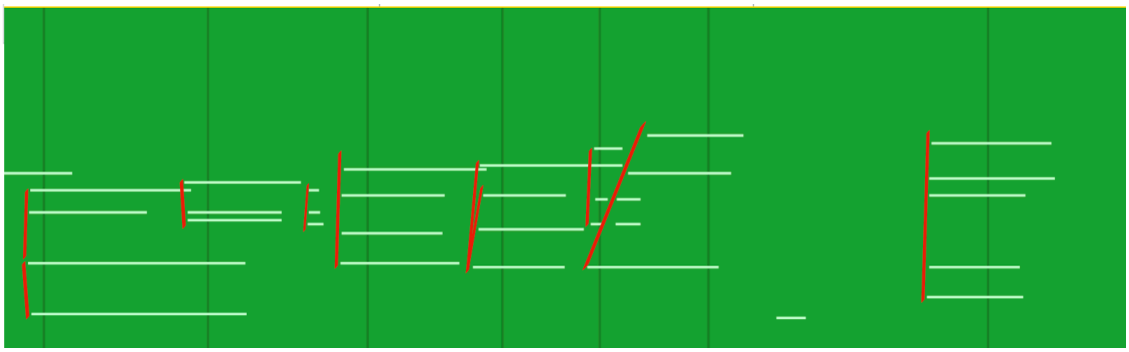

Figure 4.7 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 3–4, Samaroff (MIDI)

Frieda Kwast-Hodapp

Kwast-Hodapp blends synchronised and arpeggiated chords in her interpretation, offering a more flexible and improvisatory approach than the other pianists (Chopin_Kwast-Hodapp, 0:10–0:21). At both the first chord in bar 3 (C6/4) and the final tonic chord in bar 4 (B), she strikes the notes firmly together, in contrast to her arpeggiated treatment of the intervening chords. This approach aligns with Carl Czerny's (1791–1857) treatise, *Vollständige Theoretische-Practische Pianoforte-Schule* (1839), which emphasised that the final chord in a phrase should be struck with notes firmly together, as an arpeggiation at such moments would detract from the sense of finality or closure.[119] Her arpeggiation speeds vary from moderate to fast. Notably, at the fourth and fifth groups of lines in the MIDI diagram (Figure 4.8), Kwast-Hodapp employs a distinctive shape: the bass, tenor, and alto voices sound together, followed by the soprano. This approach resembles an extension of melodic voicing, subtly highlighting the soprano line through temporal separation. On the V4/3 chord in bar 4 (seventh group, Figure 4.8), she uses a terraced arpeggiation, beginning quickly, transitioning

[119] Carl Czerny, *Vollständige Theoretische-Practische Pianoforte-Schule* op. 500 (Vienna: A. Diabelli & Co., 1839), trans. James Alexander Hamilton as *Complete Theoretical and Practical Pianoforte School* op. 500 (London: R. Cocks & Co., 1839), vol. 3, 56.

to a moderate pace, and then slowing dramatically. This segmented approach contrasts with Bauer's smooth deceleration, adding a layer of unpredictability that underscores the dominant chord.

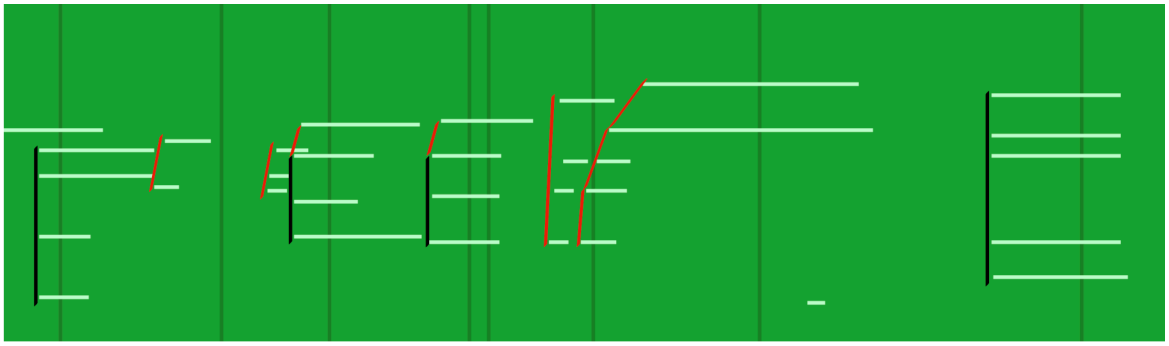

Figure 4.8 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 3–4, Kwast-Hodapp (MIDI)

Benno Moiseiwitsch

Moiseiwitsch uses a combination of synchronised and arpeggiated chords in bars 3–4 (Chopin_Moiseiwitsch, 0:12–0:23). Like Kwast-Hodapp, he strikes the first chord in bar 3 (C6/4) and the final tonic chord in bar 4 (B) with notes struck firmly together. In the remaining chords, his arpeggiation shape often prioritises the soprano line, which he sounds first, followed by a fast, descending arpeggio or a synchronised chord with the remaining voices. At the sixth line in the MIDI diagram (Figure 4.9), Moiseiwitsch departs from this shape, instead arpeggiating swiftly in ascending order from the bass.

At the V4/3 chord in bar 4 (seventh group of lines), he reorders the shape again to sound tenor, bass, alto, and soprano, with a gradual deceleration between each voice. This unique arpeggiation shape highlights the dominant chord. Moiseiwitsch's approach, characterised by changing arpeggiation shape and speed gives this playing a quasi-improvisatory quality, reflecting his creative engagement with the practice. The MIDI data was instrumental in revealing these subtle but deliberate variations in his arpeggiation style, illuminating the complexity of his interpretive choices.

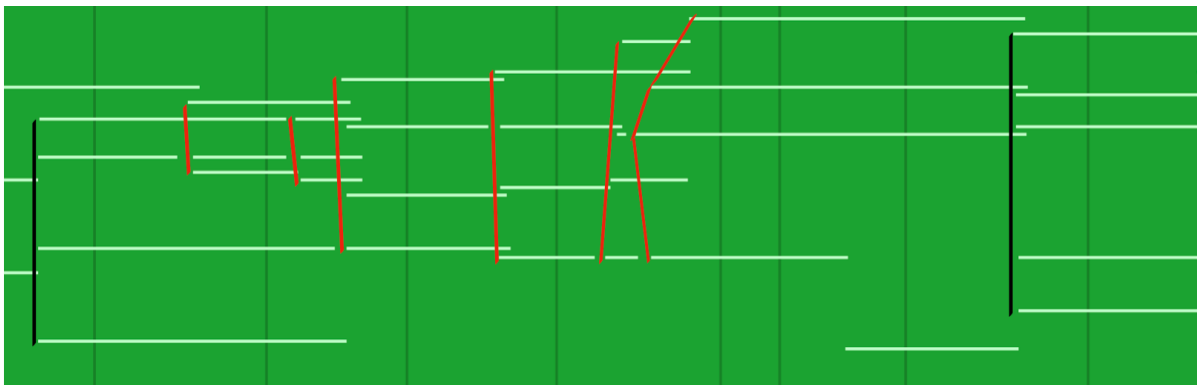

Figure 4.9 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 3–4, Moiseiwitsch (MIDI)

A key trend in the performances of Bauer, Samaroff, Kwast-Hodapp, and Moiseiwitsch is their distinctive treatment of the V4/3 chord in bar 4, highlighting the dominant chord as a focal point for expressive interpretation. Each pianist employs a unique approach to arpeggiation at this climactic moment, utilising variations in speed and shape to emphasise both the harmonic tension and its resolution. Bauer's smooth deceleration, Samaroff's dramatic slowing, Kwast-Hodapp's segmented terraced approach, and Moiseiwitsch's inventive reordering of voices demonstrate the versatility of arpeggiation as an expressive tool.

These practices collectively underscore the 19th-century aesthetic that prioritised flexibility and individuality in performance. The diversity of approaches suggests that unnotated arpeggiation was a vital interpretive element, enabling pianists to shape the texture, dynamics, and drama of their performances. The prominence of this practice, particularly at structurally significant moments, underscores its role in heightening musical expression and emotional impact.

4.4 Metrical Rubato and Re-rhythmisation

In my analyses of the renditions of Chopin's *Largo*, these modifications manifest generally as small-scale adjustments—subtle rhythmic shifts within a bar. These include agogic accentuation and rhythmic inequalities, transforming notated rhythms into more varied rhythms. Although these inflections are minor departures from the notation, they significantly impact phrasing and contribute to the individuality of each performer's interpretation.

4.4.1. Metrical Rubato in the Accompaniment

Among the four pianists analysed, only Kwast-Hodapp exhibits a notable engagement with metrical rubato in the A section, occurring in the accompaniment figure of the first theme (bars 5–19). This figure consists of a crotchet unit comprising a quaver, a semiquaver rest, a semiquaver, and a final quaver (Figure 4.10).

