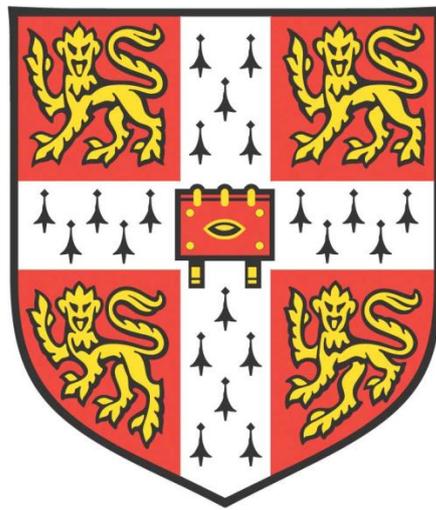


*‘A NEW TYPE OF PART WRITING’:
NOTATION AND PERFORMANCE IN
BEETHOVEN’S LATE STRING QUARTETS*



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DECLARATION

This thesis is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text.

It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution. I further state that no substantial part of my thesis has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text

In accordance with the Faculty of Music guidelines, this thesis does not exceed 80,000 words, excluding notes, appendices and bibliographies, musical transcriptions and examples.

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RACHEL STROUD

SUMMARY

Beethoven’s late string quartets are among his most extraordinary and elusive works. A source of fascination to performers, audiences and scholars alike for nearly two centuries, they are defined by an aesthetic of ‘difficulty’. This thesis argues that one crucial source of difficulty lies in Beethoven’s eccentric uses of notation in the quartets – a difficulty that has had profound implications for the future study and performance of the works. Mirroring the stylistic pluralities of the late quartets themselves, issues of notation and performance are explored through a variety of methodologies, drawn from the digital humanities, Peircean semiotics, anthropology and critical theory. Although the late quartets are the central impetus, this thesis is ultimately about the relational nature of creativity. It conceives of notation not as a textual codification of the composer’s intentions, a private act of composition in the mind, but rather as a mediating material that describes, enacts, engenders, and is dependent upon, social activity.

Using Wagner’s notion of Beethoven’s ‘Hearing Eyes’, Chapter 1 considers the influences of Beethoven’s material, writerly approach to composition in his later years and the peculiarly textual emphasis of the quartets’ early reception. Through an analogy with maps and scores, it highlights the importance of considering notation from the perspective of individual performers’ parts. Chapter 2 situates the notational complexity of the late quartets within Beethoven’s entire output through the use of computational methods and statistical analysis. In contrast, Chapter 3 maps a networked understanding of Beethoven’s notation and explores its inextricable entanglement in the social, political and technological currents of 1820s Vienna. Using Alfred Gell’s theory of art and agency, Chapter 4 extends this network to include non-human actors and examines the different ‘material lives’ of the string quartets, both past and present. Ethnographic methods and the insights of twenty-first-century performers are employed to situate this material agency in practice in Chapter 5. The final chapter engages Theodor Adorno’s seminal work on Beethoven’s late style to mediate a very personal source of insight into the unique difficulties of the late quartets: my own, as performer, scholar and listener.

Dedicated to my husband Paul

& my mentor Maggie

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It is only fitting that a thesis concerned with the relational nature of creativity should begin by acknowledging its numerous social and musical influences. Firstly, I am hugely indebted to my supervisor, Professor Nicholas Marston, whose meticulous scholarship, beautifully intricate writing and extraordinary depth of knowledge on all things related to Beethoven has never failed to astound me. His shrewd and insightful feedback was invaluable, and during the difficult months when this thesis seemed impossibly far from completion, he was always there to remind me: *es muss sein!*

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I owe heartfelt thanks to my family – both Hodgsons and Strouds – who have supported me in so many ways throughout this journey. Last, but definitely not 'late' or 'least', I must thank my husband, Paul, for his unconditional support and countless hours of advice on document formatting and Python: you are extraordinary!

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Introduction

On 16th July 1857, Karl Holz penned a letter to Wilhelm von Lenz, one of Ludwig van Beethoven's earliest biographers, describing a conversation with the composer regarding his String Quartet in B ♭ major, Op. 130:

When he had finished the Quartet in B ♭, I said that I thought it was indeed the best of the three (ops. 127, 130, 132). He replied: "Each in its own way! Art does not permit us to stand still . . . You will notice a new type of part writing" (by this he meant the distribution of tasks amongst the instruments), "and there is no less imagination than ever, thank God."¹

As second violinist of the Schuppanzigh Quartet – the quartet that in various configurations rehearsed and premièred all of Beethoven's string quartets – as well as confidante and secretary to the composer in his final years, Holz was in a better position than most to recount such conversations. Even so, it is precisely these sorts of personal accounts that served the mythologising enterprise after the composer's death, establishing the familiar legacy of 'Beethoven', the deaf but ultimately triumphant hero of the Romantic imagination.² Replete with tantalising fragments that promise to offer insight into Beethoven's ever-enigmatic late quartets, Holz's timely recollection appeared at a precarious moment when the late quartets were threatening to disappear from the concert stage altogether. It certainly served its purpose: his words have proved a rich source to Beethoven scholars throughout the decades, crystallising perspectives that have now

¹ 'Als er das B Quartett beendet hatte, sagte ich, daß ich es doch für das größte von der dreien (ops. 127, 130, 132) halte. Er antwortete: "jedes in seiner Art! Die Kunst will es von uns, daß wir . . . nicht stehen bleiben . . . Sie werden eine neue Art der Stimmenführung bemerken" (hiemit ist die Instrumentierung, die Vertheilung der Rolle gemeint) und *an Fantasie fehlt's, Gottlob, weniger als je zuvor.*" See Klaus Martin Kopitz and Rainer Cadenbach (eds.), *Beethoven aus der Sicht seiner Zeitgenossen in Tagebüchern, Briefen, Gedichten und Erinnerungen*, Vol. 1 (Munich, 2009), p. 469.

² See Kristen Knittel, 'The Construction of Beethoven', in Jim Samson (ed.), *The Cambridge History of Nineteenth-Century Music* (Cambridge, 2001), pp. 118–50.

become truisms in the critical reception of the composer. Beethoven’s reported reply – ‘Art does not permit us to stand still’ – seems to amount to a philosophical statement: this is, he tells us, music about art and imagination, music that transcends its physical and cultural context, music about music itself. As Kristen Knittel and others have shown, this notion has pervaded critical reception of the late quartets. The composer’s deafness and increasingly solitary existence in his later life became equated with a retreat into musical abstraction and the realms of pure imagination. In 1927, the critic J. W. Sullivan claimed that ‘the regions within which Beethoven the composer now worked were, to an unprecedented degree, withdrawn and sheltered from his outward life. His deafness and solitariness are almost symbolic of his complete retreat into his inner self.’³ Carl Dahlhaus later augmented this to an aesthetic precondition by claiming that a late work must necessarily be ‘inwardly alien to the age to which it belongs.’⁴

Yet Holz’s account also offers us a strikingly different perspective: a window into a world not of abstraction but of practical, material reality – one grounded in the social and performative expectations of musicians and listeners in early-nineteenth-century Vienna. Putting aside the difficulties of untangling fact from fiction, and taking into account Holz’s unique ‘insider’ position as a performer, there is one element that rings true: Holz’s explanation of Beethoven’s ‘new type of part writing’. He describes it as ‘the distribution of tasks amongst the instruments.’ As a violinist with intimate knowledge of the late quartets, having not only performed them but also acted as copyist, proof reader and a general consultant for Beethoven on issues of notation and performance,⁵ Holz’s explanation can be accepted with some authority. Indeed, whether or not Beethoven actually explicitly acknowledged a new type of part writing, the complex textures that favour each instrumental part equally is one of the distinguishing features of the late quartets. This equality of texture was a radical departure from the first-violin dominated string quartet writing of Beethoven’s predecessors. From Holz’s standpoint, the writing of Beethoven’s late quartets was not abstract or divorced from reality: it had thoroughly social consequences.

³ J. W. N. Sullivan, *Beethoven: His Spiritual Development* (New York, 1953), p. 122.

⁴ Carl Dahlhaus, *Ludwig van Beethoven: Approaches to His Music*, trans. Mary Whittall (Oxford, 1991), p. 219.

⁵ See Chapter 3 for a detailed exploration of Holz’s influence on Beethoven’s notation in the late quartets.

Beethoven's new type of part writing, as viewed through the ongoing interaction between notation and performance will be the subject of this dissertation. The dual lenses of notation and performance will enable me to consider not only the writerly but also the social repercussions of Beethoven's new approach to part writing – a perspective that has been conspicuously absent in the literature on the late quartets. I will argue that the two perspectives should be viewed hand in hand, and that, contrary to what recent scholarly tradition tells us, a study of notation need not necessarily obscure a consideration of Beethoven's music in performance. Crucial to this approach is the notion of part writing. Exploring notation from the perspective of individual instrumental parts decentres the looming presence of the 'authoritative score' that has caused such anxiety in recent musicological discourse, and opens up a vantage point from which the creative role of performers can be examined in social and historical context. Rather than a codification or representation of the composer's intentions, I view notation as a mediatory material that describes, enacts and engenders social and creative activity. In this way, I consider it to be an active participant in performance. This theoretical perspective will also be extended to explore how the act of notating itself influenced Beethoven's new type of part writing, thereby inverting the critical approach outlined above that sees the late style as a rejection of materiality, and a retreat into abstraction. Drawing on a wide variety of historical sources and perspectives from performers, both past and present, this dissertation will ultimately argue that Beethoven's new type of part writing in the late quartets was to enact a cultural shift that reconfigured the social dynamics of performance – the essence of what it means to be a string quartet – from the inside out.

Prescriptive vs. Descriptive Notation

Composed during a concentrated period on the genre towards the end of his life, Beethoven's so-called late quartets comprise a group of quartets (Op. 127, Op. 132, Op. 130, Op. 131, Op. 135 and Op. 133) that have attracted more fascination, awe and confusion than any other of his works. Like Holz, my first approach to these quartets was as a performer. One of my earliest recollections of the late quartets is of encountering a score of Op. 131 and being struck by its sheer visual complexity: this was the starting point of this dissertation. The visual impression of complexity was partly generated by the contrapuntal texture of the opening fugue, in which, as Holz pointed out, each instrument plays an equally important role. It is a completely different world to the instrumental writing of Beethoven's earlier quartets. The clarity of the first-violin

dominated texture in the first movement of Op. 18, No. 1 means that reading the score is a much more legible experience. In the case of Op. 131, there is simply more musical information to process. Moreover, a sense of complexity is compounded by the sheer abundance of notational symbols on the page. The first movement of Op. 131 features frequent changes of key signature to keys that ‘look’ complex, such as G flat major and C# minor – keys that were rarely notated in Beethoven’s time (see Figure *i*). The impression is of an adventurous, ever-shifting harmonic landscape that cannot be fully grasped on first reading.

Figure i: First-edition score of the first movement of Op. 131, p. 2, bb. 42–56.

(Bonn, Beethoven-Haus, C 131/2)

There are many notational features of the late quartets that contribute to their aura of difficulty and complexity. For example, there is a notable increase in Beethoven’s use of verbal indications. Leo Treitler has argued that this notational feature marks ‘a pivot in the history of the use of words alongside “notation” as musical signs.’⁶ Many of these phrases are entirely unique to Beethoven, or else are rarely encountered in string quartets

⁶ Leo Treitler, ‘Beethoven’s “Expressive” Markings’, *Beethoven Forum*, 7 (1999), p. 100.

of the period. The third movement of Op. 132 features a strikingly long title ('Heiliger Dankgesang eines Genesenen an die Gottheit, in der lydischen Tonart'), while movement titles such as 'Alla Danza Tedesca' and 'Cavatina' in Op. 130 reference worlds outside of the string quartet genre. Other notable examples include Beethoven's extraordinary title for the *Grosse Fuge*, 'Grande Fuge, tantôt libre, tantôt recherché', as well as the cryptic 'Muss es sein?' inscription that appears at the beginning of the final movement of Op. 135 (see Figure ii):

*Figure ii: First Violin part of the first edition of Op. 135 (Berlin, 1827), p. 9, bb.1–3.
(Bonn, Beethoven-Haus, C 135/1)*

Unusual performance indications also abound, including the occasional appearance of words and phrases in German.⁷ Beethoven's designation 'Beklemmt' in bar 42 of the Cavatina is one particularly notable example. The use of German was so unusual at the time that such words were either omitted from the first edition parts and scores altogether, or translated into Italian. For example, the marking 'immer geschwinder' in bar 13 of the fifth movement of Op. 132 is translated to 'accelerando' in the first edition parts published by Maurice Schlesinger in 1827.⁸

Beethoven often used words to indicate unusual rhythmic groupings, such as 'Ritmo di quattro battute' throughout the fifth movement of Op. 131 or 'Ritmo di tre battute' in the third movement of Op. 127. He also frequently used accent markings and signs to undermine the implied metrical hierarchy of a notated time signature. For example, *sf* markings are employed to imply a temporary shift of metre from 2/4 to 3/8 in the opening bars of Op. 127. Similarly, at the beginning of the Alla Marcia of Op. 132, Beethoven uses a combination of signs to displace the downbeat of the notated C time signature. We

⁷ Chapter 3 explores the political significance of Beethoven's use of German phrases in the late quartets. See Chapter 2 for a statistical analysis of Beethoven's use of verbal phrases throughout his quartets.

⁸ See Bonn, Beethoven-haus, Sammlung H. C. Bodmer, HCB C Md 79, 11.

initially hear the notated first beat as an upbeat, and the notated second beat with its *sf* accentuation as the first of a 3/4 bar (see Figure *iii*).

*Figure iii: First Edition score of the fourth movement of Op. 132, p. 36, bb.1–4.
(Bonn, Beethoven-Haus, J. Van der Spek C op. 132)*

Several scholars have noted a shift in Beethoven’s use of notation in the late works. Miriam Sheer makes the convincing case that Beethoven’s use of dynamics in his late style should be considered as integral to his compositional design due to an ‘increasingly intimate link of dynamics with expression in his music.’⁹ The broader historical context for Sheer’s argument is that composers in the early nineteenth century increasingly ‘came to regard accentuation and dynamic nuance as integral to the individuality of their conceptions and were unwilling to entrust this merely to the performer’s instinct.’¹⁰ The idea that an increased use of dynamic markings signals a reduction in the interpretative licence of performers is one frequently encountered in narratives about Beethoven, and is in line with the view of his late style as a rejection of his social and material circumstances. Nancy November has argued that ‘Beethoven’s performance markings attest to the fact that he was not content to rely on his performers’ own style or understandings of contextual information’, noting his ‘increasing concern to prescribe performance practice.’¹¹ In 1834, the great violinist and pedagogue Pierre Baillot concurred, suggesting that ‘modern composers, especially Beethoven, have employed

⁹ Miriam Sheer, ‘Dynamics in Beethoven’s Late Instrumental Works: A New Profile’, *The Journal of Musicology*, 16 (1998), p. 358.

¹⁰ Clive Brown, *Classical and Romantic Performing Practice 1750 – 1900* (Oxford, 1999), p. 62.

¹¹ Nancy November, *Beethoven’s Theatrical Quartets Opp. 59, 74 and 95* (Cambridge, 2013), p. 44.

more signs and have notated them with extreme care so that the character of the piece, of the passage, or of the note is given with the greatest possible accuracy of *accent*.¹²

November contrasts Beethoven's apparently prescriptive approach to notation with an earlier practice that relied on 'performers' own style or understandings of contextual information.' The comparative 'lack' of notation in quartets by Beethoven's predecessors indicates not a less expressive mode of performance, but rather a different way of reading. Performers would have been literate in a shared grammar of musical style and convention, giving them a rich framework within which to inflect different kinds of musical expression. Within this shared context, notation markings were often employed as 'semiotic alerts' to indicate a subversion or modification of a conventional or socially-understood rule – ranging from the tasteful tapering of cadences, to following the tessitura of a phrase. In his 1757 compositional treatise *Gründliche Erklärung der Tonordnung*, Joseph Riepel described a sophisticated range of articulation marks that signified various kinds of bowstroke, before remarking: 'I have included the strokes and dots again only for the sake of explanation; for one does not see them in pieces of music except perhaps sometimes when it is necessary on account of clarity.'¹³ Bruce Haynes has described this as a 'descriptive' approach to notation, whereby 'every sign is thus potentially describing performance practice, but in reverse.'¹⁴

This mutual interaction between composer, performer, and notation, with all the elements of improvisation, spontaneity and social reciprocity that it implies, runs counter to many of the best-loved stories about Beethoven's attitude towards textual perfection. As he wrote to his publisher in 1811 concerning the errors he had found in the recent edition of his Piano Concerto in E flat major, Op. 73, 'Mistakes – Mistakes – You yourself are a unique mistake!'¹⁵ He penned a similarly irritable letter to Holz after receiving and correcting his hand-copied parts of Op. 132, claiming that he was 'quite hoarse from

¹² Pierre Baillot, *L'Art du Violon* (Paris, 1834), p. 204.

¹³ Brown, *Classical and Romantic Performing Practice*, p. 143.

¹⁴ Bruce Haynes, *The End of Early Music*, (Oxford, 2007), p. 106. See also Kai Köpp, 'Giovanni Battista Pergolesi and the Concept of Musical 'Orthography' – Understanding Written and Unwritten Articulation in Eighteenth-Century Music' in Claudio Bacciagaluppi, Hans-Günter Otteneberg and Luca Zopelli (eds.), *Pergolesi Studies*, (Bern, 2012), pp. 35–52.

¹⁵ 'Fehler – Fehler – sie sind selbst ein einziger Fehler –'. See Sieghard Brandenburg (ed.), *Ludwig van Beethoven: Briefwechsel Gesamtausgabe 2* (Munich, 1996), p.187 and Elliot Forbes, *Thayer's Life of Beethoven* (Princeton, rev. 1967), p. 508 (hereafter referred to as Thayer-Forbes).

cursing and stamping.’¹⁶ Beethoven’s letters and conversation books abound with similar encounters. Throughout the course of the nineteenth century Beethoven’s attitude towards his written notation became conflated with a mode of performance in which correctness became imperative, and mistakes were not tolerated. Lydia Goehr’s seminal book, *The Imaginary Museum of Musical Works*, identifies this cultural shift with the emergence of the ‘Work Concept’, an ideology that simultaneously fixes the notion of an immutable, perfected musical ‘work’ – equated with the composer’s notated score – while ensuring the impossibility of ever attaining it in performance.¹⁷ Within this framework, performers’ ‘instincts’, ‘own style’ and ‘understandings of contextual information’ became irrelevant.