Kwast-Hodapp frequently overdots the semiquaver, shortening it to a demisemiquaver, which infuses the passage with additional rhythmic momentum (Chopin_Kwast-Hodapp, 0:22–1:40). However, at key structural points such as the lead up to the perfect cadence in bar 12, she reverts to the notated rhythm (Chopin_Kwast-Hodapp, 0:59–1:07). This return to the original rhythm, coupled with a slight tempo reduction, creates moments of expressive contrast.

The performances of Bauer, Samaroff, and Moiseiwitsch reveal minimal engagement with metrical rubato in this passage. Bauer's interpretation stands out slightly: a subtle overdotting of the semiquaver upbeat to beat 2 in bar 15 (Chopin_Bauer, 1:19–1:21), demonstrating some degree of rhythmic flexibility. However, their overall approaches remain largely anchored to the notated rhythm.

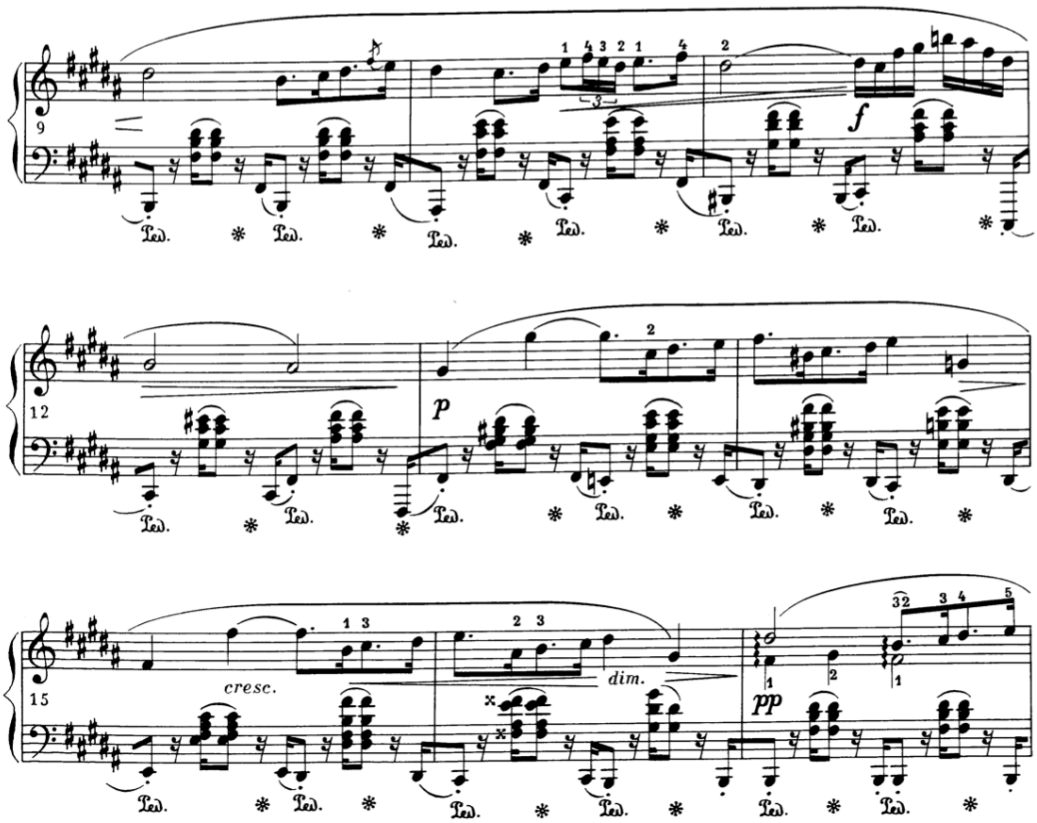

Figure 4.10 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 9–11

4.4.2. Metrical Rubato in the B section

In the B section (bars 29–98), each pianist employs varying degrees of agogic accentuation, particularly on the minims and dotted crotchets (beats 1 and 3) in the treble within the arpeggiated texture (Figure 4.12). Moiseiwitsch's interpretation is the most understated, with

minimal engagement in agogic accentuation (Chopin_Moiseiwitsch, 2:38–4:45). Bauer introduces a subtle elongation of the minims (Chopin_Bauer, 2:28–6:05). Samaroff applies a slightly more pronounced agogic accent than Bauer in the same section (Chopin_Samaroff, 2:20–5:44). The slight elongation of the minims lends the line a gentle sense of yearning—as if the music wants to move forward but instead hesitates, lingering in a moment of emotional suspension.

Kwast-Hodapp adopts a bolder interpolation of the notated rhythm. Rather than slightly elongating the minim, she nearly doubles its duration, creating a momentary suspension in the melodic line (Chopin_Kwast-Hodapp, 2:18–5:04). This is followed by a hurried semiquaver figure that contrasts sharply with the elongated minim. Her approach significantly reshapes the notated phrase, demonstrating an extended application of metrical rubato that stands apart from the aforementioned pianists.

Figure 4.11 illustrates this rhythmic modification, highlighting the extent of her departure (top stave) from Chopin's original notation (bottom stave). To my mind, the dramatic contrast between the elongated minims and the rushed semiquavers imparts a volatile and impassioned character to the phrase – leaning far more intensely into emotional extremes than the interpretations of the other pianists. This interpretive choice, in pushing the rhythmic boundaries so far, borders on the theatrical—even excessive—yet the result is striking. Kwast-Hodapp creates an expressive trajectory that feels both daring and captivating.

This re-rhythmisation challenges the notion of fidelity to the score by introducing an entirely new expressive contour to the phrase. Furthermore, the varied applications of metrical rubato, in conjunction with manual asynchrony and unnotated arpeggiation results in frequent misalignments between the left and right hands, creating a complex textural soundscape.

These subtle yet intricate deviations introduce a layer of unpredictability and spontaneity to a performance, showcasing the individuality of each pianist.

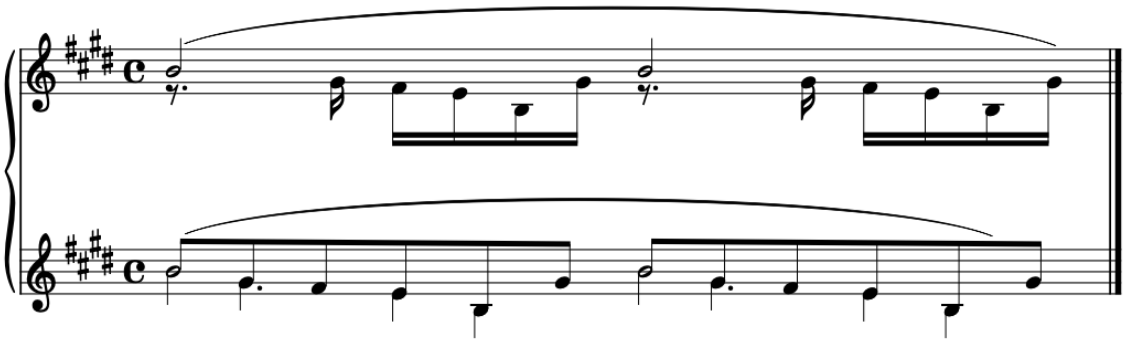

Figure 4.11 Chopin Sonata no. 3 in B minor op. 58, Largo, bar 29, Kwast-Hodapp, 1920, piano roll

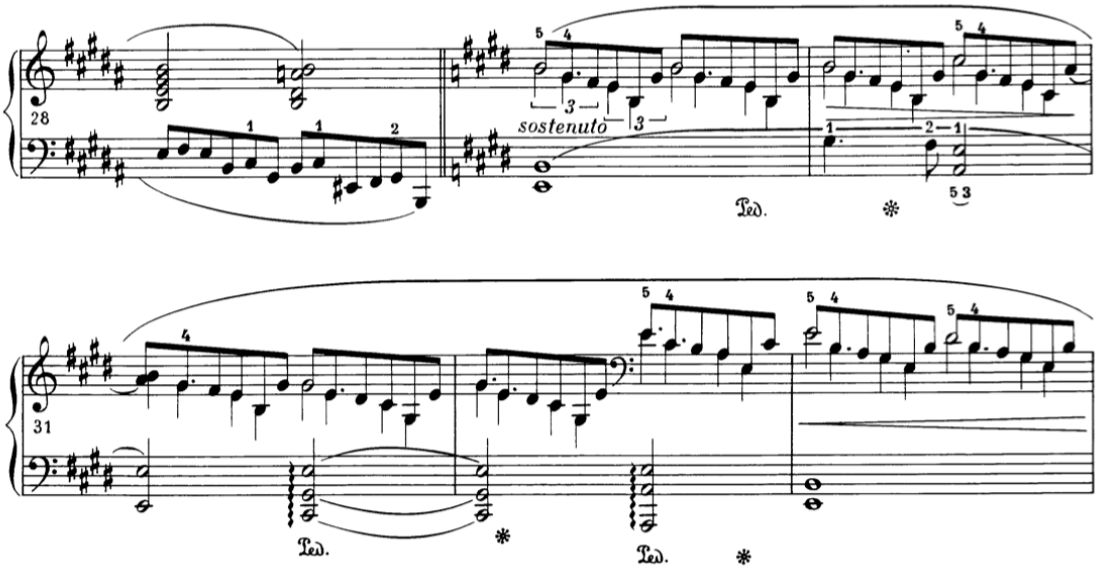

Figure 4.12 Chopin Sonata no. 3 in B minor op. 58, Largo, bars 28–33

4.5 Tempo Modification

Tempo modification in the DRPRs analysed reveals both macro- and micro-level tempo modifications throughout the movement. The analysis presented in Table 4.2 highlights the tempo variability across different sections of the piece, with approximate initial tempos indicating macro-level modifications that align with shifts in themes, structure, or character.[120] Alongside these, the table includes tempo ranges (presented in parentheses) that capture the breadth of micro-level modifications within each section. These micro-level changes reflect the performer's expressive adjustments within phrases and/or sections. An asterisk denotes tempo outliers—brief, sudden deviations lasting less than a bar—that dramatically emphasise specific moments without affecting the broader tempo range. While documenting every subtle variation would be impractical, this combined approach of macro- and micro-level analysis provides a comprehensive picture of tempo modifications within these renditions.

[120] There is no data entry populating the lyrical theme (bars 29–44) in Moiseiwitsch's recording because this section was omitted from his performance. The exact reason for this omission remains unclear; it may be attributed to artistic choice, editorial practices, or recording constraints. The recording was produced on an Ampico piano roll, which theoretically did not impose strict recording time/length limitations, further complicating any definitive explanation.

Table 4.2 Tempo Data of DRPRs, Chopin Sonata no. 3 in B minor op. 58, Largo

Section	Bauer: Initial Tempo (Range)	Samaroff: Initial Tempo (Range)	Kwast-Hodapp: Initial Tempo (Range)	Moiseiwitsch: Initial Tempo (Range)
Introduction (bars 1–4)	M.M. 30 (M.M. 25–35)	M.M. 35 (M.M. 35–45)	M.M. 55 (M.M. 40–55)	M.M. 35 (M.M. 35–40)
A (bars 5–28)				
1st theme (bars 5–18)	M.M. 50 (M.M. 40–50)	M.M. 50 (M.M. 45–55; M.M. 35*, bar 11)	M.M. 45 (M.M. 35–55)	M.M. 35 (M.M. 35–40)
2nd theme (bars 19–28)	M.M. 35 (M.M. 35–60)	M.M. 50 (M.M. 45–70; M.M. 80*, bar 27)	M.M. 75 (M.M. 40–85)	M.M. 55 (M.M. 55–90)
B (bars 29–98)				
Lyrical theme (bars 29–44)	M.M. 65 (M.M. 55–80)	M.M. 70 (M.M. 65–80)	M.M. 65 (M.M. 50–100)	
Lyrical theme (bars 45–60)	M.M. 65 (M.M. 55–80)	M.M. 75 (M.M. 65–75)	M.M. 85 (M.M. 65–110)	M.M. 80 (M.M. 75–105)
Development (bars 61–78)	M.M. 80 (M.M. 55–85)	M.M. 75 (M.M. 45–80)	M.M. 105 (M.M. 65–130)	M.M. 90 (M.M. 80–120)
Lyrical theme (bars 79–89)	M.M. 75 (M.M. 55–75)	M.M. 75 (M.M. 70–80)	M.M. 90 (M.M. 70–105)	M.M. 80 (M.M. 70–110)
2nd theme from A (bars 89–98)	M.M. 45 (M.M. 45–65)	M.M. 65 (M.M. 40–70)	M.M. 50 (M.M. 45 –125)	M.M. 75 (M.M. 60–130)
A (bars 99–112)				
1st theme (bars 99–105)	M.M. 55 (M.M. 45–55)	M.M. 55 (M.M. 45–60)	M.M. 40 (M.M. 35–45)	M.M. 40 (M.M. 35–50)
2nd theme (bars 106–112)	M.M. 40 (M.M. 40–55; M.M. 70*, bar 108)	M.M. 65 (M.M. 45–70)	M.M. 65 (M.M. 45–90)	M.M. 80 (M.M. 50–110)
Coda (bars 113–120)	M.M. 55 (M.M. 45–60)	M.M. 75 (M.M. 60–80)	M.M. 65 (M.M. 45–65)	M.M. 70 (M.M. 50–80)

4.5.1. Macro-level Tempo Modifications

The data in Table 4.2 provides clear evidence that all performers adjust their tempo at a macro level across different sections and themes of the movement. My discussion focuses on two critical aspects of tempo modification observed in these performances: the magnitude of tempo changes between sections and the consistency of tempo across similar material. Examining the magnitude of changes highlights where performers employ bold or subtle shifts to highlight thematic and formal contrasts. Conversely, by analysing tempo consistency across sections, I gained insight into how performers maintain coherence or introduce variation in recurring material. Together, these perspectives reveal the unique balance each pianist achieves between tempo flexibility and structural cohesion.

Harold Bauer

Bauer's approach is characterised by moderate shifts. While his tempo changes between sections reflect clear macro-level adjustments, the magnitudes are relatively small. The largest increase is from the 2nd theme in the A section (M.M. 35, bars 19–28) to the lyrical theme in the B section (M.M. 65, bars 29–44). The largest decrease is from the third iteration of the lyrical theme (M.M. 75, bars 79–89) to the 2nd theme from the A section (M.M. 45, bars 89–98). Bauer also demonstrates a consistent approach to recurring material, maintaining similar tempos across the 1st and 2nd themes in both A sections and across all iterations of the lyrical theme in the B section. This reflects a cohesive interpretation of structurally and thematically related passages.

Olga Samaroff

Samaroff's approach, like Bauer's, is characterised by consistency and measured tempo shifts, with relatively small magnitudes of change across sections. Her largest tempo increase

occurs between the 2nd theme in the A section (M.M. 50, bars 19–28) and the lyrical theme in the B section (M.M. 70, bars 29–44). Beyond this, her structural tempo changes are minimal, with most sections remaining consistent or varying by only 5–10 M.M, underscoring her measured approach.

Frieda Kwast-Hodapp

Kwast-Hodapp demonstrates the most volatile approach, with the largest magnitude of changes among the four pianists. Kwast-Hodapp reaches an overall maximum tempo in the B section, beginning at M.M. 65 (bar 29) and accelerating to M.M. 105 in the development (bar 61). From the third iteration of lyrical theme (bars 79–89) to the 2nd theme from the A section (bars 89–98), the initial tempo decreases from M.M. 90 to M.M. 50. Uniquely among the pianists analysed, Kwast-Hodapp exhibits significant tempo fluctuation between related sections, most notably at each iteration of the lyrical theme in the B section. These bold shifts capture the breadth of her dramatic macro-level tempo modifications, reflecting her preference for expressive variability over tempo consistency. The result is a performance that feels emotionally unstable, veering toward a sense of manic urgency, heightening the dramatic tension across the section.

Benno Moiseiwitsch

Moiseiwitsch's approach combines tempo consistency with selective dramatic shifts. His tempo remains steady between the introduction (bars 1–4) and the 1st theme (bars 5–19) but shows a substantial increase toward the end of the 2nd theme in the A section (bars 19–28), adding a sense of forward momentum towards the B section. This practice is similarly repeated in the return of the A section. This combination of maintaining consistency between

sections while employing bold tempo changes to punctuate structural transitions highlights Moiseiwitsch's interpretative style.

4.5.2. Micro-level Tempo Modifications

The tempo ranges in Table 4.2 highlight the micro-level modifications employed by each pianist, reflecting both stability within phrases and dramatic fluctuations for expressive purposes. These ranges reveal two distinct trends: smaller variations, which prioritise clarity and cohesion, and larger fluctuations, which underscore moments of heightened dramatic expression.

Bauer and Samaroff exhibit the most restrained ranges, reflecting their preference for stability and control. Bauer's ranges typically remain within 10–30 M.M., even in more expressive sections like the development (M.M. 55–85, bars 61–78). Similarly, Samaroff's ranges are slightly broader but still measured, such as her M.M. 45–80 range in the development section (bars 61–78) and M.M. 65–80 in the first playing of the lyrical theme (bars 29–44). Both performers prioritise clarity and structural cohesion, with interpretations that emphasise subtle expressiveness over extreme contrasts.

In contrast, Kwast-Hodapp and Moiseiwitsch are far more variable, particularly in the B section. Kwast-Hodapp demonstrates the widest tempo range overall, reaching an extraordinary M.M. 65–130 in the development (bars 61–68), a fluctuation of 65 M.M. within just 8 bars. This dramatic tempo range underscores the emotional intensity and chaotic energy at the height of the movement's climax. Her lyrical sections also exhibit notable variability, such as during the third iteration of the lyrical theme (M.M. 70–105, bars 79–89), further demonstrating her highly dynamic and expressive style.

Moiseiwitsch also employs wide tempo ranges within the B section. Similar to Kwast-Hodapp, the development section spans M.M. 80–120 (bars 61–78). Following this, the 2nd theme (bars 89–98) features a range of M.M. 60–130, accelerating dramatically in bars 95–98 as the harmony frantically navigates chromatic harmonic changes to return to the dominant F#. This tendency to reserve broader fluctuations for pivotal moments creates a compelling contrast to his otherwise more reserved tempo ranges such as in the 1st theme of both A sections (bars 5–19, 99–105).