Goehr’s historicising of the ‘Work Concept’ prompted a reappraisal of many disciplinary assumptions within the field of musicology, many of which were founded on Beethovenian values and legacies. One consequence was the call to move away from notated scores as symbols of compositional authority to make way for a more performance-centric approach to music. Philip Bohlman’s searing critique of the disciplining function of notation summarises this perspective:

Probably no form of essentialising music is as widespread as *notation*. Notation represents oral traditions or the composer’s intent or the publishing industry’s commodity, and therefore it exhibits remarkably diverse capabilities of disciplining music. Notation insists on the music’s right to be just what it is, black on white, notes on the page, music as object. Notation removes music from the time and space that it occupies through performance, thereby decontextualizing it.¹⁸

This negative view of musical notation has contributed to the perception of performers within the Western Art Music tradition as operating within what Nicholas Cook has described as ‘the paradigm of reproduction’, which promotes the idea that ‘performance means bringing out something that is already there in the score, composed into it and just

¹⁶ ‘ganz heiser von Fluchen u. Stampfen.’ See Brandenburg, *Briefe* 6, p. 137; Emily Anderson, *Letters of Beethoven* 3 (London, 1961), p. 1242.

¹⁷ Lydia Goehr, *The Imaginary Museum of Musical Works* (Oxford, 1992).

¹⁸ Philip Bohlman, ‘Musicology as a Political Act’, *The Journal of Musicology*, 11 (1993), p. 420.

waiting to be released by the performer.’¹⁹ As Georgina Born has summarised, ‘the ontology of the musical work envisions a hierarchical assemblage . . . the work ideal authorizes and supervises the score, which supervises performance, which supervises reception.’²⁰

November would agree with the notion that Beethoven was keen to ‘supervise’ the creative agency of his performers through his notation. Yet the idea that an ‘authoritative score’ might limit interpretative possibilities in performance runs counter to my own practical experiences as a performer – and indeed the social implications of Beethoven’s new type of part writing. It seems that, in the anxiety to move away from a disciplinary background that promotes the ‘ocularcentric identification of the score with what the music is’, the creative possibilities for reading notation have been overlooked. In my own experience, the more detailed the performance markings, the greater the scope for debate and even creative licence on the part of the performer. Beethoven’s notation in the late quartets constantly prompts reassessment and debate – precisely because it is so often problematic and ambiguous. Violinist Owen Cox’s exploration of how performers have approached the ‘awkward dynamic markings’ in the first movement of Op. 130 reached a similar conclusion. In contrast to reducing the freedom of performers, his research suggested that ‘the complexity of Beethoven’s dynamics actually seem to do the opposite; the ambiguity produces a creative space for the performers to do a number of different things with the dynamics, from largely ignoring to maximising, and to effecting in ever more subtly ways than simply volume change.’²¹ In her own survey of the recorded performance history of Beethoven’s quartets, November has similarly noted that ‘innovation and variability of interpretation are central to the practice of performing [Beethoven’s string quartets] in the recording age.’²² There is thus a wide gap between discourse and practice: performers are rarely party to the sorts of anti-essentialist anxieties that framed the score in musicological discourse as a locus of authoritarian control, even

¹⁹ Nicholas Cook, *Beyond the Score* (Cambridge, 2014), p. 338.

²⁰ Georgina Born, ‘On Musical Mediation: Ontology, Technology and Creativity’, *Twentieth-Century Music*, 2 (2005), p. 26.

²¹ Owen Cox, ‘The Interpretation of Unusual Dynamic Markings in Beethoven’s String Quartet in Bb major, Op. 130: a Study of Selected Twentieth-Century Recordings’, *Ph.D. dissertation*, (Cardiff University, 2016), p. 168.

²² Nancy November, ‘Performance History and Beethoven’s String Quartets: Setting the Record Crooked’, *Journal of Musicological Research*, 30 (2011), p. 3.

though they might pay lip service to the idea of the ‘composer’s intentions’ as a means of justifying their own aesthetic preferences.

Just as there are many sources that attest to Beethoven’s impatience with his performers, there is ample evidence of his interactions with Holz and the Schuppanzigh Quartet throughout his conversation books and letters concerning issues of notation and performance. The insight of his performers was clearly important to him. In this light, the argument that Beethoven’s shift in notational style in the late quartets concerns a turn to a more ‘prescriptive’ mode of notation appears reductive. John Butt has shown how the ‘story of notational progress’ is traditionally narrated as an increasing rationalisation of the text as the composer’s authority comes increasingly to the fore through notational symbols. Instead, Butt persuasively highlights a variety of alternative ways of conceiving of the function of notation, all of which foreground the interpretative agency of the performer in relation to the apparent fixity of the text. He contends that this attitude only emerged in the last decades of the twentieth century, when ‘it became possible to *hear* what many performers had marked in their parts through recordings.’²³ Butt thus powerfully links the story of notational progress to the medium of consumption, arguing that only in the age of mass recording and broadcasting ‘has it been possible for performance to virtually reduplicate notation and vice versa; only in this period has exact compliance with notation been widely seen as a virtue, since it is the first time that such notation has become truly verifiable.’²⁴

Butt concludes his alternative narrative ‘to the story of notational progress’ by proposing a category of thought – described as ‘perhaps the most contentious’ – that conceives of music notation ‘as an alternative embodiment of music.’ According to this category, the visual ‘wholeness’ of notation exists partially for the pleasure of the eye, rather than as a prescription or an authoritative gesture on the part of the composer.²⁵ Contentious or otherwise, this compelling conceptualisation of notation will be central to the theoretical stance of this dissertation: in this light, notation is not just as an ‘alternative embodiment’ of music, but a performative object in its own right. Anthropological and relational accounts of art and society have already highlighted the imperative of moving away from an ontology that perceives notation as a representation of the work in its ‘ideal’, textual

²³ John Butt, *Playing with History* (Cambridge, 2002), p. 121.

²⁴ Butt, *Playing with History*, p. 122.

²⁵ Butt, *Playing with History*, p. 121.

form, towards an understanding of it as a material object with which musicians work (including Beethoven himself) in the process of activity. This dissertation will thus move beyond unhelpful binaries such as ‘text’ versus ‘act’ and ‘product’ versus ‘process’ to view notation as a mediatory material: one that provokes and sustains multiple perspectives and interpretations, whether by composer, performer or analyst, as part of the ongoing process of what it means to make music. By encouraging a perspective from individual instrumental parts, liberated from the strictures of a score, Beethoven’s new type of part writing is key to shifting this discourse towards a study of notation that is not in opposition to an understanding of his music from the perspective of performance.

Disciplinary Context

This dissertation aims to contribute to the growing trend within the humanities more broadly that conceives of creativity as a fundamentally relational activity, an emergent process that takes place within and negotiates its way through an already-existing web of social (and thus political) infrastructures. A ‘relational’ approach has been advocated for specifically within the field of musicology by scholars such as Born and Cook, who have called for musicologists to draw on the rich theoretical traditions already existing within anthropology and sociology in order to decentre the role of the musical score as the privileged locus of insight into musical meaning.²⁶ Instead, music must be seen as social through and through – written by people, for people and about people – and thoroughly entangled in the economic, cultural and social institutions that produce and mediate it. Consequently, musical meaning must be seen as performatively produced and reciprocally constituted in social encounters. In this way, contrary to what narratives of his late style tell us, Beethoven’s use of notation cannot be understood divorced from practice; whether divorced from his own physical practice of writing, the milieu of cultural and historical practices that mediated his creative activity, or from the (new) practices to which it gave rise.

Recent Beethoven scholars have recognised the benefits that such a relational approach offer for a fresh kind of historiography of the composer’s life. These approaches decentre

²⁶ See Georgina Born, ‘For a Relational Musicology: Music and Interdisciplinarity, Beyond the Practice Turn’, *Journal of the Royal Musical Association*, 135 (2010), pp. 205–243 and Nicholas Cook, ‘Anatomy of the Encounter: Intercultural Analysis as Relational Musicology’, in Stan Hawkins (ed.), *Critical Musicological Reflections: Essays in Honour of Derek B. Scott* (Farnham, 2012), pp. 193–208.

the primary status of Beethoven’s personal circumstances and aesthetic priorities in favour of a ‘networked’ approach in which the agenda and expectations of first performers, listeners and publishers and other interested parties are taken into account. This ‘networked’ understanding takes its theoretical cue from Bruno Latour’s ‘Actor Network Theory’, an important heuristic that has been co-opted by the Relational agenda.²⁷ For example, Fabio Morabito has recently argued that ‘the agencies of these different historical actors are so interconnected that it can appear artificial to separate them neatly, policing what was (and what was not) the product of Beethoven’s creativity.’²⁸ Similarly, Mark Ferrugato’s recent ‘microhistory’ of the year 1806 in Beethoven’s life draws on ‘concepts of mediation derived from relational accounts of art and society’ to explore ‘the works of 1806 and early 1807 in light of Beethoven’s relationships with the people for whom – and instruments for which – they were composed.’²⁹ Indeed, Ferrugato seeks to ‘understand Beethoven’s works less as exemplars of the stylistic phases, periods and narratives that arose after his death, and more as responses to the people, objects, places and circumstances in his life.’³⁰ This dissertation seeks to undertake a similar re-thinking of Beethoven’s late string quartets, through the lens of his musical notation.

Modelling the Late Quartets

This relational approach extends to the writing of the dissertation itself. Modelling the kaleidoscopic range of musical styles and genres within the late string quartets, the chapters are intended to form an assemblage of different critical methods and approaches to Beethoven’s notation. No single source is chosen as a symbol of ultimate authority, and a wide range of editions, autograph and handwritten parts and sketches are considered. This approach aims to highlight the contingent and mediated nature of textual interpretation itself, throwing into sharp relief the changing nature of meaning through different theoretical and disciplinary lenses. The assemblage – or constellation – is a framework that was first developed by philosophers Gilles Deleuze and Félix Guattari as

²⁷ Bruno Latour, *Reassembling the Social – An Introduction to Actor-Network-Theory* (Oxford, 2005).

²⁸ Fabio Morabito, ‘Rehearsing the Social: Beethoven’s Late Quartets in Paris, 1825–1829’, *Journal of Musicology*, 37 (2020), p. 350.

²⁹ Mark Ferrugato, *Beethoven 1806* (Oxford, 2019), p. 1.

³⁰ Ferrugato, *Beethoven 1806*, p. 2.

a way of decentring hierarchical concepts of knowledge. Instead, the assemblage accounts for dynamic processes of meaning-making, in terms of fluidity, exchange and mediation. A related concept that also inspired my structural approach was their idea of the 'rhizome'. Like the roots of a plant spreading under the soil, the 'rhizome' maps history and culture as a wide, ever-expanding array of chains and influences, a series of possible road maps to follow rather than a route already taken. This contrasts with the traditional hierarchical model – tracing the roots of a tree from the surface – which follows a causal chain back to an originating source. This model lurks behind many studies of Beethoven's notation, which aim to uncover the ultimate truth of the 'composer's intentions'. Instead, as Deleuze and Guattari explicitly acknowledge, the rhizome accounts for the ways in which performers use notation:

There are no points or positions in a rhizome, such as those found in a structure, tree, or root. There are only lines. When Glenn Gould speeds up the performance of a piece, he is not just displaying virtuosity, he is transforming the musical points into lines, he is making the whole piece proliferate.³¹

Gould transforms the apparently fixed 'musical points' on the page into other forms of connections: the notation does not inspire reproduction or stability, but movement and proliferation.

Similarly, I would argue that the most convincing analyses of the enigmatic late style are those that emphasise plurality and multiplicity. As Daniel Chua puts it:

Many people have wrought out the riddle-like nature of the quartet meanings that are diverse and contradictory, from the lyrical to the spiritual, from the catastrophic to the Utopian. They are all possible, not simply because of the plurality inherent in the interpretative act, but because of the vast yet directionless search that Beethoven engages in. This also means that there is no stability in any of the readings – just possibilities and tensions between them.³²

³¹ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis, 1987), p. 8.

³² Daniel Chua, *The Galitzin Quartets of Beethoven: Opp. 127, 132, 130* (Princeton, 1995), p. 248.

While Chua’s claim that Beethoven was engaging in a ‘vast yet directionless search’ is perhaps questionable, the focus on the interpretative act usefully reminds us of role of the onlooker in the mediation of meaning. Edward Dusinger of the Takács Quartet wrote insightfully that ‘no one has ever written a group of works that pose so many questions about the form and emotional content of a string quartet and come up with so many different answers.’³³ Anthropologist of art Alfred Gell argues that it is precisely this ability to ‘fascinate, compel, entrap as well as delight the spectator’ – terms that have frequently littered the critical reception of Beethoven’s late string quartets – that gives art objects their social power. Gell describes this power as agency, and argues that it lies not in the structures that art objects *represent* but rather in what they *do*. Art objects, like musical notation, are performative: they weave and condense social relations by spinning connections across time and space. While Beethoven’s notation in the late quartets points towards his authorial presence, it also animates social transactions that extend far beyond the purview of the author. Mediatory concepts such as the assemblage or the rhizome, allow us to expand the field of reference beyond the single composer to consider a more distributed understanding of musical creativity and meaning – a process in which we as present day listeners, performers and analysts are equally implicated. The structure of this dissertation thus aims to refract its subject matter.

Chapter 1 sets the scene for the rest of the dissertation, and introduces several key concepts that will appear throughout. Gell’s theory of art and agency is central, including the idea of art objects indexing social relations. It influences one of my main claims that only by viewing notation as a form of distributed object can performers be released from the theoretical burden of score-based perfectionism inherited from the legacy of the ‘Work Concept’. Anthropologist Tim Ingold’s important, Deleuzian-inspired critique of the logic of hylomorphism as the rationale for analysing created products within the Western Art tradition is also explored. His consequent argument that all forms of creativity should be viewed in a forward-looking light, as a form of improvisation involving materials, objects and other actors is central to the approach developed in this dissertation.³⁴ The chapter begins from the perspective of Beethoven himself, and considers the influences of his particularly material, writerly approach to composition in his later years. Using Richard Wagner’s notion of ‘Beethoven’s Hearing Eyes’, it shows

³³ Edward Dusinger, *Beethoven for a Later Age: The Journey of a String Quartet* (London, 2016), p. 6.

³⁴ Tim Ingold, ‘The Textility of Making’, *Cambridge Journal of Economics*, 34 (2010), pp. 91–202.

how this in turn led to the peculiarly textual emphasis of the quartets' early reception. The first quartets to be published simultaneously as parts and scores, the late quartets became bastions of the philological preoccupations of early musicology and its privileging of transcendent, fixed objects reified in writing. In contrast, through an analogy with maps and scores, it highlights the importance of considering notation from the perspective of individual performers' parts.

Chapter 2 takes a very different approach, and situates the notational complexity of the late quartets within Beethoven's entire quartet output through the use of computational methods and statistical analysis. With its overtly scientific language, this chapter might be viewed as something of a rupture in the flow of the dissertation, rather like the sharp transition between the third and fourth movements of Op. 132. However, as Deleuze and Guattari put it, 'a Rhizome may be broken, shattered at a given spot, but it will start up again on one of its old lines, or on new lines.'³⁵ Drawing on burgeoning trends within the field of Digital Musicology, the chapter develops a novel method for collating and analysing the notation as a form of 'data'. Through a series of graphs it seeks to build a picture of Beethoven's notational lexicon and habits throughout his compositional career. It pursues threads of the first chapter by proposing that, after Gell, the whole corpus of Beethoven's string quartets should be considered as a 'spatio-temporally distributed object'. According to this model, notational trends should be understood in relation to previous works. However, as the chapter concludes, even this expanded contextual model still hinges on the logic of a single, isolated composer, encouraging a view of Beethoven's own innovations without the wider perspective of historical or social context.

In contrast, Chapter 3 maps a networked understanding of Beethoven's notation and explores its inextricable entanglement in the social, political and technological currents of 1820s Vienna. It draws heavily on the work of Naomi Cumming and her application of the work of philosopher and semiotician Charles Sanders Peirce to the domain of musical interpretation in her important book *The Sonic Self*.³⁶ I consider three different notational case studies: the issue of tuning and performance in relation to Beethoven's String Quartet in C sharp minor, Op. 131; his use of the notation 'non legato'; and the curious marking 'Muss es sein' at the beginning of his last String Quartet in F major, Op.

³⁵ Deleuze and Guattari, *A Thousand Plateaus*, p. 11.

³⁶ See Naomi Cumming, *The Sonic Self: Musical Subjectivity and Signification* (Bloomington, 2000).

135. In each case study, different lenses of interpretation – whether mediated by understanding of historical and cultural practice, instrumental technology or myths of reception – produce very different meanings.

Chapter 4 turns more explicitly to anthropological theories of material culture. Further engaging Gell’s theory of art and agency, Chapter 4 extends the network outlined in Chapter 3 to include non-human actors. It examines the different ‘material lives’ of the string quartets, both past and present, and shows how these lives may have influenced critical reception of the late quartets. The second part of the chapter considers archaeologist John Robb’s adaptation of Gell as a framework for understanding the agencies of material tradition. It extends the idea of Beethoven’s corpus of string quartets as a spatio-temporally distributed object to include all contemporary string quartet compositions from Beethoven’s Vienna. It briefly considers the impact of the vast circulation of printed string quartets itself as a means of influencing habits of notation, separate from local acts of creativity and innovation. A survey of notational markings used by contemporary composers sheds different light on the results demonstrated in Chapter 2, thereby opening up ‘new lines’ of the rhizome. The chapter concludes by considering Latour’s claim that it is objects rather than social ties that hold in place structural inequalities in light of the ideology of the ‘Work Concept’. Only because the late quartets were published in score form could they be studied for the structural and writerly qualities so privileged by musicologists. Quartets published by Beethoven’s contemporaries in part form alone were only ever able to remain ephemera.

Chapters 5 and 6 reverse the epistemic flow to consider how twenty-first-century performers might inform understandings of performance reception and notation in Beethoven’s Vienna. In Chapter 5, ethnographic methods are employed to situate the material agency described in Chapter 4. It argues that different notations should be viewed as social agents, active participants, in performance, and investigates how the agency of different materials might influence performance through ‘an ethnography of performing notations’. As part of this study, I and three other colleagues engaged with four different notational sources, including autograph parts by Beethoven, handwritten parts by Karl Holz, a first edition and a modern Henle Verlag edition. Beethoven’s new type of part writing is shown to have ongoing effects in the shaping of social relations within the quartet, and each source is shown to mediate different rehearsal tendencies and issues of temporality.

The final chapter engages Theodor Adorno's seminal work on Beethoven's late style to mediate a very personal source of insight into the late quartets: my own, as a performer, scholar and listener. Adorno's work has been central to my thinking on the social dynamics at play in the ongoing interactions between notation and performance in the late quartets. In this chapter I reconsider Adorno's reading of the dialectic interplay between subject and object in light of my personal experiences during the ethnography. Instead, I propose a reading of Beethoven's notation as a performative dramatisation of string quartet sociability, in which its component parts are dislocated and isolated in order to stage their fragile reconciliation. Through two case studies, I show how Beethoven's new type of part writing reconfigured the very essence of what it means to be a string quartet from the inside out. I conclude by suggesting that it is the ways in which Beethoven's late string quartets open up new areas of consciousness – by provoking and disturbing while simultaneously promoting engagement and empathy – that has enabled them to withstand nearly two centuries of varied and ever-changing critical attention. Their true source of power lies in their ability to raise more questions than they can answer.

1. Beethoven's 'Hearing Eyes'

Introduction

After listening to a performance of Op. 131 by the Maurin-Chevillard Quartet in 1853, Richard Wagner wrote:

The C sharp minor quartet, I must admit, was here revealed to me in its true form for the first time, as its melos had hitherto been unclear to me.¹

Having previously been wary of Beethoven's late style, this performance was a turning point for Wagner. Moreover, it proved to be a pivotal turning point in the reception history of Beethoven's late quartets more broadly.² While earlier critics had attributed their difficulties in understanding the late quartets to the composer's deafness, Wagner repositioned them as the zenith of Beethoven's achievement precisely because of his physical disorder. Indeed, 'once a hindrance, deafness was now seen as the source of Beethoven's power.'³ This shift in Wagner's attitude towards the late style was prompted by his enthusiasm for the philosophical doctrines of Arthur Schopenhauer. According to Schopenhauer, music was a 'universal language' precisely because it retreated from the phenomenal world. Inspired by such ideas in an age of increasing mechanisation and noisy industrialisation, Wagner romanticised Beethoven's sonic isolation from the world around him. For Wagner, this enabled Beethoven's eyes to become 'hearing eyes', 'attuned to the sounds within him', to experience music as a pure interplay of tones and written structures divorced from the unreliable distractions of performative reality. In Wagner's view, Beethoven could only 'hear' once he had become deaf. It is thus perhaps ironic that Wagner experienced his epiphany regarding the late style through his own ears: it was during a performance that the mysteries of Op. 131 were 'revealed' to him.

¹ As cited in Kristen Knittel, 'Wagner, Deafness, and the Reception of Beethoven's Late Style', *JAMS*, 41 (1998), p. 63.

² See Knittel, 'The Reception of Beethoven's Late Style'.

³ Knittel, 'The Reception of Beethoven's Late Style', p. 68.

Wagner’s notion of Beethoven’s ‘Hearing Eyes’ was to have a drastic impact on future critical approaches to the late quartets. Leon Botstein has demonstrated how Wagner’s view of Beethoven mobilised a particularly modernist vision of the quartets: through Wagner, ‘the late quartets ultimately became icons of modernism; examples of how Beethoven prefigured a progressive aesthetic, making a great leap over the history of the nineteenth century.’⁴ In this way, they came to be viewed as texts that rejected their historical and cultural circumstances, to be passed down and interpreted; ‘to be reflected upon by Schoenberg-orientated analysis and hermeneutics.’⁵ Linked to this modernist narrative is a relative valuing of the senses as inherited from the Enlightenment period, a particular privileging of vision over hearing. The ear was conceived as innately susceptible to irrationality in its privileging of the sensuous and the immediate, whereas the eye could discern the intellectual rationality of formal and aesthetic criteria. As a product of a reception that eventually conceived of deafness as the source of Beethoven’s powers, silent analysis became the only appropriate way of plumbing their spiritual and expressive depths. Performance became curiously accidental to their identity as ‘works’, conceived simply as an ephemeral acoustical explication of meaning that was already inherent in the score.

This chapter will interrogate this legacy of reception and the conceptual erasure of the performer in light of Beethoven’s new type of part writing. The first part outlines how Beethoven’s use of notation – his *writing* – was influenced by a particularly material approach to composition in his later years, and explores the ways in which this material emphasis influenced the visual bias of later reception. In contrast, the second part of this chapter opens up a theoretical space that will define the central approach of this dissertation: it conceives of notation not as a textual codification of the composer’s intentions, a private act of composition in the mind, but rather as a mediating material that describes, enacts, engenders, and is dependent upon, social activity. Through an extended analogy with maps and scores, it highlights the importance of considering Beethoven’s notation from the perspective of performers’ individual *parts* – whether in print, or the parts that the first players made for themselves. This perspective highlights

⁴ Botstein, ‘The Patrons and Publics of the Quartets’, in Robert Winter and Robert Martin (eds.), *The Beethoven Quartet Companion*, (London, 1994), p. 81.

⁵ James Hepokoski, ‘Dahlhaus’s Beethoven-Rossini *Stildualismus*: lingering legacies of the text-event dichotomy’, in Mathew and Walton (eds.), *The Invention of Beethoven and Rossini*, p. 16.

the need to conceive of the notation as a 'distributed object', a concept derived from Gell's theory of art and agency that has been influential to Born's vision for a relational musicology and the idea of 'distributed creativity.' While Born and other theorists of creativity have tended to view the dynamics of 'distributed creativity' as diametrically opposed to the use of notation, Beethoven's new type of part writing, distributed in notation between each member of the quartet, tells a very different story.⁶

Sketching, Notation and Material Form in the Late Quartets

The late quartets were intimately tied to issues of the textual and the material from their very inception. It is well documented that, while sketching was important to him from his earliest career, Beethoven began to rely more and more on graphic means of composing as his hearing became progressively worse. As Nicholas Marston puts it 'the visible stimulus of notation increasingly compensated for the lacking aural stimulus of sound.'⁷ By the time Beethoven composed the late quartets, he was sketching in vast quantities, working and re-working material on any paper available to him, from individual loose leaves, to the pages of pocket sketchbooks, to his own hand-crafted or professionally manufactured desk sketchbooks.⁸ Conceived via a process of sketching that was more copious and intensive than for any previous work, more than a fifth of surviving sketches are dedicated to the quartets. They were composed during a period of focused concentration on the string quartet genre from 1822 until the end of Beethoven's life in 1827. As his sketches show, the compositional timeline was not strictly linear, with ideas and sketches for new quartets intermingling with current works-in-progress. As a result of this material process, there is some blurring between the conception and eventual

⁶ See Keith Sawyer, *Group Creativity: Music, Theater, Collaboration* (London, 2002), and Born, 'On Musical Mediation'.

⁷ Nicholas Marston, 'Beethoven's Sketches and the Interpretative Process', *Beethoven Forum*, 1 (1992), p. 229.

⁸ For a discussion of the issues of terminology in relation to the sketches, as well as an overview of the different materials that Beethoven used, see Robert Winter, *Compositional Origins of Beethoven's Opus 131*, (Ann Arbor, 1982), pp. 9–11 and Douglas Johnson (ed.), Alan Tyson and Robert Winter, *The Beethoven Sketchbooks: History, Reconstruction, Inventory* (Oxford, 1985).

destination of certain movements.⁹ With the initial ideas for a quartet proposed to the publisher Peters in 1822,¹⁰ the activity was spurred on by a commission for three new string quartets by the Russian Prince Galitzin,¹¹ later published individually by different publishing houses as Op. 127, Op. 130 and Op. 132 respectively. Beethoven had even begun sketches for another quartet (Op. 131) before he had completed the last of the commission. The decision to detach the original finale of Op. 130 – the monumental *Grosse Fuge* – and publish it as a stand-alone quartet (Op. 133), composing a new substitute finale for Op. 130, was made around the same time that Beethoven was working on what would be his last quartet and final work, Op. 135. Their publication as individual ‘works’ with their own opus numbers obscures some of the contingencies of this working method, to which Beethoven’s uses of notation was intimately related.

There were several notable effects of Beethoven’s increased reliance on the material and visual aspect of composition in the late quartets, some of which had significant repercussions in performance. The most important concerned his new type of part writing. This new approach to the distribution of roles between different instrumental voices was not simply a formal innovation: it was afforded by the graphic possibilities of a new type of sketching. While his earlier practice had typically involved the sketching of single melodic lines, when it came to the late quartets Beethoven began to sketch in score format across four staves.¹² Score sketching allowed an increased emphasis on the vertical axis

⁹ For example, the *Alla Danza Tedesca* of Op. 130 was originally intended for Op. 132, and Beethoven also toyed with the theme of what would become the second movement of Op. 135 as a coda to the *Finale* of Op. 131. For those analysts searching for thematic ‘unity’ between the quartets, this sketching process became a justification for treating the late quartets as a single entity. See Deryck Cooke, ‘The Unity of Beethoven’s Late Quartets’, *The Music Review*, 24 (1963), pp. 30–49.

¹⁰ See Thayer-Forbes, p. 789

¹¹ As Gingerich has pointed out, the near synchronicity of the return of violinist Ignaz Schuppanzigh from Russia – a colleague with whom Beethoven had worked since arriving in Vienna, and leader of his ‘Leibquartett’ – with the fresh commission for three new string quartets from Prince Galitzin was perhaps no coincidence. See John M. Gingerich, ‘Ignaz Schuppanzigh and Beethoven’s Late Quartets’, *The Musical Quarterly*, 93 (2010), p. 450.

¹² Lewis Lockwood cautions against categorisations of the sketch material according to the ‘familiar straitjacket of the usual terminology’. He proposes that although ‘we are accustomed to seeing the sketches as being typically one-line drafts compressing material of upper and lower range into a single staff . . . there are many instances in the sketchbooks in which Beethoven expands the single staff to two and sometimes

of composition, which may explain his unusual reliance on contrapuntal compositional methods during his later years. The vertical behaviour of the counterpoint could literally be mapped onto the grid of the four staves. The act of notating was thus a crucial part of his compositional process, reciprocally influenced by the visual affordances of score sketching. Like a rhizome, it allowed him to follow different threads and paths suggested by the musical material. As Maynard Solomon puts it, Beethoven's sketches and autographs 'may well be a series of rough road maps to the multiplicity of universes he glimpsed, to a plurality of possibilities.'¹³

However, this mapping was not just a writerly procedure: it also had social repercussions. As Holz explained, Beethoven's new type of part writing referred to the ways in which roles were distributed between the instruments in the quartet. In eighteenth-century traditions of quartet writing, it was typical for each instrument to fulfil its own harmonic and textural function within the group: the first violinist was likely to play the melody, with the cellist providing a functional bass line and the viola and second violin providing harmony, texture and counterpoint. The social and musical hierarchy was clearly delineated, and any subversions of this procedure served a particular musical effect. Beethoven had already begun to move away from first-violin dominated textures in his earlier quartets. For example, it would have been surprising to listeners that Op. 59, No. 1 begins with a melodic theme for the cello. However, the new type of part writing in the late quartets superseded all textural precedents. Dissonances, resolutions and cadences are shared instead between all voices in a written trace throughout the score, without this sort of functional differentiation. The tightly-wrought textural space and voice leading in the Cavatina of Op. 130 offers a particularly clear example. The first and second violin frequently share harmonic and melodic resolutions via registral exchanges. For instance, the first violin takes over the second violinist's F# at the end of bar 14 to resolve to a G in bar 15. On the one hand, it could be argued that the 2-D effect of writing simply flattens out the idiomatic hierarchical procedures that are usually relied upon in string quartet performance; all instrumental parts are equal in their status as writing. Yet, this shift in

more staves', in which 'the sketchbook method begins to expand towards the role of a rudimentary score.' Lewis Lockwood, *Beethoven: Studies in the Creative Process* (Cambridge Massachusetts, 1992), p. 12.

¹³ Maynard Solomon, 'Beethoven's Ninth Symphony: The Sense of an Ending', *Critical Inquiry*, 17 (1991), p. 293.

itself transforms the social dynamics of string quartet performance, forcing an intimate awareness – even a new kind of consciousness – of other members of the ensemble.

Beethoven’s engagement with the material affordances of sketching had other implications for the structure and performance of the late string quartets. It enabled not just an increased interest in the vertical dimension of writing and scoring; it also offered horizontal possibilities. Beethoven’s exploration of the horizontal dimension of composition can be seen in his expansion of conventional formal designs in the late quartets. As Marston notes, ‘one of the most conspicuous features of Beethoven’s late style is a constant pre-occupation with form.’¹⁴ Composing and working everything out on paper enabled the composer to experiment with the formal boundaries of string quartet composition as a sort of game of writing and notation.¹⁵ Robin Wallace proposes that ‘he created long, complex musical structures because they could be planned visually.’¹⁶ Through the use of pen and paper, the length of the quartets as a whole could be expanded materially and physically.

Three of the late quartets (Op. 132, Op. 130 and Op. 131) reveal striking expansions of form beyond the conventional four-movement structure of string quartets, and Op. 127 was also originally conceived with more movements in mind.¹⁷ Op. 131 is formally the most complex of the formal designs (‘neither, strictly speaking, one long movement, nor a succession of independent movements’),¹⁸ comprising a total of seven interlinking sections to be performed *attacca*. There are over 650 hundred pages of sketches for Op. 131 alone, including several of what Robert Winter dubs ‘continuity’ drafts which map

¹⁴ Marston, ‘Beethoven’s Sketches and the Interpretative Process’, pp. 231–232.

¹⁵ This suggestion was eloquently put forward by Robin Wallace and expanded in the context of his own wife’s deafness. See Robin Wallace, *Hearing Beethoven: A Story of Musical Loss and Discovery* (Chicago, 2018).

¹⁶ Wallace, *Hearing Beethoven*, p. 222.

¹⁷ Sieghard Brandenburg, ‘Die Quellen zur Entstehungsgeschichte von Beethovens Streichquartett Es-dur Op. 127’, *Beethoven Jahrbuch*, 10 (1978–81), pp. 273–274. As cited in Marston, ‘Beethoven’s Sketches and the Interpretative Process’, p. 234. See also Barry Cooper, ‘The Role of Beethoven’s ‘la gaiete’ Movement in the Creation of his Quartet Op. 127’, *Nineteenth-Century Music Review*, 11 (2014), pp. 33–55.

¹⁸ Winter, *Compositional Origins of Beethoven’s Opus 131*, p. 132.

the various possibilities for the large-scale tonal design of the movement.¹⁹ Beethoven himself considered Op. 132 to comprise six 'Stücke', although the brief recitative-like passage (the fifth 'Stück') is ambiguously poised between the final full-length movement and a short section entitled 'Alla Marcia' from which it proceeds *attacca subito*. Op. 130 in its initial formal arrangement was perhaps the most radical, with the sheer enormity of the final *Grosse Fuge* surpassing the length of the previous five movements of the quartet. Such new lengths gave rise to issues of performance as the first players found them exhausting to play, with Op. 131 seeming to offer no opportunity to stop and tune their instruments.²⁰ As Schuppanzigh informed Beethoven after a trial run of Op. 130 in early 1826, 'Holz is now going to sleep – the last movement has knocked him out.'²¹ Holz also reported that the pages needed arranging specially so that an extra person was not required on stage to turn pages.²²

On a smaller scale, unusual formal procedures were generated within movements from a wealth of written-down material. Beethoven was known to have always carried with him a pocket sketchbook in which he could note down fragments of themes and ideas that occurred to him while he was out and about in Vienna.²³ Wallace has proposed that in his later compositions Beethoven 'made unprecedented use of short, memorable fragments because these fit easily into his mental Rolodex.'²⁴ This notion may help to explain some of the idiosyncratic formal designs of the first movements of the Galitzin Quartets, which famously abjure traditional sonata-form models. In these movements, sections of existing

¹⁹ See Winter, *Compositional Origins of Beethoven's Opus 131*, pp. 113–134 in particular for a discussion of Beethoven's use of this method in relation to the structure of Op. 131.

²⁰ Holz specifically questioned Beethoven about this problem, and a double barline after the fourth movement was notated seemingly for this purpose. See Chapter 3 for a fuller discussion of the implication of double barlines in the performance of this quartet.

²¹ 'Holz schläft jetzt ein, das letzte Stück hat ihn caput gemacht.' See Dagmar Beck and Günter Brosch (eds.), *Ludwig van Beethovens Konversationshefte* 8 (Leipzig, 1993), p. 246 (hereafter referred to as *BKh*). As cited and translated in Barry Cooper, 'Rehearsal Letters, Rhythmic Modes and Structural Issues in Beethoven's *Grosse Fuge*', *Nineteenth-Century Music Review*, 14 (2017), p. 177.

²² See *BKh* 10, p. 167.

²³ Winter notes that Beethoven began using pocket sketchbooks systematically after 1815. He proposes that it was not until after the Congress of Vienna, and the liberation of Vienna from French rule, that Beethoven was able to wander freely throughout the Viennese countryside. See Winter, *Compositional Origins of Opus 131*, p. 10.

²⁴ Wallace, *Hearing Beethoven*, p. 220.

notated material are juxtaposed and transposed as blocks of visually-identifiable written structures. The wealth of material and its eccentric combination in some instances displaces the traditional role of the development section, such as in the first movement of Op. 130.²⁵ Joseph Kerman notes in Op. 131 a ‘retreat from sonata teleology in favour of circularity’; a formal procedure that may itself arise from the process of sketching.²⁶ The first movement of Op. 132, which features a wealth of short thematic ideas, has variously been described as having a ‘double recapitulation’ or a ‘triple exposition’.²⁷ Op. 127 and Op. 130 both comprise eccentric thematic schemes in which opening material in a contrasting metre is variously interspersed throughout the movement. The boundaries between these metrical shifts are often confusing from the perspective of performance, perhaps explaining Schuppanzigh’s claim that Op. 127 could not be ‘grasp[ed] at first sight.’²⁸ While the silent page of the score enabled unconventional metrical shifts to exist side by side as unproblematic written structures, in practice this notation would play a part in reforming the very idea of what it meant to rehearse as a string quartet.