These observations underscore the diversity of interpretative approaches among the performers. While Bauer and Samaroff offer restrained and cohesive interpretations, Kwast-Hodapp and Moiseiwitsch take more daring, dynamic approaches, particularly in sections of heightened intensity such as the development, where their dramatic tempo fluctuations leave a striking impression.

4.5.3. Tempo Outliers

Tempo outliers—brief, significant, and often sudden deviations from the prevailing tempo—represent a sub-type of micro-level tempo modifications developed through this analysis. Typically lasting less than a bar, these shifts underscore specific structural or emotional moments, adding a dramatic but localised layer to the interpretation without altering the overall tempo range. By contrast, gradual decelerations or accelerations that occur organically across a bar or passage are not classified as tempo outliers, as they reflect broader expressive shaping rather than sudden, isolated shifts.

Samaroff's performance contains two notable examples. In bar 11 of the A section, her tempo drops significantly from M.M. 50 to M.M. 35, marking the G#6/5 chord with a momentary slowdown (Chopin_Samaroff, 0:55–1:00). For me, Samaroff's rapid deceleration stretches

the phrase to its structural limit, creating a powerful sense of suspended time that intensifies the tension of the secondary dominant and culminates in a cathartic resolution. This moment conveys a sense of vulnerability—as though the harmony is overwhelmed and needs a moment of respite before it resolves. In bar 27, she accelerates from M.M. 40 to M.M. 80, marking the emergence of the quaver triplet figuration that foreshadows the texture of the B section. This acceleration injects a sense of urgency as the movement transitions to new material (Chopin_Samaroff, 2:00–2:20). Similarly, in bar 108, Bauer accelerates from M.M. 40 to M.M. 70. This momentary increase in tempo contrasts sharply with his otherwise measured approach, adding an element of unpredictability to his interpretation (Chopin_Bauer, 7:33–7:51).

The final cadence (bars 119–120) stands out as a collective tempo outlier across all performances. Each pianist slows dramatically, reducing the tempo below the documented ranges. As Peres Da Costa observes, pronounced ritardandos in early recordings often signal the close of a phrase and provide emotional release,[121] an approach each pianists employs here, using significant tempo reductions to enhance the sense of resolution, leaving a strong impression of finality. These tempo outliers reveal how these pianists use brief tempo modifications to accentuate harmonic shifts, climactic moments, or virtuosic passages. Rather than altering the tempo of the entire section, they add localised expression in a very swift manner.

The analysis of tempo modifications across macro- and micro-level changes, as well as tempo outliers, reveals the diverse interpretative approaches among the pianists analysed. While performers like Bauer and Samaroff prioritise consistency and structural cohesion,

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[121] Peres Da Costa, *Off the Record*, 286.

Kwast-Hodapp and Moiseiwitsch evidence a more volatile style, leveraging dramatic tempo fluctuations to heighten expressivity.

4.6 Embellishment

In the selected DRPRs of Chopin's *Largo*, performers introduce subtle modifications, such as added octaves and fifths, melodic alterations, and occasional re-harmonisations. These nuanced changes demonstrate a balance between personal interpretation and fidelity to Chopin's score.

Harold Bauer

Bauer's approach to embellishment is characterised by additions of octaves and fifths that enrich the harmonic texture. In bar 2, Bauer extends the descending octave bass line established in bar 1 by adding E1 to the notated E2, maintaining the continuity of the octave motif and deepening the resonance (Chopin_Bauer, 0:08–0:13). Although Chopin did not notate the lower E1—likely due to the limited range of pianos available at the time[122] — Bauer's addition appears as a natural extension of the line, utilising the expanded range of early 20th-century instruments. In bar 16, Bauer enhances the texture by adding B2 to the notated B1, breaking the octave with a fast asynchrony, [123] temporally expanding the texture

[122] Most early to mid-19th-century domestic pianos had more limited bass ranges compared to concert instruments, often reaching only as low as F1. By contrast, concert and high-end models began expanding their range down to C1 as early as 1816, a feature that gradually became more common in domestic models by the late 19th century. Chopin may have chosen E2 to accommodate the range limitations of home pianos, which were generally intended for private rather than public performance. Bauer's extension of the bass line to E1 reflects the modernised capabilities of early 20th-century pianos, aligning with the broader availability of expanded bass ranges. For a detailed discussion of range development in 19th-century pianos, see Edwin Marshall Good, *Giraffes, Black Dragons, and Other Pianos: A Technological History from Cristofori to the Modern Concert Grand* (Stanford: Stanford University Press, 2001).

[123] Bauer's octave breaking technique aligns with similar practice by his former teacher, Theodor Leschetizky, who frequently demonstrates the practice in his 1906 rendition of Chopin's Nocturne in D-flat major op. 27 no. 2.

and resonance (Chopin_Bauer, 1:28–1:30). In bar 65, at the height of the climactic development passage, Bauer reinforces the C# minor octaves with an added fifth, swiftly arpeggiating the expanded chord (Chopin_Bauer, 4:39–4:42). In bar 79, Bauer applies the same octave breaking technique as in bar 16, substituting the notated B in the bass with a lower octave E1 (Chopin_Bauer, 5:30–5:36). In bar 112, he adds G1 on the quaver upbeat to lead into a lower F#1 beneath the notated F#2, subtly enriching the downward movement of the bassline resonance (Chopin_Bauer, 8:02–8:07).

Olga Samaroff

Samaroff introduces a range of embellishments, including added octaves, resounded notes, and rhythmic alterations. In bar 45, she modifies the B in the bass from a notated minim on beat 3 to a semibreve sounding on beat 1. This adjustment removes the B from its role in the melodic line of the bass, recontextualising it as part of a chord that establishes the harmonic foundation (Chopin_Samaroff, 3:15–3:19). In bar 48, she resounds the G# in the bass rather than tying it as notated, refreshing the resonance of the middle voice (Chopin_Samaroff, 3:23–3:27).

A more pronounced embellishment appears in bar 59, where she resounds the high B in the soprano line on the fifth quaver and adds an A beneath it, introducing additional melodic interest (Chopin_Samaroff, 4:03–4:07). In the climactic bars of the development section (bars 65–68), Samaroff adds a fifth to the C# minor chord in bar 65 and reinforces the soprano voice with an added lower D# octave in the right hand in bars 67–68 (Chopin_Samaroff, 4:22–4:35). In bar 86, she resounds tied semibreve octaves originally notated to be sustained for four bars, renewing the sonority to compensate for the piano's natural decay (Chopin_Samaroff, 5:35–5:40).

Frieda Kwast-Hodapp

Kwast-Hodapp's approach to Chopin's score is marked by minimal alterations, with a focus on subtle phrasing adjustments rather than overt embellishments. In bar 43, she ties the D# in the bass clef across rather than replaying it (Chopin_Kwast-Hodapp, 3:02–3:05). Similarly, in bars 65–66, she ties the bass octaves B instead of playing them as notated (Chopin_Kwast-Hodapp, 4:03–4:06). These minor modifications reflect a restrained interpretive approach, emphasising continuity and flow over added resonance or texture.

Benno Moiseiwitsch

Moiseiwitsch's embellishments are sparse but harmonically inventive, adding subtle interpretative colour. In bar 106, he introduces an E in the bass clef to the B major chord, creating a suspended fourth that heightens harmonic tension and anticipates the resolution to the E major chord (Chopin_Moiseiwitsch, 5:50–5:52). Toward the end of bar 118, he replaces the notated sixth with an octave by altering the D in the bass to an F, shifting the texture from a singing, melodic quality to a more grounded resonance (Chopin_Moiseiwitsch, 6:25–6:30). These minimal modifications lend a sense of spontaneity to his interpretation, reflecting his wider improvisatory approach to the movement.

The embellishments observed in these DRPRs, though often subtle, highlight the interpretative creativity of each pianist. By adding harmonic depth, altering textures, or re-harmonising, these modifications demonstrate how each pianist balanced fidelity to Chopin's score with the expressive freedom to personalise their interpretation.

4.7 Conclusion

The analysis of these four 19th-century-trained pianists' reveals a high level of individuality in their interpretative approaches to Chopin's *Largo*. While all pianists employ manual asynchrony, unnotated arpeggiation, metrical rubato, tempo modification, and embellishment, the variety in their execution, even within the same passage, highlights the deeply personal nature of these interpretations. Bauer, Samaroff, Kwast-Hodapp, and Moiseiwitsch each draw out distinct expressive effects, whether through rhythmic adjustments, dynamic shaping, or inventive embellishments. This diversity suggests that 19th-century performance practices were not rigid conventions but flexible tools through which performers explored the expressive potentialities inherent in the composition.