Beethoven’s Writing Process and the Conception of Genius

Beethoven’s use of paper and pen as part of the composition process was not an innovation. As Ian Bent has shown, late-eighteenth-century theorists such as Heinrich Koch strongly advocated committing musical ideas to paper or score.²⁹ For such theorists this was the end result of a process of ‘special psychic intensity’ that occurred in the ‘full flood of the imagination’ during which images appear with ‘an unusual clarity and brilliance’; only once ‘these ideas have revealed themselves in their true relationships’ should they be committed to paper.³⁰ However, in contrast to this cerebral activity, for

²⁵ See Michael Spitzer’s discussion of the first movement of Op. 130 in Michael Spitzer, *Music as Philosophy: Adorno and Beethoven’s Late Style* (Bloomington, 2006).

²⁶ Joseph Kerman, ‘Beethoven’s Opus 131 and the Uncanny’, *19th-Century Music*, 25 (2001), p. 164.

²⁷ See Kofi Agawu, *Playing with Signs: A Semiotic Interpretation of Classical Music* (Princeton, 1991), pp. 110–126 and Stephen Rumph, ‘Op. 132 and the Search for Deep Structure’, *Beethoven Forum*, 14 (2007), pp. 73–89.

²⁸ ‘welche man im ersten Augenblick nicht fassen kann.’ *BKh* 7, p. 198.

²⁹ See Ian Bent, ‘The “Compositional Process” in Music Theory 1713–1850’, *Music Analysis*, 3 (1984), pp. 29–55.

³⁰ Bent, ‘The “Compositional Process” in Music Theory’, p. 34.

Beethoven the act of writing itself played a crucial role in an ongoing shaping of musical form. Bent demonstrated how an understanding of Beethoven's compositional process influenced later theories of composition, as well as notions of inspiration and the idea of genius. Two compositional methods arising from those with personal connections to Beethoven – Antoine Reicha's *Traité de haute composition musicale* of 1824–6 and Carl Czerny's later *School of Practical Composition* – specifically advocated the writing down of ideas for later use.³¹ As Czerny notes:

The young composer . . . must also accustom himself *to note down immediately* any idea which may strike him at a propitious time . . . from manuscripts left by Beethoven we have observed that many of the most beautiful ideas employed in his later great works, were by him conceived and noted down long before.³²

Earlier in the eighteenth century the notion of notating and storing musical ideas for later elaboration was viewed disapprovingly as anti-inventive; what Wallace describes as Beethoven's 'mental Rolodex' would have been described disparagingly by Johannes Mattheson as an 'inventions box.'³³ However, it was through the figure of Beethoven that a shift in the understanding of compositional genius took place; it now lay not just in the elaboration of 'initial ideas' that would then be worked out according to the dictates of taste and convention, but in the unique development and generation of musical form. As Bent argues, the Enlightened idea of creativity advocated by Koch as one arising from

³¹ Bent, 'The "Compositional Process" in Music Theory', p. 50.

³² Bent, 'The "Compositional Process" in Music Theory', p. 50.

³³ It should be noted that, while in an early-nineteenth-century context the notion of saving ideas for later use seemed new, it has precedent in the long and rich legacy of the 'commonplace book', dating back to the Renaissance. Commonplace books were typically used to store humanist-inspired quotations, philosophical observations and scraps of knowledge for later reference. See Victoria Burke, 'Recent Studies in Commonplace Books', *English Literary Renaissance*, 43 (2013), pp. 153–177. The early-eighteenth tendency to view this habit as anti-inventive was symptomatic of newly-enlightened perspectives on subjectivity and notions of authorship. As Butt puts it, in this context 'history and commonplace truths are now to be mistrusted, and each subject has to form itself with its own intentions and desires.' See John Butt, 'The seventeenth-century musical "work"' in Tim Carter (ed.), *The Cambridge History of Seventeenth-Century Music* (Cambridge, 2005), p. 48.

‘inner luminosity’ was transformed in the Romantic imagination into a concept of ‘compulsive striving for self-expression and originality.’³⁴

However, this image leads to something of a paradox: whereas Beethoven was clearly meticulous and even obsessive in his detailed attention to sketching and the working out of compositional processes and forms, his messy handwriting and manuscripts project the familiar image of a compulsive individual, unable to control his emotions and working in a frenzy of activity. The author and music critic E. T. A. Hoffman offers a satirical account of how the nineteenth-century public viewed the composer’s working methods: ‘the good Beethoven is by no means lacking in wealth and vigour of imagination, but he does not know how to control it! There is no question of selection and organization of ideas; following the so-called workings of the inspired method, he dashes everything down just as the feverish workings of his imagination dictate to him at that moment.’³⁵ Hoffmann’s portrayal of feverish compositional activity is meant as a caricature, a rhetorical device to bolster his campaign to reveal the analytical logic behind Beethoven’s compositional structures³⁶ Yet, there is something about the visual appearance of Beethoven’s handwriting that makes this caricature compelling. As Winter notes, ‘it is scarcely an exaggeration that many a Beethoven draft fairly leaps out of the page, almost as if a third dimension has been unleashed.’³⁷ The Romantic stereotype of compositional genius encourages us to experience Beethoven’s notation with peculiar immediacy, as though we are witnessing an unfolding creative act in the present tense.

Gell’s theory of art and agency offers an explanation for this phenomenon. He argues that the power of art objects lies not in their act of representation – the structures that they exhibit – but in their performative capacities: in the social activities and relationships that they engender. One way in which art objects animate sociality is through their indexical behaviour: they point towards an authorial presence lying behind their creation. In this way, Beethoven’s autograph sources offer not just a tantalising glimpse of his private thought processes: they actually generate a social tie with the spectator. The compellingly

³⁴ Bent, ‘The “Compositional Process” in Music Theory’, p. 51.

³⁵ See David Charlton (ed.), *E.T.A. Hoffmann’s Musical Writings: ‘Kreisleriana’, ‘The Poet and the Composer’, Music Criticism*, trans. Martyn Clarke (Cambridge, 1989), p. 98.

³⁶ Hoffmann was the first critic to analyse the structures of Beethoven’s music, starting with his famous analysis of the Fifth Symphony in 1810.

³⁷ Winter, *Compositional Origins of Opus 131*, p. 50.

graphic nature of his handwriting acts as an invitation, a challenge, even an ethical imperative towards greater understanding of Beethoven's 'intentions' as an artist and composer. Generations of sketchbook scholars have attested to this psychological effect. Moreover, framed by the lens of reception history, the apparent immediacy of Beethoven's presence in autograph sources obscures the presence of all other possible agents in the construction of meaning – including performers, publishers, listeners and material objects such as instruments alike. In this light, we should be cautious: are we really experiencing Beethoven's presence itself? Or merely, the *index* of his presence, maintained by the structuring effects of the great myths of Beethoven? As the venerated sketchbook scholar Gustav Nottebohm knew a century and more ago, 'The *daemon* has lived in these sketchbooks. But now the *daemon* has left them'³⁸

An 'Inner' Performance?

Lewis Lockwood has argued that 'Beethoven's notation is often idiosyncratic and often violates the normal rules of musical notation: it seems to be a graphic representation of the way he heard musically.'³⁹ In Lockwood's eyes, Beethoven's 'idiosyncratic' uses of notation in the late quartets act as an authorial testimony to an inner experience; one recorded as a graphic trace to be consumed, as Wagner suggested, by the eyes rather than the ears. Perhaps influenced by such narrative legacies, critics often invite us to experience Beethoven's music in this way. For these writers, Beethoven's musical notation acts as a silent substitute for performance, conveying instead a *feeling* for the way the composer imagined music from the intimacy of his own mind. Paul Mies proposed that for Beethoven 'the feeling of rest was associated with long notes, and movement with short. [. . .] he tried to convey the intended expression by the character of the notation.'⁴⁰ Heinrich Schenker further elaborated this phenomenon:

Beethoven's powerful and direct thought produces a style of writing that is immediately perceived by the reader – the rise and fall of the individual lines . . . the deep meaning of

³⁸ 'In diesen Skizzenbüchern hat der Dämon gehaust. Der Dämon aber ist entwichen.' Gustav Nottebohm, *Zweite Beethoveniana* (Leipzig, 1887), p. viii.

³⁹ Lockwood, *Beethoven: Studies in the Creative Process*, p. 226.

⁴⁰ Paul Mies, *Beethoven's Sketches: An Analysis of his Style based on a Study of his Sketch-Books*, trans. Doris MacKinnon (London, repr.1990), p. 184.

the connecting beams which convey to the eye what belongs together and what belongs apart; the subtle elegance of the slurs – sometimes they unite what belongs together . . . at other times they break a continuity in order to increase the sense of desire for it; the upward and downward motion of the stems, indicating the role and interplay of tones.⁴¹

For Schenker, reading Beethoven became a quasi-musical experience in which his graphic inscriptions could be understood as possessing a sort of agency: a writerly phenomenon, to be experienced as a private performance by the reader.

The iconic properties of Beethoven’s notation that inspired Schenker’s way of thinking are undoubtedly related to what Lockwood describes as notational ‘violations’ of convention. There are two instances in the first movement of Op. 130 in which Beethoven seems to use notation to tell us, in Schenker’s words, ‘what belongs together and what belongs apart’ (see Figure 1-1 and Figure 1-2). In these instances, Beethoven uses notation to go against the grammatical rules of beaming and patterns of metrical emphasis. For example, Figure 1-1 demonstrates how Beethoven breaks up the beaming of four quavers and uses a stroke to place an emphasis on the fourth quaver of the group, which would conventionally be understood as the weakest beat in the metrical hierarchy.

*Figure 1-1: Autograph score of the first movement of Op. 130, p. 32, bb. 210–211.
(Kraków, Bibliotheka Jagiellońska, Mendelsohn-Stift 7)*

Similarly, Figure 1-2 indicates an unusual beaming in which the fourth and fifth quavers of the bar are grouped together as well as the last quaver and the first quaver of the next bar as a way of displacing the strong beat of the bar.

⁴¹ As cited in Lockwood, *Beethoven: Studies in the Creative Process*, p. 226.

*Figure 1-2: Autograph score of the first movement of Op. 130, p. 7, bb. 39–40.
(Kraków, Bibliotheka Jagiellońska, Mendelssohn-Stift 7)*

However, the supposed freedom of Beethoven's internal imagination was still, nonetheless, restricted by material concerns. As Lockwood seems to suggest, Beethoven's inner experience of sound did not always translate well into writing. For example, there are two instances in which Beethoven uses a mixture of ties and unconventional rhythmical beaming to notate in peculiar detail a decrease in volume at the end of a movement. Figure 1-3 shows the end of the first movement of Op. 131.⁴²

*Figure 1-3: Autograph score of the first movement of Op. 131, p. 13, bb. 119–121.
(Kraków, Bibliotheka Jagiellońska, Mus.ms.autogr.Beethoven, Artaria 211)*

⁴² The excised bar can be explained in relation to a score sketch included in Artaria 210, which shows that Beethoven had originally planned two extra bars of material at this moment. See Berlin, Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Mus.ms.autogr.Beethoven, L.v., Artaria 210, pp. 303–304. Winter proposes that the corrections made by scraping on both sides of this folio suggest that it was originally intended for the autograph score. See Winter, *Compositional Origins of Opus 131*, p. 87. See Chapter 3 for a discussion of the autograph sources of Op. 131.

Figure 1-4 illustrates a similar phenomenon at the end of the Cavatina in Op. 130. Rather than notating a minim with a decrescendo, Beethoven notates four separate quavers tied together and allocates dynamic markings to three of them.

Figure 1-4: Autograph score of fifth movement of Op. 130, p. 11, bb. 66.

(Berlin, Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Mus.ms.autogr.Beethoven, Artaria 208)

In the coda of the first movement Op. 132, Beethoven also seems to want to achieve a sense of a slowly unravelling pulse and notates in apparent rhythmic precision a ‘slowing down’ that sees the beat displaced by one quaver. However, although the aural effect generated is clear, it is at odds with the cumbersome notational apparatus that Beethoven employs to depict it (see Figure 1-5).

Figure 1-5: Autograph score of the first movement of Op. 132, p. 36, bb. 252–253.

(Berlin, Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Mendelssohn-Stiftung 11)

There are even instances in which Beethoven notates the precise figuration of an ornament, including the number of oscillations of a trill, as he does in the last bar of the *Maestoso* before the ensuing *Allegro* in the first movement of Op. 127 (see Figure 1-6).⁴³

*Figure 1-6: Autograph score of the first movement of Op. 127, p. 1, bb. 6–8.
(Kraków, Bibliotheka Jagiellońska, Mus.ms.autogr.Beethoven, Mendelssohn-Stiftung 13)*

These notational examples create the impression that Beethoven is attempting to communicate or capture something with precision, even if his notation ultimately leads to more ambiguity. The Romantic image of the genius composer at odds with reality, desperately striving to re-capture a lost of experience of sound, is even enhanced when the material result seems to be in conflict with the clarity of his 'inner' conception.

As Wagner, Mies and Schenker might propose, Beethoven's 'Hearing Eyes' allow his notation to be read as a preferable substitute for live performance. There are many aspects of the notation that encourage this perspective. As Figures 4–6 demonstrate, Beethoven 'composes in' the sorts of tasteful tapering of volume or *rubato* that a quartet might naturally employ as a matter of course. There are also instances in which the notation seems to ignore the potential for performance altogether, such as the 'Muss es sein?' incipit at the beginning of the last movement of Op. 135. Holz alerted Beethoven to another such instance: the tied-note notation at the beginning of the *Grosse Fuge* – a notational eccentricity that still stimulates debate among performers.⁴⁴ In early 1826, he

⁴³ An early sketch from 1824 shows that he originally notated this complex figuration in shorthand indicated by just the symbol 'tr'. See Bonn, Beethoven-Haus, BH 112, fol. 2r.

⁴⁴ See Paul Badura-Skoda, 'A Tie is a Tie is a Tie: Reflections on Beethoven's Pairs of Tied Notes', *Early Music*, 16 (1988), pp. 84–88, Malcolm Bilson, 'Beethoven's tied-note Notation', *Early Music*, 32 (2004)

asked Beethoven in a conversation book ‘Why have you written two eighth notes instead of a quarter?’⁴⁵ and later informed the composer that the two notes could not be heard on the violin.⁴⁶ That the strange metrical arrangement of the first bars of Op. 127 persists in causing confusion in performance is suggested by Michael Steinberg’s comment: ‘For some reason these four measures seem totally to confound most quartet players rhythmically . . . I have [] almost never [heard] a performance from which, did I not know it already, I could infer what Beethoven actually wrote.’⁴⁷

Beethoven’s notation in the late quartets thus poses unique difficulties to performers: at its most complex, its sheer textuality seems to take precedence over its performative dimension. The two dimensions have even been conflated in critical reception, such that the notation is framed not only as a graphic attempt to capture frustratingly elusive sonic phenomena, but also becomes a resource for understanding Beethoven’s own ‘inner’ performance, as though it were an early form of recording technology. Read as a record of Beethoven’s own ‘inner’ performance, the notation is ambiguously poised between a description of his experience of sound and a prescription for action to replicate this experience on the part of the performers (or readers). Thus, paradoxically, while in manuscript Beethoven’s handwriting generates an illusion of forward momentum, the notation also memorialises: it crystallises a temporality that supersedes the present moment of engagement. According to this critical framework, the act of performance and interpretation is forced to take on a retrospective quality, directed towards re-constructing Beethoven’s lost listening experience as it exists in the graphic traces of the score – even while this must have been informed by sediments of his own experiences of performance. This effect of reception was only amplified when the notation appeared in print.

pp. 489–491, Jonathan Del Mar, ‘Once Again: Reflections on Beethoven’s Tied-Note Notation’, *Early Music*, 32, (2004), pp. 7–25, and David Levy, ‘“Ma però beschleunigen”: Notation and Meaning in Ops 133/134’, *Beethoven Forum*, 14 (2007), pp. 129–49.

⁴⁵ ‘Warum haben Sie zwey Achtel geschrieben, anstatt 1/4[?]’, *BKh* 8, p. 243.

⁴⁶ ‘Auf der Violine hört man aber die beyden Achtel nicht von einander.’ *BKh* 10, p. 144. Holz questioned Beethoven about the same notation in the piano transcription of the Fugue (Op. 134) on behalf of Halm. See *BKh* 9, p. 194.

⁴⁷ See Michael Steinberg, ‘Notes on the Quartets: The Late Quartets’ in Winter and Martin, *The Beethoven Quartet Companion*, pp. 219–220. An early sketch from around June 1824 suggests that Beethoven originally conceived of the first gesture as a tie over the barline. See Bonn, Beethoven-Haus, BH 112, fol. 2r.

Scores and Legibility

With the presence of scores taken for granted in most rehearsal settings today, it is perhaps extraordinary to think that the late quartets were the very first set of string quartets to be published simultaneously in both part and score form (see Table 1-1). The publication of the late quartets as scores effected a material shift that solidified their public identity as texts. These objects simultaneously amplified the memorialising tendency of the notation as a legible inscription of Beethoven's private act of hearing, to be read and imagined rather than experienced as live sound – while also securing the longevity of its identity; writerly inscriptions that could survive untouched by the multiple possible interpretations such writing could (and would) elicit in performance.

Opus Number	Publication of Parts	Publisher	Publication of Parts and Scores	Publisher
Op. 127	March 1826 June 1826	Schott, Mainz fils de B. Schott, Paris	June 1826 (score only)	Schott, Mainz
Op. 132	September 1827	M. Schlesinger, Paris	September 1827	M. Schlesinger, Berlin
Op. 130	May 1827	Artaria, Vienna	May 1827	Artaria, Vienna
Op. 131	June 1827	fils de B. Schott, Paris	June 1827	Schott, Mainz
Op. 133	May 1827	Artaria, Vienna	May 1827	Artaria, Vienna
Op. 135	August 1827	M. Schlesinger, Paris A. M. Schlesinger, Berlin	Autumn 1827 (score only)	M. Schlesinger, Berlin

Table 1-1: Publication dates of first edition parts and scores of Beethoven's late string quartets

The quartets' material lives as conveniently-sized, printed scores signalled a pivotal shift in an emerging culture of 'serious' chamber music devoted to the (silent) consumption of

musical works.⁴⁸ Whereas in the late eighteenth and early nineteenth centuries the musical reception of chamber music had largely been a sonic, participatory experience, whether in the social context of a salon performance or by playing through four-hand reductions of larger works at the piano, with the aid of a score it became possible to contemplate the music visually.⁴⁹ This emerging culture supplanted the participatory ethos of Haydn’s chamber music, which promoted the social, collaborative processes of sight-reading in which the listeners were as equally engaged as the (usually amateur) performers.⁵⁰ The difficulties of the late quartets seemed to need a more ‘readerly’ mode of reception: they invited not participatory social encounters, but instead gestured towards a sort of reception that demanded concentration; an intellectual activity intent on discerning the musical intentions of the ‘genius’ composer alone. The score allowed the possibility of a silent spectatorship of the quartets as art objects, to be ‘read’ and contemplated in the mind – as Beethoven’s own bodily condition, and process of composition seemed to demand. Critics, such as Hoffmann, increasingly emphasised the importance of discerning Beethoven’s compositional structures and techniques as encoded in the score rather than enlivened in performance. As November notes, the audience’s gaze was gradually diverted from performance to score.⁵¹

The vertical alignment of the page, the clean blank space on which it was printed, may have provided listeners with the clarity that they so desperately needed in the face of Beethoven’s new type of part writing. The graphic legibility of the score proved a useful

⁴⁸ Printed scores of the late quartets were of a useable size and format, and significantly smaller than the dimensions of printed parts – which seem comparatively large to twenty-first-century eyes. However, these were not ‘miniature’ scores, as has been proposed. While Pleyel was credited with the first publication of ‘miniature scores’ of four of Haydn’s symphonies in 1802, Hans Lenneberg has shown that such scores were not ‘miniature’ by modern standards, as exemplified by the trademark miniature scores by Eulenberg that began to circulate in the middle of the twentieth century. Hans Lenneberg, ‘Revising the History of the Miniature Score’, *Notes*, 45 (1988), pp. 259–260.

⁴⁹ See Leon Botstein, ‘Listening through Reading: Musical Literacy and the Concert Audience’, *19th-Century Music*, 16 (1992), pp. 129–145.

⁵⁰ Citing Zelter and Goethe, Botstein argues that this older model in the early nineteenth century demanded a sort of comprehension and understanding achieved by an imaginary ‘playing along’, imagining the act of creating sounds; listening thus generated the illusion of participation. See Botstein, ‘The Patrons and Publics of the Quartets’, in Winter and Martin, *The Beethoven Quartet Companion*, p. 80.

⁵¹ Nancy November, ‘Theater Piece and *Cabinetstück*: Nineteenth-Century Visual Ideologies of the String Quartet’, *Music in Art*, 29 (2004), pp. 142.

foil to their aural confusion. An anonymous author of an article in 1829 described the need for sight to understand the late works, presuming Beethoven to have forgotten what music was meant to sound like:

Becoming gloomy and bleak, he withdrew more and more from the outer world, *heard* no more music, he only *saw* . . . the ideas appeared very clear on *paper* and pleased the eye, but in performance would often seem a *wild jumble*, and as such his last works appear in many places to me, however often I hear them.⁵²

Another critic suggested that 'what appears wonderful on paper sounds very nasty to the ear'.⁵³ Christina Bashford has similarly conjectured that the drastically contrasting responses to the late quartets in the London press in the 1830s – ranging from descriptions of the ravings of a musical madman, to raptures about the intellectual and spiritual heights of a compositional genius – can partially be explained in relation to critics' familiarity with scores and repeated hearings of the works.⁵⁴

The experience of aural confusion was one noted frequently by early, and even later, listeners of the quartets: one reviewer of Op. 130 in 1826 famously described its 'Babylonian confusion', with the fugal finale 'incomprehensible, like Chinese'.⁵⁵ Holz's reports to Beethoven about the reception of Op. 133 reflect this concern of listeners to hear a piece several times before they can understand it; as though they are constructing their own mental map of it in their minds during performance. He mentions that Artaria 'found the fugue, once he'd heard it for the third time, already quite intelligible',⁵⁶ with Beethoven's brother mentioning that audiences who had heard the performance were

⁵² Cited in Knittel, 'Wagner, Deafness and the Reception of Beethoven's Late Style', p. 55.

⁵³ Knittel, 'Wagner, Deafness and the Reception of Beethoven's Late Style', p. 56.

⁵⁴ See Christina Bashford, 'The Late Beethoven Quartets and the London Press, 1836–ca. 1850', *The Musical Quarterly*, 84 (2000), pp. 84–122.

⁵⁵ 'die babylonische Verwirrung'; 'unverständlich, wie Chinesisch.' Cited in Knittel, 'Wagner, Deafness and the Reception of Beethoven's Late Style', p. 53.

⁵⁶ 'Artaria war ganz entzückt, und die Fuge fand er, [beym] als er sie zum drittenmahl hörte, schon ganz verständlich.' *BKh* 10, p. 104.

commenting that ‘you have to hear the last movement more often to understand it.’⁵⁷ The notion of repeated hearings of a musical work was not yet a common facet of Viennese musical culture. It also enhances the Platonic idea – one further promoted by the score – that the compositional structures and meanings of the quartets exist as stable entities outside of time and space, fixed and undisturbed by performance. After a performance in 1846 in London one reviewer advised that ‘the sight of a score, which enables one to anticipate and to recall is, in default of frequent hearings, the best means to enable the musician and amateur to comprehend the design and enjoy the performance on a first occasion. This advantage seemed to be not a little understood and pursued by the company’.⁵⁸ For this reviewer, the score provided an optical resource that fixed the identity of the work as an a-temporal object, capable of referring backwards and forwards in time from the position of the spectator.

Scores gradually repositioned the role of performers and indeed the notion of authorship. They became an object to which performers were accountable for ‘infidelities’ to the text. Performers could only briefly materialise these written intentions as ‘negative’ impressions of the work, and notions of ‘ideal’, ‘perfected’ and ‘unified’ playing began to infiltrate musical reviews. The physical arrangement of the score, which enacted a seemingly perfect musical unity, began to infuse critics’ language about string quartet performance. As November states, ‘this critical discourse [. . .] emphasise[d] the unified musical work and the need to concentrate on and follow a subtle and complex musical argument.’⁵⁹ Johann Conrad Wilhelm Petiscus’ advice to non-professional quartet players in an article for the *Allgemeine Musikalische Zeitung* in 1810 projects this score-like model of exact agreement between the players. He advises:

⁵⁷ ‘die billigen sagen das letzte Stück müße man öfters hören um es zu verstehn.’ *BKh* 9, p. 137. For a discussion of the innovation of a concert format dedicated to a repeated hearing of the quartets by Mayesder following a poor first performance of Op. 127 by the Schuppanzigh Quartet, see also Adelson, ‘Beethoven’s String Quartet in E flat Op. 127’, pp. 219–243.

⁵⁸ The aim of using scores to actively understand the compositional design of the late quartets was institutionalized in the formation of Beethoven quartet clubs. One such club was described by Christian Friedrich Micahaelis in 1829: ‘it could be called more than a ‘club’ when some of the latest and most difficult masterworks are gone through fifty or a hundred more times in order fully to enter the spirit of the master . . . No effort is spared, the score is consulted . . . the meaning of individual spots, or of the whole is earnestly discussed.’ As cited in Mary Hunter, ‘“The Most Interesting Genre of Music”’, p. 58.

⁵⁹ Nancy November, *Cultivating String Quartets in Beethoven’s Vienna* (Woodbridge, 2017), p. 184.

Each one should moderate his tone, so as not to scream out above the others, for the whole has to maintain a medium level of volume, in order that the means for *Fortes*, *Pianos*, and *Sforzandi* do not fail. All changes in expression, all colourings made by *forte*, *piano*, *crescendo* and *diminuendo* must be observed with the most exact agreement.⁶⁰

However, Petiscus' call for an 'exact agreement' does not reflect Beethoven's new type of part writing. That an understanding of 'exact agreement' cannot be elicited from the parts of the late quartets alone is clear from Holz's query to Beethoven, which arose while proofreading the composer's autograph score for Op. 130: 'should all parts play equally loudly?'⁶¹ Holz was also confused by the apparent mismatch between the parts in terms of dynamics at the beginning of Op. 131, and questioned whether Beethoven's dynamic markings in one part should be repeated in all parts with reference to the *crescendo* versus *piano* in the 'accompanying' parts at the beginning of the fugue.⁶² The performative reality of Beethoven's new type of part writing that was so challenging to its first performers – particularly when playing from hand copied manuscript parts – was conceptually erased by the clean appearance of visual alignment and graphic unity that the printed score projected. To those listeners who followed the score, the ideas, codified in print, were no longer a 'wild jumble' of sounds: they seemed 'very clear on the paper' and 'pleased the eye.' As Hector Berlioz noted of his attendance of a meeting of the Beethoven Quartet Society in London, audience members were 'following with small scores printed in London for this purpose the fanciful flight of the master.'⁶³ For this audience, what Berlioz described as the 'supposedly incomprehensible' late quartets, had, quite literally, become legible.

⁶⁰ As cited and translated in Hunter, ' "The Most Interesting Genre of Music" ', p. 63.

⁶¹ 'Sollen alle 4 Stimmen gleich stark gespielt werden?' *BKh* 9, p. 104.

⁶² 'Ich glaube, gewiß *crescendo*'s, die nur in einer Stimme stehen dürfen, hält er für nothwendig für alle. Z.B. haben Sie in der *Cis-mol* Fuge eine Stimme (die begleitende) *piano* gehalten, während die andere das Thema *crescendo* heraushebt. Soll dieß nicht recht seyn?', *BKh* 10, p. 168.

⁶³ Lenneberg, *Revisiting the History of the Miniature Score*, p. 258.

Hylomorphism and Compositional Genius

In his study of orality and literature, Walter Ong has powerfully articulated how the semiosis of printed material has a profound impact upon our mental activities.⁶⁴ According to Ong, ‘writing restructures consciousness’, encouraging spectators to conceive of music as textual, written structures. According to Ong, ‘texts are . . . thing-like, immobilised in visual space, subject to [. . .] backward scanning’ in which, through a visual economy, the laws of motion and structure take on different functions.⁶⁵ This visual economy has already been noted in reviews advocating the use of scores as an aid to ‘anticipate and recall’ features of Beethoven’s music as though it were an atemporal object: its distribution in space on the page simulated a progression of time, alleviating the need to engage with the music as it unfolded in the present tense. The printed score and its convenient visual alignment of instrumental parts leads to a conception of a self-contained, discrete and abstract object that positions the creative role of the performer as one of reassembling an already-existing text. However, this air of finitude and perfection belies the contingencies and forward-looking nature of Beethoven’s compositional activity that makes it much more akin to performance than the ‘Work Concept’ and idealist, formalist aesthetics might allow. Indeed, Marston makes a compelling case for the study of Beethoven’s sketches: ‘their most radical effect yet may be to undermine that sense of permanence, of immutability of the text, that is taken as the necessary condition of the very possibility of interpretation.’⁶⁶

This is where emerging ideologies about music as autonomous formal structures and myths about Beethoven the deaf compositional genius fighting against the material world begin to intertwine. The Romantic conception of compositional genius conceived of an inspired individual capturing on paper the ideas that appeared to them in a frenzy of inspiration. Ingold has historicised this stance as a pervasively Western phenomenon, which he describes as the ‘heroic’ model of creativity: ‘the idea of production as the active imposition of ideal form upon formless matter.’⁶⁷ Linking it back to Aristotle’s notion of ‘hylomorphism’ – the creation of a ‘thing’ by bringing together form (*morphe*) and matter (*hyle*) – Ingold argues that ‘form came to be seen as imposed by an agent with a particular

⁶⁴ Walter Ong, *Orality and Literacy* (New York, 1982).

⁶⁵ Ong, *Orality and Literacy*, p. 97.

⁶⁶ Marston, ‘Beethoven’s Sketches and the Interpretative Process’, p. 242.

⁶⁷ Tim Ingold, ‘The Textility of Making’, *Cambridge Journal of Economics*, 34 (2010), p. 97.

design in mind, while matter, thus rendered passive and inert, became that which was imposed upon.'⁶⁸ Ingold highlights the Western tendency to view created objects retrospectively from an ontological position that conceives of them as already-finished products; the result of an imposition of creative form upon shapeless matter by a 'heroic' agent – like Beethoven. In turn this leads to a critical emphasis that follows a chain of causation back to the original intentions of the author lying behind the created object.⁶⁹ Is it any surprise that the authorial intentions of Beethoven, the quintessential 'hero' of Western Art Music – and whose so-called 'heroic style' has come to represent the very values of music – should hold such weight?⁷⁰

In contrast, Ingold argues that 'the role of the artist – as that of any skilled practitioner – is not to give effect to a preconceived idea, novel or not, but to join with and follow the forces and flows or material that bring the form of the work into being.'⁷¹ Wallace has already proposed that in response to his deafness Beethoven indeed sought to employ the 'materials of his craft' in unique and novel ways to bring his compositions into being. In this way, Beethoven's process of sketching and notating, his use of pen and paper, can be seen in a more improvisatory light as a way of responding to and working with the unique qualities of his own lived experience rather than as a 'heroic' act of creativity. This forward-looking improvisatory quality can be seen from Beethoven's own handwritten parts for Op. 135. Liberated from the vertical alignment of the score, the writing out of individual instrumental parts enabled him to follow different paths opened up by the experience of writing. For example, in the third movement the arrival of the 'più lento' section in bar 23 is notated differently in all four parts. In the first violin part, the arrival of the new section is signalled by the re-notation of the 6/8 metre (see Figure 1-7):

⁶⁸ Ingold, 'The Textility of Making', p. 92.

⁶⁹ Ingold argues against the notion of an 'object' as part of the reductive logic of hylomorphism, instead arguing for a conception of objects as 'things'. See Chapter 4.

⁷⁰ See Scott Burnham, *Beethoven Hero* (Princeton, 1995).

⁷¹ Ingold, 'The Textility of Making', p. 97.

*Figure 1-7: Autograph first violin part of the third movement of Op. 135, p. 13, bb. 19–30.
(Bonn, Beethoven-Haus, HCB BMh 6/46)*

In the second violin part, the metre is not reiterated; instead, Beethoven notates a double bar line and leaves a whole staff blank before preceding with the *più lento* on the next line (see Figure 1-8):

*Figure 1-8: Autograph second violin part of the third movement of Op. 135, p. 11, bb. 21–26.
(Bonn, Beethoven-Haus, HCB BMh 6/46)*

In the viola part, Beethoven signals a covert sense of a new beginning by notating a fresh alto clef at the beginning of the staff, the seventh staff on the page (Figure 1-9):

*Figure 1-9: Autograph second violin part of the third movement of Op. 135, p. 10, bb. 16–25.
(Bonn, Beethoven-Haus, HCB BMh 6/46)*

In the cello part there are no extra notational cues. These discrepancies suggest that, like any musician, Beethoven did not experience his music the same way twice. When he was still active as a pianist, Beethoven's own performances embodied this ethos: he often performed from his own unfinished sketches, improvising and filling-in gaps left by the ink that was still wet on the page. Ingold argues that 'It is in this very forward movement that the creativity of the work is to be found. To read creativity 'forwards' entails a focus not on abduction, but on *improvisation*.'⁷² For Ingold, the world should be viewed in terms of a constant process of becoming, and in this way he draws no distinction between composition and improvisation; the difference between the two is matter of degree rather than kind. Furthermore, improvisation should be viewed as pervading all areas of human existence. While Beethoven's own lived experience was heroic in its own way, to emphasise the material influences and strategies he developed to adapt to his deafness, including the contingencies and discrepancies of his working process demonstrated in the case of the parts Op. 135, is not to reduce the artistic value of his compositions; it is to move away from the superhuman idea of 'Beethoven Hero' towards a view of the composer as simply human.

Mapping the Space of the Performer

To understand Beethoven's use of notation in the compositional process not as the imposition of form from a pre-conceived design, but as an emergent, quasi-improvisational activity that was inspired by and reciprocally influenced by the resources and relations available to him as he lived in 1820s Vienna, enables the re-introduction of performers into the critical space that the blank face of the score seemed to erase. Indeed, in making complex structures more legible, such scores obscured the radically new ways of thinking, reading and engaging as a quartet that Beethoven's new type of part writing inspired. To explore the fundamentally temporal, forward-looking ways in which performers engage with musical notation, this chapter now shifts the perspective from an understanding of a discrete art object in the form of a score – with all its appeal of stability and legibility – towards an understanding of the late quartets as 'distributed objects' between the four separate parts of individual players. From this vantage point, the notation becomes a participant in the bringing into being of musical form, rather than a replication of that form as it exists as a pre-formed entity. In the words of Ingold, 'the work invites

⁷² Ingold, 'The Textility of Making', p. 97.

the viewer to join the artist as a fellow traveller, to look *with* it as it unfolds in the world, rather than behind it to an originating intention of which it is the final product.⁷³

Ingold’s topological analogy is illustrative of this shift in perspective from scores to parts, from a ‘top-down’ position of an ontological horizon already reached, to a generative process of unfolding. Through an analogy with maps and scores – in which the critical anxiety about the ‘reifying’ tendency of the score and notation in Musicology is linked to the ‘cartographic’ anxiety associated with the discipline of Geography, experienced in the face of the seemingly ‘mythical and seductive’ qualities of maps – this chapter proposes that a view from the parts opens up a new space within which to comprehend the unique difficulties of the late quartets, beyond Beethoven’s isolated and anti-social ‘intentions’. In this light the score does not act as a disciplining object to which the performers are held accountable, but that which enables repeated social encounters, and connects current readers to past performances. Such notation becomes a trace of past social and musical interactions and events as well as a projection of both future and virtual relations.

Musical scores are often likened to ‘maps’ of the work. However, the relationship between scores and maps can extend further. As Paul Théberge highlights, ‘most of us rely more heavily on our eyes than our ears for navigation and for charting spatial relationships . . . we do not tend to associate maps with sound at all. Maps are visual representations *par excellence*: they epitomize principles of formal abstraction and processes of visualization and graphic rendering...their spatial logic has remained essentially silent in character.’⁷⁴ Like scores, maps present legible outlines as objective, abstract, disembodied and socially neutral. However, just like scores of Beethoven’s music, despite this inert quality, maps also exert a strangely magical, almost mythical quality that fascinates and intrigues its spectators. John Pickles describes how ‘we take pleasure in such maps, [. . .] they seduce us and [. . .] in being so seduced we all too often lose sight of the complex matrix of institutions, practices and discourses on which they depend.’⁷⁵ Like a map, the score, in presenting itself as a silent musical space to be surveyed, a series of structures to navigate, obscures its own historical and social origins.

⁷³ Ingold, ‘The Textility of Making’, p. 97.