Chapter 5. Analysis of Digitised Reproducing Piano Rolls: Andante sostenuto from Schubert Sonata in B-flat major D. 960

5.1 Introduction

This chapter analyses the expressive practices employed by two 19th-century-trained pianists in their interpretations of the *Andante sostenuto* from Schubert's Sonata in B-flat major D. 960. The scarcity of recordings by 19th-century-trained pianists performing Schubert's piano works reflects his relatively less popular status among pianists at that time. William Kinderman attributes this neglect to several factors: Schubert's prioritisation of musical expression over technical virtuosity, which made his works less attractive as showpieces; the abrupt contrasts between themes and unprepared modulations; and the overwhelming influence of Beethoven, whose formal and structural standards often overshadowed Schubert's more exploratory and lyrical style.[124] This peripheral status of Schubert's piano music is reflected in its limited presence in concert programmes and early recordings at the turn of the 20th century. When Artur Schnabel began performing Schubert's piano sonatas in the 1920s, some critics remarked that these works seemed as though they had never been performed publicly before.[125]

Schnabel's approach reflected the evolving performance practices of the time, prioritising text fidelity over the unnotated expressive practices characteristic of 19th-century performance traditions. As Schubert's piano music began to gain popularity in the recording

[124] William Kinderman, "Schubert's Piano Music: Probing the Human Condition," in *The Cambridge Companion to Schubert*, ed. Christopher H. Gibbs, Cambridge Companions to Music (Cambridge: Cambridge University Press, 1997), 155.
[125] John Reed, "Schubert's Reception History in Nineteenth-Century England," in *The Cambridge Companion to Schubert*, ed. Christopher H. Gibbs, Cambridge Companions to Music (Cambridge: Cambridge University Press, 1997), 262.

era, this shift in focus led to many pianists favouring modern ideals of accuracy and restraint over the more flexible, improvisatory style that was undoubtably familiar to Schnabel and his contemporaries. Carl Friedberg's and Richard Buhlig's interpretations, captured on Welte-Mignon piano rolls, offer a glimpse into how these pianists applied expressive practices to Schubert's works (Table 5.1).

Table 5.1 Recording Information: Schubert Sonata in B-flat major D. 960

Pianist	Recording Date	Recording Medium (Piano Roll)
Carl Friedberg (1872–1955)	1906[126]	Welte-Mignon
Richard Buhlig (1880–1952)	1909[127]	Welte-Mignon

5.2 Manual Asynchrony

Both Friedberg and Buhlig apply manual asynchrony throughout the movement, varying in execution and speed. The following discussion focuses on specific passages that highlight particularly notable examples of asynchrony.

Carl Friedberg

In the A section (bars 1–42; Figure 5.1, Figure 5.2) Friedberg predominantly employs moderate-speed asynchrony, creating a noticeable separation between the hands (Schubert_Friedberg, 0:00–2:12). However, Friedberg seems to adjust this speed in response

[126] Peter Phillips, "Welte-Mignon Classical Files," 2018, https://petersmidi.com/Welte-T100-Classical-Title.pdf.
[127] Phillips, "Welte-Mignon Classical Files."

to shifts in character. As the music intensifies in the second phrase (bars 9–12; Schubert_Friedberg, 0:27–0:40), with the establishment of the dominant harmony G#, the asynchrony speed accelerates to fast. Upon resolving to the relative major (bars 17–25; Schubert_Friedberg, 0:54–1:17), the asynchrony returns to the initial moderate-speed. When the analogous material reappears in bars 26–29, now establishing the dominant of the relative major (Schubert_Friedberg, 1:18–1:29), the asynchrony speed once again changes to fast. The consistency of these shifts in asynchrony speed reflects Friedberg's responsiveness to the changing character of each phrase. To my ears, the faster asynchrony speed in these passages transforms the mood from poised introspection to one of heightened tension and agitation.

Friedberg's use of synchrony, though rare, is applied at key structural points. The opening chord of the piece establishing the tonic key of C# minor (bar 1; Schubert_Friedberg, 0:01–0:02), the modulation to E major (bar 17; Schubert_Friedberg, 0:49–0:52), and the French augmented sixth chord (bar 38; Schubert_Friedberg, 1:54–1:57) are all played synchronously. These instances of alignment coincide with these harmonic landmarks, emphasising points of stability and tension. This deliberate use of synchrony provides a layer of textural contrast to his otherwise predominantly asynchronised playing.