⁷⁴ Paul Théberge, ‘Sound Maps: Music and Sound in Cybercartography’, in D. R. Fraser Taylor (ed.), *Cybercartography: Theory and Practice*, (London, 2005), p. 390.

⁷⁵ John Pickles, ‘On the Social Lives of Maps and the Politics of Diagrams: a Story of Power, Seduction and Disappearance’ *Area*, 38 (2006), p. 348.

As Pickles asserts, 'the power and resistance of maps resides in their capacity to seduce rather than to produce; to lead astray rather than to render visible; to disappear rather than to make appear.'⁷⁶

The relationship between printed maps and scores was significantly intertwined in Beethoven's Vienna. Music publishers, such as Artaria, often specialised in selling, importing and dealing in cartography and the engraving of maps and pictures as well as musical editions: they dealt in technologies of representation. In early dictionaries and encyclopedias, images of the tools used for both geographic and music engraving often appeared side-by-side (see Figure 1-10). To cite Henri Lefebvre's foundational account of the social production of space, maps and scores are both ideological documents in that they produce and maintain different sorts of power relations.⁷⁷ They thus also map psychological and cultural space, both graphically and literally. For example, it is no coincidence that Beethoven's quartets were published in score format at precisely the time that ideas about the authoritative composer were in ascendance, and that notions of the musical 'work' arose precisely when they could be embodied in material form.⁷⁸ The political climate following the Napoleonic Wars allowed the score to enact an idealised sort of democratic unity between the quartet in the imaginations of critics, whereby each member could sacrifice their individuality to the good of the whole. Roger Parker has proposed a more sinister mapping of social space. He has likened the increasing presence of musical scores in concert halls in Victorian London to a call to urban and social order in a city that was becoming increasingly systematised and mechanised through 'top down' city planning, including the rise of organised sewage works and systematised street lighting. In this context, the authoritative score, a map of the work, like the map of a city, 'could prevent you from being distracted by performers and their all-too-human gestures.'⁷⁹

⁷⁶ Pickles, 'On the Social Lives of Maps', p. 348.

⁷⁷ Henri Lefebvre, *The Production of Space*, trans. Donald Nicholas-Smith (Oxford, 1991).

⁷⁸ Butt is influenced by Latour's notion of a 'constant circulation between the human and the non-human, 'What is a 'musical work'? Reflections on the origins of the 'work concept' in western art music', in Andreas Rahmatian (ed.), *Concepts of Music and Copyright* (Cheltenham, 2015), pp. 1–22.

⁷⁹ Roger Parker, 'Two styles in 1830s London: "The form and order of a perspicuous unity"' in Nicholas Mathew and Benjamin Walton (eds.), *The Invention of Beethoven and Rossini: Historiography, Analysis, Criticism* (Cambridge, 2013), p. 134.

Figure 1-10: Topographic, Geographic and Music Engraving from Encyclopédie by A. J. Defehrt, France, 1762–77 (Chicago, The Art Institute of Chicago, 1941.133.25)

This metaphorical distinction, between a top-down analysis of a silent score, versus the temporal, horizontal experience of music in performance, has likewise been appropriated by urban planners. Dean Rown has likened the (out-dated) rational, uniform approach to the planning of urban spaces to 'a classical score from which the individual cities once played', with 'musical analogs in strict allegiance to the composer's score and obeisance to the hierarchical command of the conductor.'⁸⁰ Michel de Certeau famously distinguished between the fundamental position of power that arises when viewing cities as a whole from a birds' eye perspective (like a conductor might view a score), in contrast with the 'anarchic' perspective of the pedestrian who wanders the streets of the city, weaving different paths through the topography of the landscape, never treading the same path twice (like a string quartet performer playing from a part). For De Certeau, a map is an act of deconstruction and of forgetting of everyday, lived experience. As explained by Jeremy Crampton, 'When we map something, especially in the cool contours of the grid, we are destroying what is there, namely being in the world itself.' This leads to the paradoxical situation that both maps and scores seem to hold: they seem to 'desubjectify and totalize', while also 'memorialising and creating.'⁸¹

This distinction is captured in the difference between two visual images, each representing Beethoven's Vienna (see Figure 1-11 and Figure 1-12). The first is a silent, legible and orderly space that presents the city to be viewed and surveyed, a city enclosed and framed by fortress walls. In contrast, the street-view of Vienna, including the publisher Artaria on the right, presents a very different picture: a snap-shot of a bustling, ever-changing landscape. The pedestrian's path might be influenced by the city's architectural infrastructure, but the journey is not prescribed or pre-determined, and is continually emerging as the pedestrian turns each corner. It might be likened more to a guided improvisation, as Ingold suggests, rather than a strictly-controlled, reproducible performance. Topological analogies offer a rich descriptive metaphor for moving away from the notion of a single 'ideal', supposedly reified by the score, to a more nuanced understanding of the multiple potential, and fundamentally relational, meanings of notation when viewed from the perspective of performers. Furthermore, musicians interact not with a singular score in their musical collaborations and rehearsals, but with

⁸⁰ As cited in Nicholas Cook, *Beyond the Score* (Oxford, 2013), p. 267.

⁸¹ Jeremy W. Crampton, *Mapping: A Critical Introduction to Cartography and GIS* (Oxford, 2010), p. 164.

a set of several objects. The supposedly singular ‘work’ is literally distributed between four separate parts rather than bounded in a single phenomenological entity.

Figure 1-11: Map of Vienna in 1827

(University of Chicago Library, Map Collection, G6494.V4 1796.G75)

Figure 1-12: An image of The Kohlmarkt in Vienna, ca. 1800; the publisher Artaria appears on the right.

(Vienna, Historisches Museum Der Stadt Wien)

A View from the Parts

Used as we are to our modernist perspective of global legibility, it is hard to imagine the experiences of those who struggled to come to terms with the music's new difficulties without the aid of a score. In 1828 Friedrich Rochlitz had to resort to spreading all four parts on the floor before him in order to study the intricacies of Op. 131. Referring to himself in the third person, Rochlitz recounts:

He had first received it engraved in parts . . . Not unaccustomed to occupying himself with music . . . in such pieces, he spread the parts out next to one another, certainly not hoping thereby to become exactly familiar with the work – to master it – but rather to instruct himself about its essence, its purpose, its construction and its manner, and therefore to enjoy an agreeable first course. He had expected something quite unusual, even strange, but what he found appeared so motley and irregular, at times so highly singular and arbitrary, that he often did not know what to make fit. The melodies – what could be discerned of them in such isolation – for the most part completely odd, but deeply gripping, even, perhaps, incisive . . . The modulations not infrequently pushed to the point of being bizarre, even grating. And so, in every aspect, including the outward arrangement (like an overly large fantasy, ever changing and transforming anew) the key (C-sharp minor predominantly, but in its course pretty much all keys in the chromatic scale more or less touched upon) and the time signatures (the most singular succession, always interrupting one another, from the simplest to the most artificial, for example, nine-four meter), almost everything . . . appeared to him motley and irregular, much most singular, much entirely arbitrary.⁸²

⁸² 'Er hatte dasselbe erst, wie es oben unter No. 1 angezeigt worden, in Stimmen gestochen erhalten. Nicht ungewohnt, sich mit Musik dieser Gattung, allenfalls auch und vorläufig so in Stücken, zu beschäftigen, breitete er die Stimmen neben einander aus, verhoffend, so zwar nicht das Werk eigentlich kennen zu lernen – es zu durchdringen – aber doch über sein Wesen, seinen Zweck, seine Construction und seine Art sich zu unterrichten und daraus eine angenehme Vorkost zu geniessen. Ungewöhnliches, wohl auch Sonderbares, hatte er erwartet: aber was er nun fand, sah so bunt und kraus, zum Theil so höchst wunderlich und willkürlich aus, dass er oft gar nicht wusste, wohin damit. Die Melodien – was sich als solche, so vereinzelt, kund gab – meist ganz befremdlich, aber tief eingreifend, auch wohl einschneidend; eine Fortführung, Ausarbeitung derselben grossentheils nicht zu erkennen, viel weniger zu verfolgen, und doch schien sie überall dunkel vorhanden, brach auch zuweilen bewundernswürdig hervor; die Modulationen nicht selten geschärft bis zum Bizarren, ja Kreischenden: und so durch alle von allen Momente hindurch, bis auf äussern Zuschnitt (wie eine übergrosse, immer wechselnde und von neuem sich umsetzende Phantasie) die Tonart (Cis moll, als herrschend: aber im Verlauf ziemlich alle Tonarten der gesammten

Rochlitz’s account offers a striking insight into how Beethoven’s new type of part writing may have appeared to the first performers. A perspective from the first page of the first violin part of Op. 131 alone reveals something of Rochlitz’s experience (see Figure 1-13):

*Figure 1-13: First Violin part of Schott’s first edition of Op. 131 (Paris, 1826), p. 1, bb. 1–121.
(Bonn, Beethoven-Haus, C 131 / 7)*

chromatischen Leiter mehr oder weniger berührend) und die Taktarten (im wunderlichsten, stets einander unterbrechenden Wechsel, von den einfachsten bis zu den künstlichsten, z. B. Neun - Viertel – Takt) fast Alles, wie gesagt, erachien ihm bunt und kraus, Vieles höchat wunderlich, Manches ganz willkürlich.’ See Friedrich Rochlitz, ‘Auf Veranlassung von: 1. Grand Quatuor – pour deux Violons, Alto et Violoncelle u. s. w. – und 2. Grand Quatuor – en partition u. s. w., comp. par Beethoven’, *Allgemeine musikalische Zeitung*, 30 (1828), p. 506. As translated in Wallace, *Hearing Beethoven*, p. 203.

Words employed by Rochlitz, such as 'motley', 'singular', 'irregular' and 'arbitrary' surely arise from the visual experience of a fragmented notational surface, replete with double barlines, rests, short slurred groupings, sudden jumps in register, and no clear melodic 'theme'. Whereas many of the contrapuntal connections between these fragments and other voices of the quartet are clear from the visual alignment of the score, from this perspective Rochlitz 'did not know what to make fit'; the melodies – 'what could be discerned of them in isolation' – were mostly 'completely odd.' Even the overall structure of the movement, 'the outward arrangement', was hardly discernible. From the perspective of the printed parts alone the ideas seem less 'wonderful' on paper, and certainly not 'pleasing to the eye'. Certain notational complexities are also amplified in published form, with printing convention demanding the inclusion of notation that Beethoven did not use in his autograph scores, such the use of double barlines at changes of key or metre (see Chapter 3). Thus, whereas the frequent modulations might be logical from the perspective of the score, the abundance of graphic symbols indicating rapid key changes to remote keys involving multiple sharps and flats surely seemed surprising and daunting – even, as Rochlitz puts it, 'bizarre', seeming to go through 'pretty much all keys in the chromatic scale.' That Beethoven himself was aware of the difficulties of complex-looking key signatures is illustrated by his remark to the publisher Schott regarding the publication Op. 131: 'do not be afraid of the four sharps!'⁸³

Rochlitz also highlights another eccentric property of the notation in Beethoven's late string quartets, namely his use of time signatures. Although isolated changes of time signature were not uncommon within movements, the frequency and nature of Beethoven's metrical shifts were unprecedented (see Chapter 2). To employ Rochlitz's vocabulary, the frequent changes of metre – ranging from 'the simplest to the most artificial' in 'the most singular successions', and 'always interrupting one another' – are also a source of visual and performative difficulty to the performer. This is particularly the case when the metrical relationship at the level of the beat is seemingly 'arbitrary', such as in the fourth movement of Op. 131, with, as Rochlitz notes, the appearance of

⁸³ 'erschrecken Sie nicht über die 4 Kreuze.' See Brandenburg, *Briefe* 6, p. 294; Anderson, *Letters of Beethoven* 3, p. 1312. In his seminal 'Beethoven et Ses Trois Styles' of 1852, Wilhelm Von Lenz explicitly referred to the key signature of Op. 131 as an example of Beethoven's exploration of 'little-used tonalities' ['des tonalités moins usités'] in his late style. See W. de Lenz, *Beethoven et ses Trois Styles* (St Petersburg, 1852), p. 74.

time signatures such as 9/4 seeming utterly out of place. Similar successions of metres occur elsewhere in the late quartets: for example, the shifts between compound and duple time signatures in the second movement of Op. 127 even occur in the middle of bars (such as bars 38 and 76), thereby disrupting the use of the barline as a visual indicator about inflections of the beat and bar hierarchy.

It seems that the need for scores in the face of Beethoven’s new type of part writing also came from the players themselves. In the parts that members of the Schuppanzigh Quartet copied out for themselves for the first performance of Op. 132, a short score is notated in all of the inner parts for the recitative-like section, detailing what the first violinist is playing (see Figure 1-14).

Figure 1-14: Second violin part of Karl Holz and Joseph Linke’s handcopied parts for Op. 132, p. 15, bb. 77–88.

(Bonn, Beethoven-Haus, NE275)

This short-score is first-hand material evidence of the difficulties that the players had with Beethoven’s subversion of metre and genre. It might even suggest that the first violinist, recognising the operatic style, might have played with considerable freedom and rhythmic flexibility, hence the need to inner parts to know on which notes to change the harmony of tremolo chords. Given that these notational devices reveal important information about

the expectations of a violinist in Beethoven's Vienna, it is extraordinary that such parts have been overlooked. Morabito has recently uncovered a fascinating set of sources that also reveal information about how early performers in Paris dealt with Beethoven's new type of part writing.⁸⁴ The annotations in the Baillot Quartets' first edition parts are full of markings that indicate to the inner voices when they should come to the fore in the texture. As these early performing parts show, the late quartets did not just play a role in establishing a culture of silent listening: they reformed the ways in which a string quartet rehearsed and listened to each other in performance.

Conclusion

It is scarcely an exaggeration to say that Beethoven's new type of part writing was to change the course of music history. On the one hand, it ultimately precipitated a shift towards a text-based culture of music appreciation in which the means of consuming Beethoven's music mirrored the composer's own physical condition of deafness. Silent contemplation and analytical observation became the new models of musical engagement; listeners were expected to *work* to understand the complexities of Beethoven's latest style. As the very first string quartets to be published simultaneously in part and score form, Beethoven's new type of part writing was literally immortalised as writing. Yet, this writing for instrumental parts primarily concerned issues of performance and sociable engagement. The complexity of texture for the whole ensemble necessitated a shift in approaches to rehearsal and performance. The stakes of *reading* music were therefore fundamentally altered. A culture of sight-reading was supplanted by the need for focused ensemble rehearsal. The tightly-wrought reciprocity of the new type of part writing demanded a new model of sociable engagement for the string quartet – and ultimately a new kind of musical consciousness.

How far Beethoven himself was conscious of these social repercussions is difficult to judge. As Chapter 3 will demonstrate, his interactions with the Schuppanzigh Quartet (and Holz in particular) undoubtedly alerted him to the ways in which the notation in the late quartets was likely to be received and experienced by the first performers. However, in order to assess Beethoven's relationship with the novelty of his new type of part writing – to consider whether or not he was cultivating a deliberate shift in practice or simply

⁸⁴ See Morabito, 'Rehearsing the Social.'

amplifying tendencies that were already latent in his earlier works – it is first necessary to establish a broader picture of the evolution of his notational practices throughout his compositional career. Once again, Gell’s theory of art and agency offers a useful framework within which to situate this investigation. Just as players’ individual parts might be considered as forming part of a ‘distributed object’, Gell also makes the case that an artist’s entire output should be viewed in similar terms of interrelatedness. As Gell puts it ‘art works are never just singular entities . . . their significance is crucially affected by the relations which exist between them.’⁸⁵ In order to situate the novelties of the late quartets in practice in Chapter 3, the next chapter first adopts an approach that conceives of Beethoven’s notation in all of his quartets as a large distributed object, connected by threads – rhizomes – that map connections across time and space. To do this, it turns to methods derived from the burgeoning field of Digital Musicology, and conceptualises Beethoven’s notation as a form of data.

⁸⁵ Gell, *Art and Agency*, p. 153.

2. Beethoven's Late String Quartets in Context

Introduction

This chapter outlines a method for collecting and analysing notational information from all of Beethoven's quartets, conceived as a single, spatio-temporally-distributed object. Just as technologies of print enabled published scores to offer a new top-down perspective on musical 'works', the expanded methodologies and technologies for musicology in a digital age offer new ways of visualising and conceptualising Beethoven's notation. Beginning with Nottebohm's pioneering work in the second half of the nineteenth century, explorations of Beethoven's notation have historically been dedicated towards compiling, locating, and transcribing autograph and sketch sources. However, visual (and geographic) access to Beethoven's handwriting is now no longer the rarefied, exclusive purview of a small circle of scholars: images of autograph sources, sketches and first editions are now widely available via open-access digital archives. The digital archives of the Beethoven-Haus in Bonn comprise an invaluable collection of online images and texts, and the Biblioteka Jagiellońska in Kraków has recently made autograph scores for Op. 131, 130 and 133 – sources that were shrouded in some mystery after their removal from Berlin during WWII – publicly available for the first time. Such digital resources have greatly expanded the scope and capacity of the sorts of research that previously had to be undertaken by hand. This shift in the quantity and accessibility of information inevitably raises new questions and possibilities for these sources.

In this way, the methodology of the current chapter provides a particularly clear example of the changing role of texts within disciplinary understanding. As one group of researchers have pointed out, 'the emergence of digital technologies coincided with the experience of a 'cultural turn' – a broadening of disciplinary focus from the age-old preoccupation with producers of musical works (composers) to include the role of performers and musical consumers (audiences, critics, institutions, taste-makers) in the

shaping of musical culture’.¹ The access to multiple sources and variant textual readings and editions de-centers the primary status of the singular musical work, and highlights music’s existence in a state of flux in relation to multiple media. The turn to the digital has seen the evolution of meta-editions, such as the ‘Beethovens Werkstatt’ project,² which ‘probes an edition concept that destabilizes the very notion of a (perfected) work.’³ As Marston notes, the continuity between Beethoven’s autograph scores and sketches, first noted by Lockwood in 1970, ‘is increasingly observable *in situ*’ with this sort of digital access.⁴ Nonetheless, these resources still hinge primarily upon images, meaning that ‘the study of the rich troves of musical data in scores, sketches . . . and other symbolic music data is still done almost exclusively by hand.’⁵ Thus, beyond the generation of digital archives of musical images and scores, the ability to sort through vast quantities of musical information and organise it quickly and accurately in numerous combinations is precisely the sort of exciting possibility afforded by computer-aided research.

Methodology

Aims and Objectives

This project aimed to use new techniques derived from the burgeoning field of digital musicology to:

- collate and transform the notation from all of Beethoven’s quartet output into a format that can be readily searched, and from which information can be extracted using computational methods;

¹ Alan Dix, Rachel Cowgill, Christina Bashford, Simon McVeigh and Rupert Ridgewell, ‘Authority and Judgement in the Digital Archive’, in *Proceedings of the 1st International Workshop on Digital Libraries for Musicology* (New York, 2014), p. 1.

² <http://www.beethovens-werkstatt.de> (accessed 27/09/2019).

³ Kristina Muxfeldt, ‘Digital and Multimedia Scholarship’, in *Journal of the American Musicological Society*, 69 (2016), p. 855.

⁴ Nicholas Marston, ‘Haptic Beethoven’, *Music and Letters*, 98 (2017), p. 649.

⁵ Michael Scott Cuthbert and Christopher Ariza, ‘music21: A Toolkit for Computer-aided musicology and Symbolic Music Data’ in J. Stephn Downie and Remco C. Veltkamp (eds.), *11th International Society for Music Information Retrieval Conference* (Utrecht, 2010), p. 637.

- statistically analyse the results of these searches and collections of data in order to build up a reliable picture of Beethoven's notational use throughout his career and to more accurately pinpoint significant moments of change or innovation that can be connected to historical circumstances;
- use this evidence to test anecdotal observations concerning his use of notation, including the idea that the notation late quartets reached a zenith of complexity in Beethoven's output.

To my knowledge, a quantitative study of this sort has never been undertaken, and its results (and resultant methodology) will offer potentially new and unexpected avenues of enquiry for Beethoven scholars.

Source Material

A source for all of the quartets was found via 'Project Gutenberg', which offers a 'free online resource of open access eBooks'.⁶ While locating a single source that contained all of the string quartets aimed for consistency, it should be noted that the string quartet files uploaded to the Gutenberg Project are edited by a variety of individuals for different purposes. As Laurent Pugin has outlined, one significant challenge that remains to be overcome in Digital Musicology concerns the quality of the digital musical sources available. OMR technology (optical musical recognition) is not yet able to recognise and extract handwritten data from digital images,⁷ meaning that the music itself has to be put into a digital format. In open-access resources such as Project Gutenberg, these sources are often of varying quality, having been created by a range of individuals from professional typesetters to amateurs. As Pugin laments 'accessing high quality datasets remains a serious hurdle [in computer-based musicology] . . . is it not frustrating to know that the large majority of editions published over the last decade were prepared using digital tools, but that eventually only paper or PDF versions will survive?'⁸

This was a challenge in the present study: the sources employed had each been typeset differently, and with varying degrees of precision. However, although far from ideal,

⁶ <http://www.gutenberg.org/ebooks/author/75> (accessed 06/01/18).

⁷ <https://www.frontiersin.org/articles/10.3389/fdigh.2015.00004/full> (accessed 30/04/19).

⁸ <https://www.frontiersin.org/articles/10.3389/fdigh.2015.00004/full> (accessed 30/04/19).

logistical and practical limitations, and the explorative nature of the methodology, offset this immediate limitation. In the case of Beethoven’s string quartets, the Henle Verlag Urtext editions are the most up-to-date and reliable sources, yet commercial interests will undoubtedly prevent these from being released into the public domain in the immediate future. The Gutenberg scores were checked manually in comparison with the Henle scores, and were considered sufficiently accurate for the purposes of the present study. The results were checked by a two-stage verification process. Firstly, a sample of the results produced by the programme were checked by hand in the relevant sources to ensure that it was functioning correctly. Secondly, a sample of results were also checked in comparison with the Henle scores. Overall, it was found that there was a close enough correlation to draw statistically significant conclusions. Limitations in editorial accuracy, such as imprecision in the placement of dynamics, did not impact the quantitative approach of the method. If further work were pursued in this area, it would evidently be preferable to obtain digital sources that had all been edited by the same person, or according to a certain house style. In a qualitative study of notation, such variability would have been prohibitive. However, relinquishing this close-reading approach in favour of a research method concerned with collating and analysing a large body of data in quantitative terms offered exciting new opportunities.

Using music21

Once the aims of this project were established and the sources located, an appropriate resource for the analysis was identified. Although the tools for this sort of study are still not yet readily available, ‘music21’,⁹ an ‘object-orientated toolkit for analysing, searching and transforming music in symbolic (score-based) forms’ was chosen as a software package that offered the necessary resources to collate and analyse notational information. Originally developed at MIT as a collaboration between students and academics to support the analytical requirements of a music class (auspiciously named 21M), ‘[music21] aims to provide powerful software tools integrated with sophisticated musical knowledge to both musicians with little programming experience (especially musicologists) and to programmers with only modest music theory skills’.¹⁰ A significant advantage of music21 is that it contains its own inbuilt corpus of musical scores, although

⁹ <http://web.mit.edu/music21/doc/about/what.html> (accessed 06/01/18).

¹⁰ Cuthbert and Ariza, ‘music21: a Toolkit for Computer-Aided Musicology’, p. 637.

unfortunately for the purposes of the present study it only contained a handful of Beethoven's quartets. Responding to Cook's call to programmers for a 'modular approach using an unlimited number of individual software tools',¹¹ music21 is written in Python and comprises an object-orientated approach to musical representation and visualisation. This framework makes music21 very flexible to use; different objects come with inbuilt attributes and sub-attributes (for example, a 'note' object has a frequency sub-attribute), whereas the modular organisation enables data to be inputted and easily manipulated. A clear and user-friendly tutorial introduces this infrastructure, and as such it is relatively straightforward to use music21 to search through scores (which exist as 'streams') and retrieve information.

To give an example of its capabilities, with just a few lines of simple code music21 can very quickly and easily produce a pitch 'histogram' of all of the different notes in Beethoven's Op.133 (see Figure 2-1).

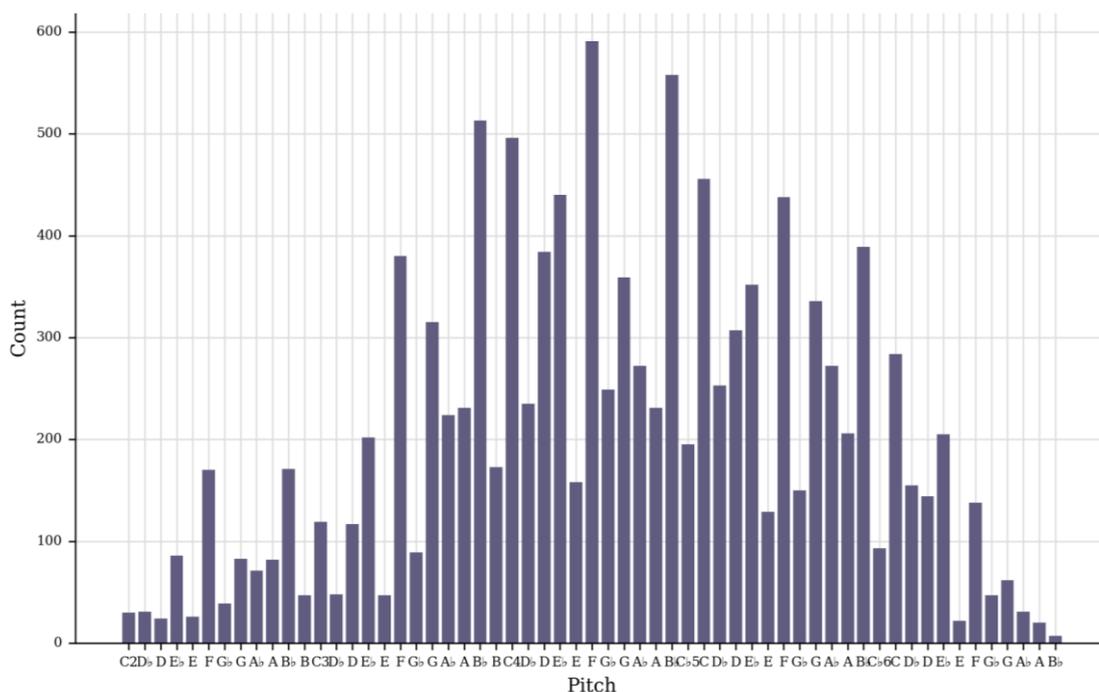


Figure 2-1: Histogram showing the frequency of pitches per 100 notes in Beethoven's Op. 133

¹¹ Nicholas Cook, 'Computational and Comparative Musicology', in Eric Clarke and Nicholas Cook (eds.), *Empirical Musicology: Aims, Methods, Prospects* (Oxford, 2004), p. 113.

The results extracted are also easily manipulated and can be plotted in a variety of ways against other variables. For example, music21 could be used to search through the second violin part to find bars in which all consecutive notes comprise a dominant seventh chord, or even analyse the harmony in every bar. Although the results cannot necessarily say anything particularly meaningful about the music they represent in isolation, they do offer a means of comparison between different pieces and repertoires. As Cook comments ‘the value of objective representations of music, in short, lies principally in the possibility of comparing [these representations] and identifying significant features, and of using computational techniques to carry them out quickly and accurately.’¹² The present study primarily used music21 as a piece of counting software to search through the scores of all of Beethoven’s quartets and extract data about the volume and density of different notational parameters such as changes in time signature or the number of articulation markings. As Cook suggests, presenting this information graphically enabled comparisons to be made between the quartets quickly and easily.

Score Preparation

The quartets were downloaded or exported into an XML3 format and imported into a new folder in the music21 library. As some quartets were only available as complete scores, some only in parts, and others as individual movements, the quartets had to be consolidated into the same format. Using ‘Finale’, the XML files were split to create one file per movement.¹³ Op. 127 was only available in part form, and so it was necessary to create a full score for each movement: this was done using the ‘append’ function in music21. The complexity of the late quartets proved to be problematic even at the score preparation stage. Some difficulty was encountered splitting the quartets into separate movements. For example, the seven-movement infrastructure of Op. 131 meant that the two measures at the end and beginning of a movement that should proceed *attacca* (such as the final bar of the first movement and the first bar of the second) were often counted by the programme as comprising a single bar. Decisions also had to be made as to what constitutes a ‘movement’. Problematic passages included ‘La Malinconia’ in Op. 18 No. 6, and the *Alla Marcia/Più Allegro* section in Op. 132. Although Beethoven himself considered the quartet to have six movements, the open-access source categorized only

¹² Cook and Clarke, *Empirical Musicology*, p. 110.

¹³ A complete list of the XML3 files for each individual movement can be found at <http://tiny.cc/1frldz>.

four. Furthermore, there were several bars missing (bars 194 – 241) from the version of Op. 132 that was available from Project Gutenberg. The missing bars were obtained through another source,¹⁴ which was downloaded and opened in 'MuseScore', saved as an uncompressed XML file, and then imported into 'Finale' in order to extract the bars.

Tests

All scripts and functions that were written in Python can be found in Appendix A.¹⁵ It was first necessary to establish a basic unit of measurement. The aim of the tests was to establish not only the ways in which Beethoven's notation evolved or changed throughout his quartets, but also the impact of these changes on performance. The volume and density of markings was therefore of primary interest. However, in purely quantitative terms this information is of limited use in isolation. For example, the number of notes or bars of composed material might have been affected by the different rhythmic values implied by different metres: for instance, it is likely that a movement in 12/8 would feature more notes per bar than a movement in 2/2. However, depending on the speed of the movement, there may be more bars of composed material in the 2/2 movement as in live performance a greater quantity of music could be played in a shorter space of time. Moreover, the counting functions run by the code could also only take into account written notation, and not the symbolic implications of, for example, repeat marks. The relative lengths of movements in terms of time (taken as an average from a number of recordings) was considered as a possible means of comparison to account for how fast performers may experience the volume of written material. However, as such measurements start to become a question of phenomenology, it was decided that it preferable to employ units of measurement inherent to the written notation itself, rather than the experience of it.

The first set of tests therefore aimed to establish the most basic parameters that were shared between all of Beethoven's quartets. These comprised the number of bars, notes and movements per quartet. The results of these counts were then used as proxies for the length and density of the music, providing metrics against which to measure other notational features. Results were standardised in order to achieve fair comparison between movements and quartets of differing lengths. For example, it was appropriate for

¹⁴ <https://github.com/DCMLab/ABC> (accessed 29/06/2018)

¹⁵ These scripts are also available alongside the XML3 files for each movement at <http://tiny.cc/1frldz>.

articulation markings to be counted and compared in terms of the number of articulation markings per note, whereas most other tests could be standardised per bar or movement. Otherwise, results might simply have been affected by the increased number of movements in the late quartets for example. Information about the volume of notes enabled results to be displayed as an average both per movement and per 100 bars.

The number of bars in each quartet and in each movement were first counted. A bar (or ‘measure’ in music21) is a standard object within the music21 infrastructure, and so this count was straightforward and easily verified manually against the scores. It was more complicated in the case of counting the number of notes, as this is not a count that can be undertaken reliably, and therefore verified, by hand. Furthermore, Beethoven often notated chords in his string quartets, and in music21 these are classified as ‘chord objects’ rather than ‘note objects’. It was therefore necessary to write a function that could account for the number of notes within chords. In music21 chords have a ‘.pitches’ property, and so it was possible to account for chords by counting the number of pitches in each chord and adding this number to the total note count.

The next set of functions were written to analyse Beethoven’s use of time and key signatures in his quartets. Firstly, a script was written to search through the quartets and produce a list of all of the different time signatures notated by Beethoven. The code was written as a loop in order to search through each quartet in turn, and so the time signatures are returned as a list according to their order of appearance from Op. 18 onwards. The code only searched through the first violin part as it was assumed that all parts would feature the same time signature changes. A second function was then written to count all of the instances of these time signatures per movement. It should be noted that music21 classifies Beethoven’s use of ‘C’ and ‘cut C’ as 4/4 and 2/2 respectively – both metres that he never notated himself. The key signature searches also function in the same way, although keys are listed according to the number of sharps and flats, with +1 etc. representing sharps, and -1 etc. representing flats.

Other notational features that were extracted and analysed using recursive counting functions included dynamics, articulation and what music21 defined as ‘text expression’ – a class that comprises every element of written text in the Gutenberg scores, from tempo indications such as Allegro, to expression markings like *smorzando*, to structural indications such as Da Capo. These scripts looped through all four instrumental parts of the quartets rather than just the first violin part as it could not be assumed that there was

correlation between all the parts. It was also necessary for an additional function to be written to ensure that some text expressions were not split over multiple lines due to the manner in which they were inserted into the score. For example, *smorzando* was often notated as *smor ---- zan ---- do* over more than one line in a part, in order to reflect Beethoven's handwritten notation. Lastly, manual checking of the list revealed that some text expressions, particularly movement headings, were considered a property of the whole score rather than the parts and so did not appear in the first count (which only searched through individual parts). A further function was thus written to extract these expressions from the score and add them to the 'textcount' list (see Appendix B).

Data Findings

After a list of all the different information was returned for each category, a print function was used to generate matrices indicating the number of appearances of each instance in each part in each quartet. This enabled the data to be copied and easily transferred to Microsoft Excel, which was used to perform simple statistical analyses. Additional work was needed to ensure the consistency and accuracy of the results of the dynamic and text expression counts before the information could be used. For example, there was inevitably some overlap between the two categories as there was editorial inconsistency in the parts as to whether a dynamic marking was notated as a 'text object' or a 'dynamic object' within music21 (for example, a *piano* or a *p*). It was therefore necessary to go through the list of unique text expressions produced by the count and to organise it into categories so that written dynamics could be added to the relevant list. Furthermore, the code considered text with only minor differences as different entries. This meant that every version of *crescendo*, from *Cresc* to *cresc.* and a range of other variations, were counted as different 'unique' entries. A further complication concerned what this study defines as 'compound' instructions: phrases combining tempo or expressive indications with modifiers, such as *Allegro ma non troppo*. The text list did not separate entire phrases into separate words, meaning that a marking such as *p dolce* was understood as a unique instance of text, even if the list already contained the two markings separately. To solve this issue of overlap, a number was assigned to each word or phrase within Microsoft Excel, and a function written to ensure that the data was categorised without double counting. The full list of unique text expressions can be seen in Appendix B.

Organization of data into style periods

The data were organised according to Beethoven’s three so-called ‘style periods’. With the triadic division of the composer’s output appearing as early as 1828, Wilhelm Von Lenz was the first to assert the familiar tripartition in which the quartets are traditionally grouped in his tome ‘Beethoven et ses Trois Styles’ of 1852.¹⁶ For Lenz, Beethoven’s first style comprises those works before Op. 59; the second style extends until Op. 95; and the third style comprises the last quartets (Op. 127, Op. 130, Op. 132, Op. 131, Op. 133 and Op. 135). Although there has been much debate about the boundaries of this neat categorisation, which problematically conflates issues of musical style, history and the narrativising impulse peculiar to the reception of Beethoven’s music,¹⁷ Kerman has observed wryly that the concept ‘refuses to die’, matching Douglas Johnson’s stark assertion that ‘it is too late to tamper with the three periods.’¹⁸ For the sake of ease, results have been split and colour-coded according to the familiar tripartite division: ‘early’, ‘middle’ and ‘late’. In the words of James Webster, ‘a periodisation is not so much true or false, as a *reading*, a way of making sense of complex data.’¹⁹ This division splits the

¹⁶ Lenz, *Beethoven et ses Trois Styles*, p. 66. Lenz explicitly acknowledges that ‘M. Fétis est le premier auteur qui ait établi trois classes de compositions de Beethoven’, but disagrees with him in several regards, including his grouping of Op. 95 as part of ‘la troisième manière.’ Lenz, *Beethoven et ses Trois Styles*, p. 77. Fétis was not the only nineteenth-century critic to group the quartets differently: in 1863 Adolph Berhanrd Marx placed Op. 74 as the first of the late quartets (Nicholas Marston, ‘“Haydn’s Geist aus Beethovens Handen”?: Fantasy and Farewell in the Quartet in E Flat, Op. 74’, in William Kinderman (ed.), *The String Quartets of Beethoven* (Chicago, 2006), p. 110). Kinderman has even proposed the notion of a fourth creative period. See William Kinderman, ‘Beethoven’s Last Quartets: Threshold to a Fourth Creative Period’, in Kinderman (ed.), *The String Quartets of Beethoven*, pp. 279–322.