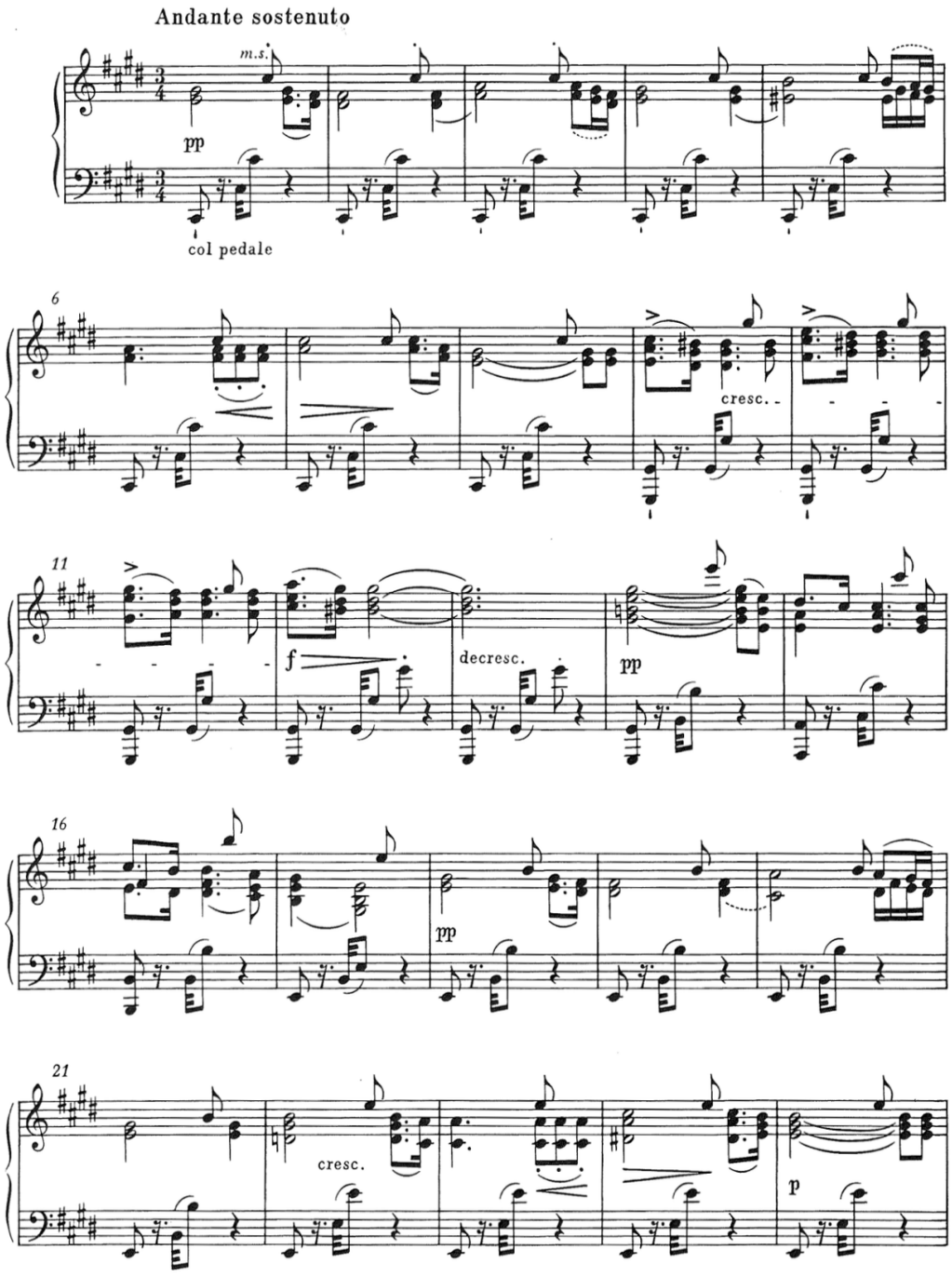

Figure 5.1 Schubert Sonata in B-flat major D. 960, Andante sostenuto, bars 1–25

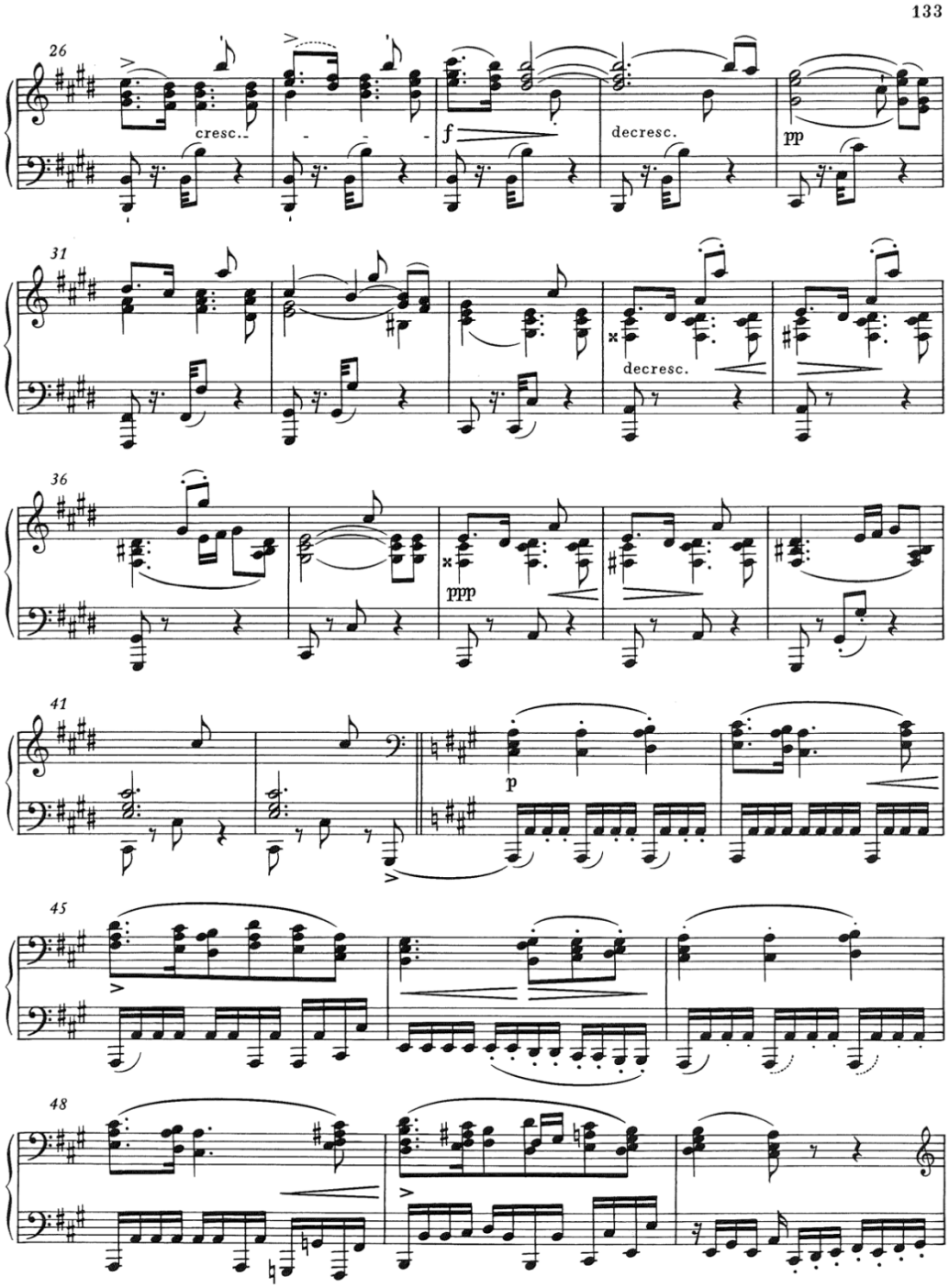

Figure 5.2 Schubert Sonata in B-flat major D. 960, Andante sostenuto, bars 26–50

Richard Buhlig

Buhlig's performance reveals a more volatile approach to asynchrony in the A section, with frequent changes in asynchrony speed, ranging from very fast to slow (Schubert_Buhlig, 0:00–2:17). This change in asynchrony speed is exemplified in bars 1–4 of Buhlig's performance (Schubert_Buhlig, 0:00–0:12). The MIDI diagram (Figure 5.3) illustrates the timing relationships between the left and right hands in this passage. The red and black lines mark the chords on beat 1 of each bar, and their slant indicates the degree of timing delay between the hands. The changing gradients of the red lines in the diagram highlights Buhlig's flexible approach to asynchrony, with a noticeable shift in speed across consecutive chords.

In the first chord of bar 1, the bass note follows the treble chord with a very fast asynchrony. He plays the chord in bar 2 with a moderate speed asynchrony, producing a slightly longer separation. The chord in bar 3 is played with a slow asynchrony speed, resulting in a pronounced delay between the hands. The chord in bar 4 is played synchronised with the bass note. This highlights Buhlig's flexible approach to asynchrony, characterised by frequent and marked shifts in delay speed across consecutive chords. This constant fluctuation lends Buhlig's performance a sense of restlessness and unpredictability and gives the passage a searching, quasi-improvisatory character. In contrast, Friedberg's approach maintains a more consistent asynchrony speed within a phrase, producing a steadier and more uniform effect. Figure 5.4 (MIDI diagram) illustrates Friedberg's performance of bars 1–4, where the relatively consistent asynchrony speed, as indicated by the uniform gradient of the red lines (Schubert_Friedberg, 0:00–0:14). This comparative analysis underscores the distinct interpretative choices of the two pianists, revealing contrasting approaches to expressive timing.

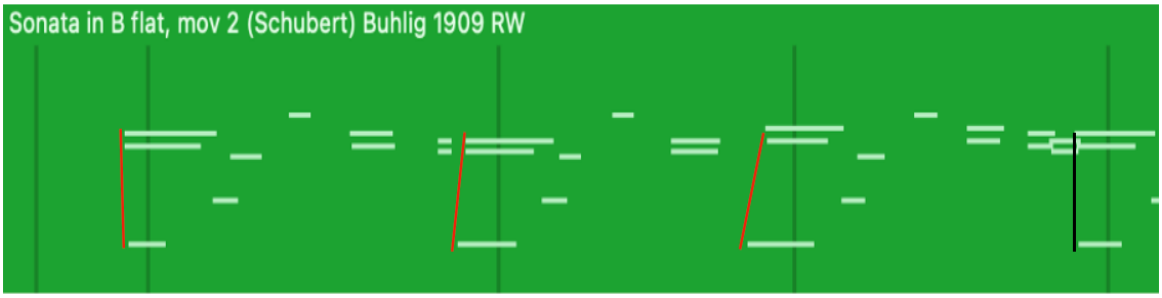

Figure 5.3 Schubert Sonata in B-flat major D. 960, Andante sostenuto, bars 1–4,

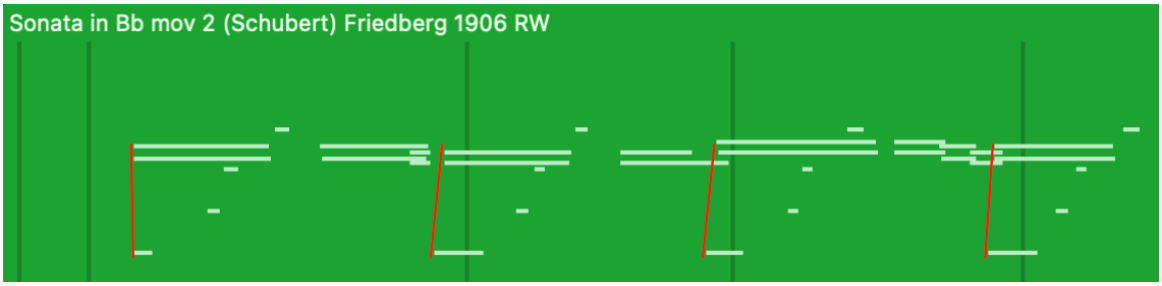

Figure 5.4 Schubert Sonata in B-flat major D. 960, Andante sostenuto, bars 1–4,

5.2.1. Emphasising the Soprano

In the A section, Friedberg predominantly adopts a style in which the bass notes slightly precede the melody. However, at various points he reverses this, playing the melody ahead of the accompaniment.

This shift occurs in bar 6 (Schubert_Friedberg, 0:19–0:21) and its analogous appearance in bar 95 (Schubert_Friedberg, 4:14–4:16), where the C# in the treble enters slightly ahead of the double-thirds in the accompaniment (Figure 5.1). A similar instance occurs in bar 23 (Schubert_Friedberg, 1:10–1:12), where the E in the treble anticipates the A major chord, and again in bars 34–35 (Schubert_Friedberg, 1:43–1:48), where the A in the soprano voice is played before the accompanying chords on beat 2 (Figure 5.2).

This consistent practice appears tied to specific textural moments in the score: when a high soprano single note is vertically aligned with a chord. By asynchronising the soprano voice ahead of the chords in these cases, Friedberg effectively brings the melody to the forefront, imbuing it with a sense of assertiveness that contrasts with the prevailing bass-led asynchrony.

5.3 Unnotated Arpeggiation

The texture of the *Andante sostenuto* is notably sparse, featuring predominantly single bass notes paired with thirds or triads in the treble. As such, unnotated arpeggiation does not feature prominently in Friedberg's performance. Buhlig notably does not use unnotated arpeggiation altogether. Both pianists prefer asynchronising the hands**,** playing the bass note ahead of a synchronised chord in the treble.

However, there are a few moments at which Friedberg employs fast speed arpeggiation, on the chords in the treble on beat 1 of bars 9 and 10 (Figure 5.1, Schubert_Friedberg, 0:27–0:32), on beat 1 of bars 15 and 16 (Figure 5.1, Schubert_Friedberg, 0:44–0:47) and on beat 1 of bars 34–35 (Figure 5.2, Schubert_Friedberg, 1:43–1:48). In my view, these arpeggiations highlight the different character conveyed of each phrase. In bars 9–12, the arpeggiation subtly intensifies the stormy and unsettled character of the passage, as it builds intensity in the dominant key. In contrast, when this arpeggiation is applied in bars 14–17 in the relative. major, its effect shifts to a sense of relief and elation. In bars 34–35, the arpeggiation facilitates a softer dynamic and a less percussive tone quality, corresponding with the remote harmonic progression moving through a French augmented sixth chord, followed by F#7 and G#7. The contrast of effects demonstrates how a single practice can serve entirely different expressive purposes depending on its harmonic and contextual placement.

5.4 Metrical Rubato and Re-rhythmisation

While Friedberg's performance largely respects Schubert's notated rhythms, minor changes to the score are heard throughout the movement. The most notable alteration is his treatment of the notated demisemiquavers in the A section (Schubert_Friedberg, 0:00–2:12, which he consistently lengthens to semiquavers. This rhythmic adjustment aligns closely in timing with Friedberg's moderate-speed asynchrony between the hands. Schubert's notated demisemiquaver texture resembles a form of notated asynchrony, and Friedberg's alteration effectively tailors this rhythmic material to match the expressive pacing of his asynchrony speed. This intriguing connection highlights how Friedberg shapes Schubert's notation to suit his approach to manual asynchrony.

Another instance of metrical rubato in Friedberg's performance occurs through his use of agogic accentuation on the single soprano notes during the return of the A section (bars 90–106, Schubert_Friedberg, 3:58–4:49). Here, he subtly lengthens these notes, creating a moment of suspension that draws attention to the rising octaves. The use of agogic emphasis gradually recedes as the tempo increases in the C major section (bars 103–110), where the music takes on a brighter, more elated character. Notably, the agogic accentuation reappears on the single soprano notes at the final modulation to C# major (bars 123–138, Schubert_Friedberg, 5:32–6:31). Friedberg lingers on these notes, extending their duration longer than in bars 90–106, heightening the sense of suspension as the movement begins to wind down. For me, these lengthened notes bring a reflective, almost transcendent quality to the closing movements of the movement.

By contrast, no noteworthy examples of metrical rubato are found in Buhlig's performance. His approach adheres closely to Schubert's score without introducing any significant rhythmic flexibility. This steadiness reflects Buhlig's overall interpretative emphasis on

clarity and restraint, distinguishing his performance from Friedberg's more rhythmically fluid style.

5.5 Tempo Modification

Tempo modifications in the DRPRs analysed occur with notable frequency and flexibility, often coinciding with significant structural points such as the introduction of new themes, modulations, changes in texture, or harmonic transformations. Friedberg and Buhlig's performances demonstrate their responsiveness to the expressive demands of Schubert's writing. To clarify these moments, I have included the key of each theme, as the harmonic transformation of the thematic material plays a crucial role in generating contrast and shaping the structural narrative of this movement. Table 5.2 summarises the key tempo changes in their performances in Friedberg and Buhlig's performances respectively, presenting an initial tempo with a tempo range in parentheses.[128]

[128] This table presents macro-level tempo modification data across various themes and sections. Notably, the two pianists do not always exhibit tempo changes at the same point. Italicised cells indicate that the tempo range remains consistent with the previous section for the given pianist.

Table 5.2 Tempo Data of DRPRs, Schubert Sonata in B-flat major D. 960, Andante sostenuto

Section	Theme (Key)	Bars	Friedberg: Initial Tempo (Range)	Buhlig: Initial Tempo (Range)
A	1st and 2nd themes (C# minor, E major)	1–33	M.M. 55 (M.M. 50–65)	M.M. 60 (M.M. 55–65)
	2nd theme (C# minor)	34–42	M.M. 55 (M.M. 50–55)	M.M. 50 (M.M. 40–55)
B	Chordal theme (A major)	43–50	M.M. 70 (M.M. 70–80)	M.M. 55 (M.M. 45–60)
	Lyrical theme (A major)	51–58	M.M. 85 (M.M. 75–95)	M.M. 65 (M.M. 45–75)
	Chordal themes (D major, A major)	59–75	*M.M. 85* *(M.M. 75–95)*	M.M. 55 (M.M. 40–60)
	Lyrical theme (E major)	76–80	*M.M. 85* *(M.M. 75–95)*	M.M. 65 (M.M. 60–70)
	Lyrical theme (B-flat major)	80–82	M.M. 65 (M.M. 65–70)	*M.M. 65* *(M.M. 60–70)*
	Lyrical theme (C# minor)	83–89	M.M. 75 (M.M. 70–85)	M.M. 70 (M.M. 55–70)
A	1st theme (C# minor, C major)	90–110	M.M. 60 (M.M. 55–70)	M.M. 55 (M.M. 55–70)
	2nd theme (E major)	111–122	M.M. 70 (M.M. 55–85)	*M.M. 55* *(M.M. 55–70)*
Coda	1st theme (C# major)	123–138	M.M. 55 (M.M. 40–60)	M.M. 50 (M.M. 35–55)

5.5.1. Macro-level Tempo Modifications

Both Friedberg and Buhlig take a balanced approach to macro-level tempo modifications, combining interpretative flexibility with tempo consistency throughout the movement. The B section introduces significant macro-level changes as both Friedberg and Buhlig use accelerations that reflect the music's change in character, thematic material, and texture. In the initial chordal theme in A major (bars 43–50)**,** Friedberg increases his tempo immediately to M.M. 70 from M.M. 50, creating a marked shift. In contrast, Buhlig, adopts a more restrained approach, beginning at M.M. 55 from M.M. 50 and introducing a gradual acceleration to M.M. 60.

The tempo differences become more pronounced in the first lyrical theme in A major (bars 51–58), where both pianists reach their fastest tempi. Friedberg accelerates dramatically to M.M. 85, emphasising the expansive quality of the lyrical material. Buhlig also accelerates at this lyrical theme, though to a lesser degree (M.M. 65), before stabilising the tempo for the remainder of the B section.

The most striking tempo change occurs in Friedberg's rendition of the lyrical theme in B-flat major (bars 80–82)**.** Here, Friedberg slows significantly to M.M. 65 from M.M. 85 marking the unprepared modulation with a sudden and dramatic tempo reduction. For me, this interpretive choice imbues the music with a sense of sudden vulnerability and tenderness, as if it is hesitating before stepping into this new harmonic area. This interpretative choice emphasises the harmonic instability of the passage, cadencing in D major in bar 79 before moving immediately to the submediant, B-flat major.

Friedberg's performance in this section demonstrates a wider range of tempo fluctuations, particularly in moments of harmonic and thematic transformation. In contrast, Buhlig's

steadier approach highlights his preference for structural cohesion, using more measured tempo changes to navigate the section's contrasting themes and keys. Together, these interpretations underscore the expressive potential of the B section, in which tempo becomes a vital tool for navigating Schubert's hallmark harmonic transformations.

5.5.2. Micro-level Tempo Modifications

Both Friedberg and Buhlig employ micro-level tempo modifications as expressive tools, although their approaches differ in scope and execution. These small-scale adjustments, which occur within sections or across individual phrases, add nuance to their interpretations while preserving the overall structural integrity of each section.

Both pianists use subtle micro-tempo shifts within the A section, maintaining a steady range throughout. Notably, both Friedberg and Buhlig accelerate slightly during the second theme (bars 9–12, 26–29), reaching M.M. 65 from M.M. 55 and M.M. 60, respectively. This subtle increase draws attention to Schubert's introduction of new material.

In contrast, the lyrical themes in the B section demonstrate more substantial tempo ranges. At bars 51–58, Friedberg's tempo range is M.M. 75–95. Buhlig's is even greater, increasing from M.M. 45 to 75. Buhlig's rendition also demonstrates heightened micro-tempo variability in the chordal themes (bars 59–75). During this passage, Schubert modulates the same material through D major, B-flat major, A major, and finally A minor. Buhlig's tempo fluctuations become particularly pronounced, ranging from M.M. 40 to 60, reflecting the expressive response to the rapid succession of harmonic transformations. These fluctuations lend the passage a compulsive energy, propelling the music forward with feverish intensity that feels both turbulent and alive.

The coda (bars 123–138) is another instance demonstrating micro-level tempo adjustments. Both Friedberg and Buhlig decelerate dramatically toward the final cadence, with Friedberg ranging from M.M. 55 to as low as M.M. 40 and Buhlig from M.M. 50 to M.M. 35. These micro-level fluctuations add a reflective quality to the closing section, underscoring the tranquil nature of movement's ending.

The analysis of micro-level tempo modifications in both Friedberg's and Buhlig's performances reveal similar interpretative approaches. Both pianists use comparable tempo ranges in similar sections, with subtle and dramatic accelerations and decelerations to shape each theme. These parallels suggest that interpretive decisions are rooted in the inherent expressive possibilities of Schubert's music, highlighting how micro-level tempo modifications can enhance thematic and harmonic transformations.

5.6 Embellishment

The performances analysed reveal a spectrum of embellishment, ranging from subtle adjustments, such as added octaves and fifths, to more extensive re-compositions of material. These modifications highlight the performer's individual approaches to embellishment and their creative engagement with Schubert's score.

Carl Friedberg

Friedberg's approach to embellishment is characterised by omissions of the score and re-composition. In bar 13, Friedberg omits the bass line entirely but retains the tied G# major chord in the treble (Figure 5.1, Schubert_Friedberg, 0:37–0:41). This departure from the score allows the piano tone to decay naturally from *f* in bar 12, creating a seamless transition to the *pp* in bar 14. In bar 30, Friedberg ignores the tie on the C# minor chord in the treble, drawing emphasis to the return from the tonic key (Figure 5.2, Schubert_Friedberg, 1:30–

1:33). In bars 41–42, Friedberg ties the C# minor chord in the bass across rather than replaying it, allowing the sound to decay naturally before transitioning to the B section (Figure 5.2, Schubert_Friedberg, 2:06–2:12). These adjustments reflect Friedberg's distinct interpretive approach, selectively shaping phrases by allowing the piano to fade into silence at key moments. This approach transforms the dynamic contour of a phrase, using the instrument's natural decay to emphasise transitions and create an expressive sense of closure.

The key highlight of Friedberg's performance lies in his embellishment of bars 107–110 (Schubert_Friedberg, 4:50–5:01). Figure 5.5 is Schubert's original notation, while Figure 5.6 is my transcription of Friedberg's performance. In bars 107–109, Friedberg re-rhythmises the semiquaver motif in the bass into semiquaver triplets. This rhythmic redistribution creates a quaver rest on the third beat of each bar, creating a moment of suspension and anticipation that are absent from Schubert's original score. In the treble, Friedberg ties the first chord across and incorporates a quaver triplet figuration, adding rhythmic intricacy to the phrase. A re-harmonisation occurs in bar 109, where Friedberg alters the chord from F to B diminished, lending a darker, introspective quality to the moment. The passage culminates in bar 110 with a rising octave flourish in the treble, a brilliant addition that contrasts with the return of the bass motif to its original rhythm. This combination of rhythmic, harmonic, and ornamental alterations reflects Friedberg's creative approach, imbuing the passage with his own artistic voice. For me, this passage radiates a sense of playful spontaneity—capturing flashes of ecstatic invention. The effect is both dazzling and deeply personal, revealing what is possible when a performer engages with the score as a non-fixed medium. Hearing this moment felt revelatory: it opened new ways of thinking about how a work can be reinterpreted, reshaped, and animated beyond its notation—offering a glimpse into a broader world of expressive possibilities.

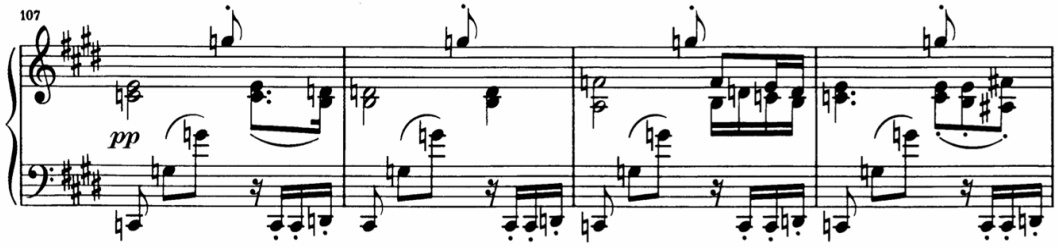

Figure 5.5 Schubert Sonata in B-flat major D. 960, Andante sostenuto, bars 107–110

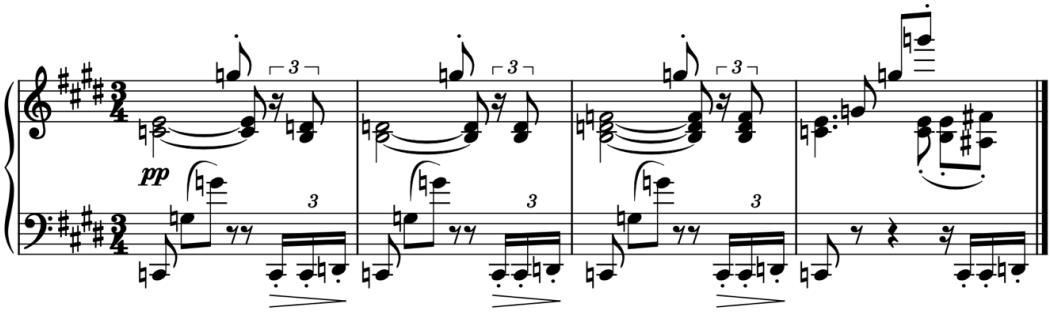

Figure 5.6 Schubert Sonata in B-flat major D. 960, Andante sostenuto, bars 107–110, Friedberg, 1906, piano roll

Richard Buhlig

Buhlig's performance remains relatively faithful to Schubert's score with subtle additions of fifths and octaves. In bar 33 (upbeat to beat 2), Buhlig adds a G# to the C# minor octaves in the bass, creating a fuller harmonic resonance (Schubert_Buhlig, 1:41–1:43). In bar 102 (beat 2), a lower octave is added to the G# in the bass (Schubert_Buhlig, 5:31–5:32). In bar 129 (beat 2), another lower octave is to the G# in the treble clef (Schubert_Buhlig, 7:03–7:05). In bar 138, at the final chord of the movement, a lower C# is added to the bass (Schubert_Buhlig, 7:35–7:45). These additions amplify Schubert's original texture and while sparing, demonstrate Buhlig's nuanced approach to the addition of texture and harmonic resonance to specific moments.

5.7 Conclusion

The analysis of Carl Friedberg's and Richard Buhlig's performances of Schubert's *Andante sostenuto* reveals a striking paradox: the very qualities that Kinderman identifies as contributing to Schubert's relatively less favourable reception—his lyricism, abrupt contrasts, and harmonic transformations—are precisely the elements that these 19th-century-trained performers bring to the forefront. Through practices such as manual asynchrony, tempo modification, and embellishment, Friedberg and Buhlig illuminate the fluid emotional landscapes inherent in Schubert's score.

However, the relative sparseness of metrical rubato and unnotated arpeggiation in their performances invites further inquiry. While Schubert's notated elements may inherently limit the use of these practices, their relative absence could also reflect evolving performance attitudes at the time. This ambiguity offers fertile ground for further exploration of these practices and their role in the interpretation in Schubert's works.

Chapter 6. Conclusion and Creative Work

This thesis has engaged with the existing literature on 19th-century performance practice, particularly studies of key expressive practices such as manual asynchrony, unnotated arpeggiation, metrical rubato, tempo modification, and embellishment. Foundational works in the field have documented these practices across varied repertoire, providing a crucial evidence base. Building on this foundation, this thesis contributes to the literature in three distinct ways. Firstly, it redefines key concepts within expressive practices—such as macro- and micro-level tempo modifications—providing a more practical analytical framework. Second, it applies these concepts to under-explored repertoire, offering insights into the interpretative choices of 19th-century-trained pianists performing Chopin's *Largo* and Schubert's *Andante sostenuto*. Third, it employs MIDI technology to reproduce lesser-known piano rolls and visually represent performance data, enabling a detailed exploration of expressive practices. These findings provide a foundation for further studies of repertoire-specific performance practices and the evolving role of technology in aural analysis.

While reproducing piano rolls provide valuable insights in the performances analysed, they have inherent limitations. Most notably, they convey limited information about dynamics, pedalling, and tone. Despite these limitations, DRPRs were an indispensable resource for this research. The high-fidelity audio, combined with visual representation through Logic Pro, preserved critical performance details and was fundamental to the analysis for this study.

A key contribution of this project lies in recontextualising these historical practices for contemporary performance. By analysing these expressive practices and embodying them in my own playing, I demonstrate how they can be integrated into a modern performer's artistic identity. This process has expanded both my artistic creativity and agency, allowing me to internalise these practices and use them intuitively to craft fresh, spontaneous, and deeply

personal interpretations of canonical repertoire. My journey of emulating, reinterpreting, and embodying these practices positions Historically Informed Performance as a living and evolving tradition.

The culmination of this work is the lecture-recital, where these findings and creative processes are brought to life. In the recital, I demonstrate each expressive practice, followed by excerpts of how I synthesise them. The recital concludes with complete performances of the selected movements of Chopin and Schubert, in which these practices are fully integrated, offering a holistic view of my artistic approach. This approach underscores the potential for 19th-century expressive practices to inspire modern performers, fostering a continuous dialogue between tradition and innovation.

Additionally, I had the opportunity to perform this repertoire in two public concerts during my candidature: at Wollongong Town Hall on 1st October 2023 and at Austinmer Uniting Church on 10th March 2024. These performances reinforce the dynamic nature of my interpretations, further informing my approach.

I now invite the reader to watch and listen to my lecture-recital, in which this synthesis of research and practice unfolds. It is here that the interplay between historical insight and personal artistry is realised, offering a window into the vibrant possibilities of performance practice in the present day.

The link to my lecture-recital can be accessed here:

https://drive.google.com/drive/folders/1X5M2IXnRlh4tYxWSBgXDcG_xqQhUofWt?usp=share_link

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