¹⁷ See Kristen Knittel, ‘Imitation, Individuality, and Illness: Behind Beethoven’s ‘Three Styles’, *Beethoven Forum*, 4 (1995), pp. 17–36. The ways in which the ‘Beethoven myth’ has controlled the reception of the composer’s music has been deconstructed at length. See Nicholas Cook, ‘The Other Beethoven: Heroism, the Canon, and the Works of 1813–14’, *19th-Century Music*, 27 (2003), pp. 3–24, Nicholas Mathew, ‘History under Erasure: “Wellingtons Sieg”, the Congress of Vienna, and the Ruination of Beethoven’s Heroic Style’, *The Music Quarterly*, 89 (2006), pp. 17–61, Mathew and Walton, *The Invention of Beethoven and Rossini*, and Kristen Knittel, ‘“Late”, Last and Least’: On Being Beethoven’s Quartet in F major, op. 135’, *Music and Letters*, 87 (2006), pp. 16–51.

¹⁸ Douglas Johnson, ‘1794–1795: Decisive Years in Beethoven’s Early Development’ in Alan Tyson (ed.), *Beethoven Studies 3* (Cambridge, 1982), p. 1.

¹⁹ James Webster, ‘The Eighteenth Century as a Music-Historical Period?’, *Eighteenth-Century Music*, 1 (2004), p. 49.

quartets into three, roughly even groups of movements for the purposes of statistical comparison.

Limitations

Unfortunately, as noted above, the varying degrees of accuracy and limitations of the sources available inhibited the possibility of collecting certain data. For example, the notation of slurs, ties, beaming and grouping of notes, as well as the application of accidentals was very inconsistent between editions. Although a function was written to count the number of articulation markings, the results revealed that there were significant gaps, with the editions of Op. 18 Nos. 4–6 and Op. 74 not including any articulation markings at all.

Overall, the tests devised did not aim to be exhaustive. The huge body of raw data available could have been manipulated in any number of ways,²⁰ and so the primary focus was directed towards obtaining information about the density and spread of notational parameters most likely to influence performance. Although studies of this kind have tended to privilege the sorts of 'abstract' musical parameters favoured by analysts, for the purposes of this chapter these were of less interest than the elements that might affect the ways in which the notation is perceived in performance. Nonetheless, the difficulty that the counting functions had in accounting for these so-called 'secondary' parameters of Beethoven's notation, particularly in terms of dynamics, text and articulation, highlighted the editorial bias of the Gutenberg sources towards ensuring accuracy of 'text' in terms of pitch and rhythm, rather than of details of performance. The need for the development of 'OMR' technology, as suggested by Pugin, to account for the fundamental problems of translation arising from the transformation of a graphic medium into a digital format, was highlighted particularly clearly.

²⁰ For example, music21 would have provided an invaluable resource to the group of medical researchers who hand counted the number of pitches above a certain range in the middle-period quartets in order to test their hypothesis about the ways in which Beethoven's deafness influenced his writing. The YouTube film of this research is no longer available to view but is referred to (and refuted) in an article in the British Medical Journal. See <http://www.bmj.com/rapid-response/2012/01/28/re-beethoven%E2%80%99S-deafness-and-his-three-styles> (accessed 15/06/19).

Results

Bars, Notes and Movements

Figure 2-2 shows the number of movements in each of Beethoven’s quartets. The trend is a familiar one: all of his quartets until Op. 132 comprise four movements, and thereafter the late quartets vary in length ranging from one to seven movements. The exception is, of course, Op. 133, which was conceived as the final movement of Op. 130 but was published as a stand-alone *opus* in its own right comprising only a single ‘movement’. With its reversion back to a four-movement design, Op. 135 breaks the apparent trend towards formal expansion demonstrated by the previous quartets.

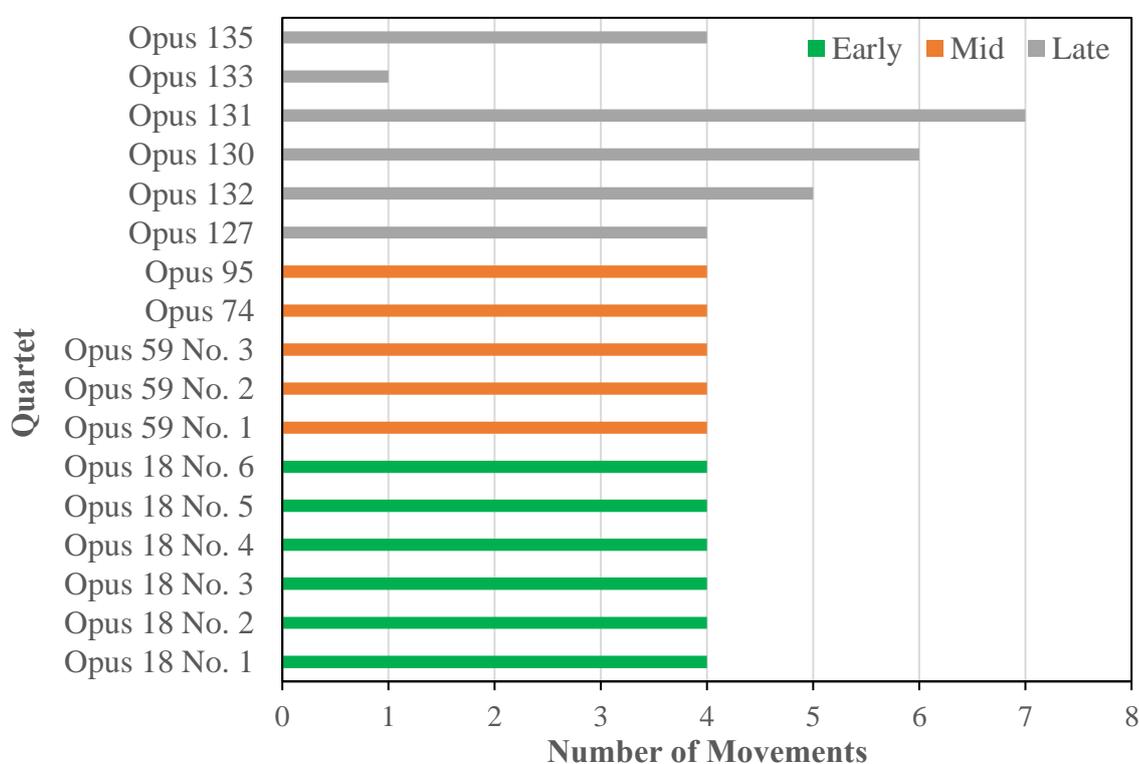


Figure 2-2: Number of movements per quartet, colour-coded by style period

Figure 2-3 shows the number of bars per movement in each of the quartets. As might be expected, the middle period and late quartets comprise a greater number of bars than the early quartets. However, the volume of movements does not necessarily equate to the relative proportion of bars. Most strikingly, Op. 133 – the monumental *Grosse Fuge* – supersedes the length of the entirety of Op. 18, No. 6, and comprises a similar number of bars to that contained in all four movements of Op. 135. However, although both Op. 130 and Op. 132 have a greater number of movements than Op. 127, the total number of bars between all three quartets is similar. With its seven-movement form, Op. 131 is a clear

outlier, whereas Op. 95, which is often noted for being Beethoven's most compact quartet, is the second smallest in terms of the number of bars.

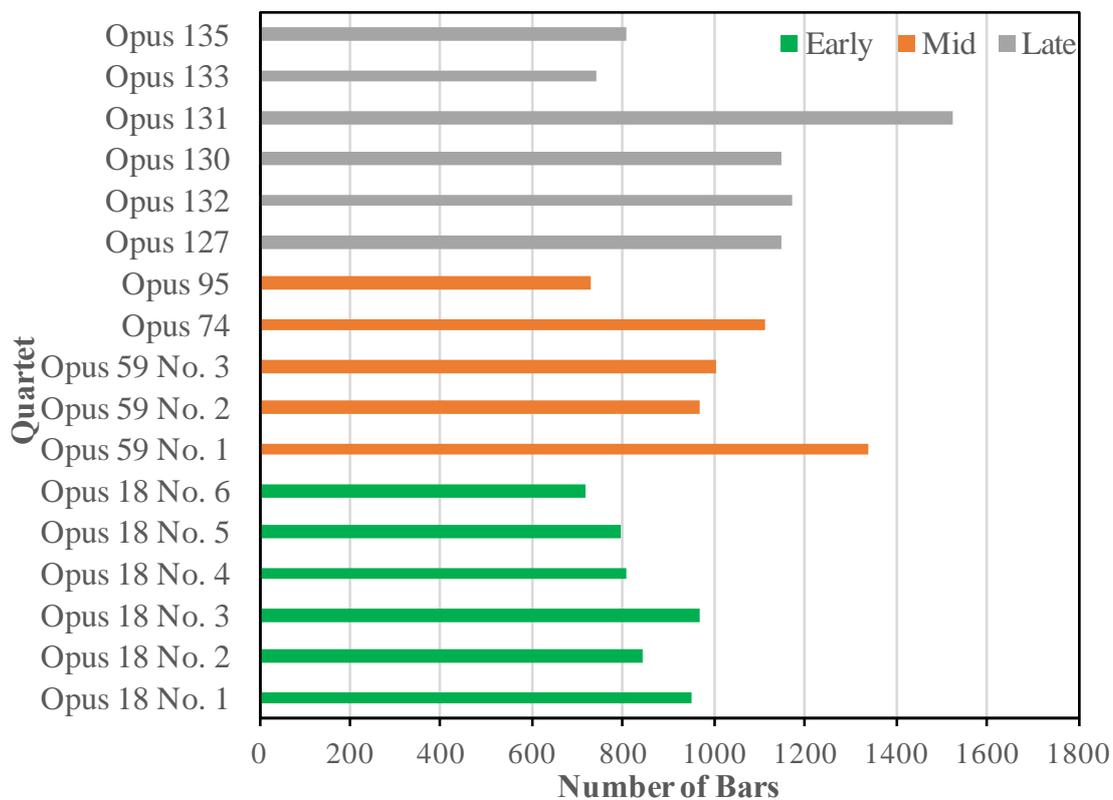


Figure 2-3: Number of bars per quartet, colour-coded by style period

It should be noted that the count only provides information about what is present in the score in quantitative terms, rather than what the notation entails in performance. For example, repeats were not accounted for in terms of the volume of bars. This leads to a slight bias in the results, as Beethoven was more likely to notate a 'Da Capo' rather than writing out the full structure again in his Minuet (or Scherzo) and Trio movements in Op. 18 than he was in later quartets. He notates a D.C. in all of the relevant Op. 18 movements, with the exception of Op. 18 No. 3 when the return of the first section is written out with registral variation (and the second repeat omitted). This is likely to account for the additional number of bars in Op. 18, No. 3, although the average number of bars missing in the total count due to D.C. markings is only 70, thereby preserving the same overall trend – although this distinction confirms Op. 95 as the 'smallest' of the quartets in terms of number of bars. Furthermore, both Op. 59, Nos. 2 and 3 feature a D.C. (albeit with a very directive set of instructions about the way the repeat should be taken in No. 2), and both still comprise a greater number of bars than most of Op. 18. Of the late quartets, Op. 132 and Op. 135 both also feature a D.C., whereas the Scherzo and Trio structure of Op.

127 is written out in full. Figure 2-3 is therefore best understood as the number of bars of *unique* material notated by Beethoven.

As such metrics do not account for the amount of material per bar, they still only provide a very rough impression of the length or density of each movement. A clearer picture of this data is given by Figure 2-4, which shows the total number of notes and chords per quartet, as well as the distribution of the notes per part in the quartet. It roughly follows the same trend as demonstrated in Figure 2-3, with the late quartets comprising in some instances nearly twice the number of notes of Op. 18. For example, three of the late quartets contain more than 2,000 notes, whereas half of the early quartets comprise around 1,000 notes. According to this count, Op. 131 is brought more within the same range as the first four of the late quartets.

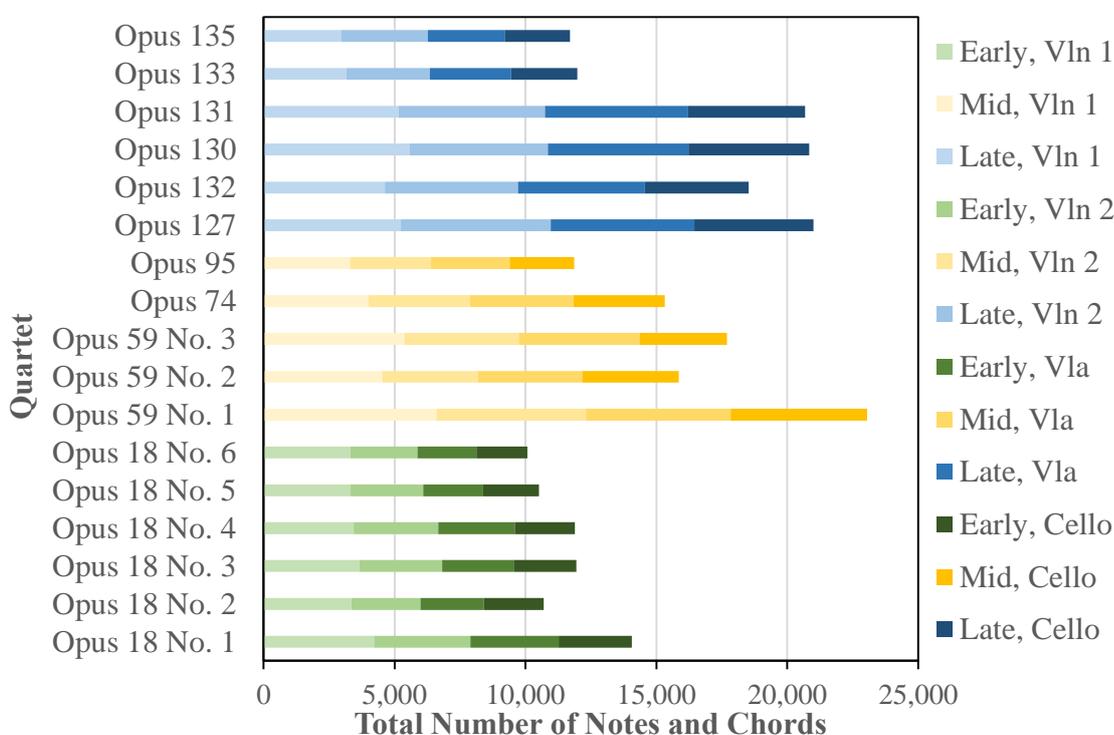


Figure 2-4: Total number of notes and chords per quartet, colour-coded by style period and part

So far, the late quartets have shown an increase in the volume of notes, bars and movements compared to the earlier quartets. However, Figure 2-5 tells a slightly different story. It breaks down the unit of measurement even further to display the number of notes and chords and their distribution between instrumental parts per bar. Although there still seems to be a slight trend towards a greater volume of notes per bar in the middle and late quartets, the difference in note density overall shows a much more even distribution.

According to this metric, and perhaps surprisingly, Op. 131 has the least number of notes per bar of all the late quartets.

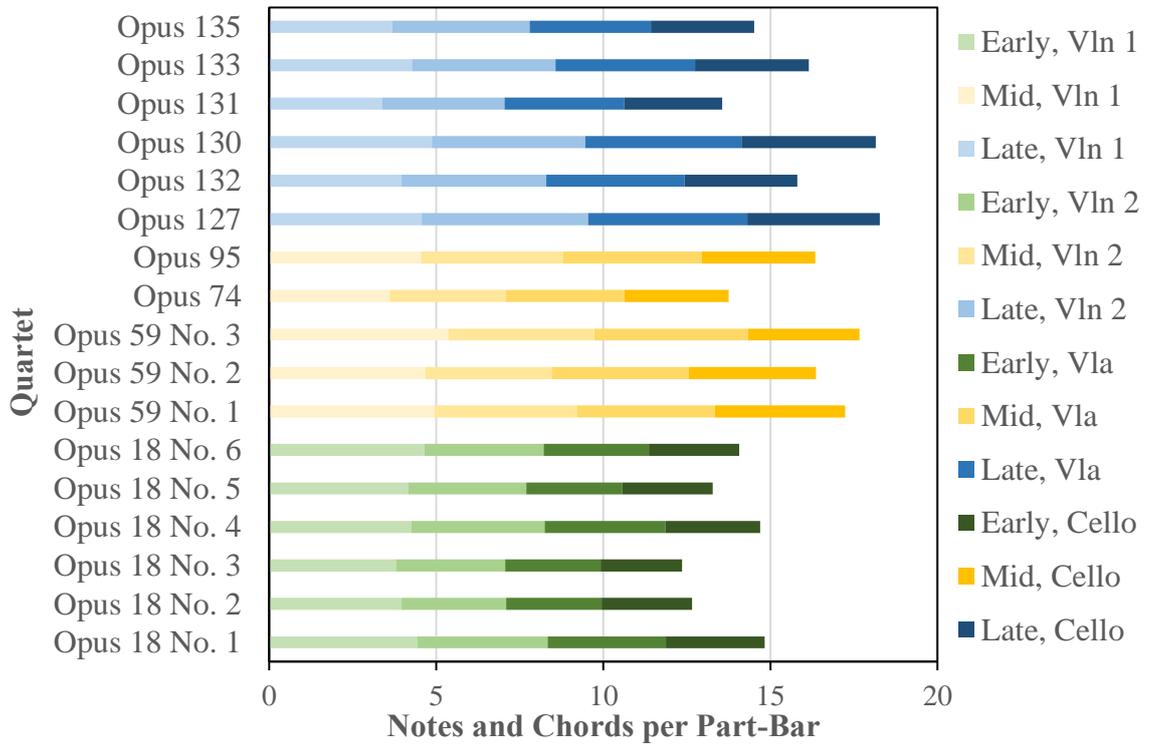


Figure 2-5: Number of notes and chords per bar and per quartet, colour-coded by style period and part

Figure 2-6 shows the difference in the number of notes and chords of the lower parts as compared to violin in the quartets. A striking pattern emerges, showing that while in the early quartets the first violinist always had the greatest volume of notes and the cellist the least, by the late quartets there is a much more even distribution of notes between all parts. This is first-hand, quantitative evidence of Beethoven's new type of part writing – a distinct, and seemingly deliberate move away from the tradition of first violin dominated part writing for string quartet. However, more than equalising the role of instrumental voices, some other surprising trends emerge. For example, Figure 2-6 shows that the second violinist in fact always has *more* notes than the first violin part (with the exception of Op. 130). Even the viola player has more notes than the first violinist in Op. 127, 132, 131 and 135.

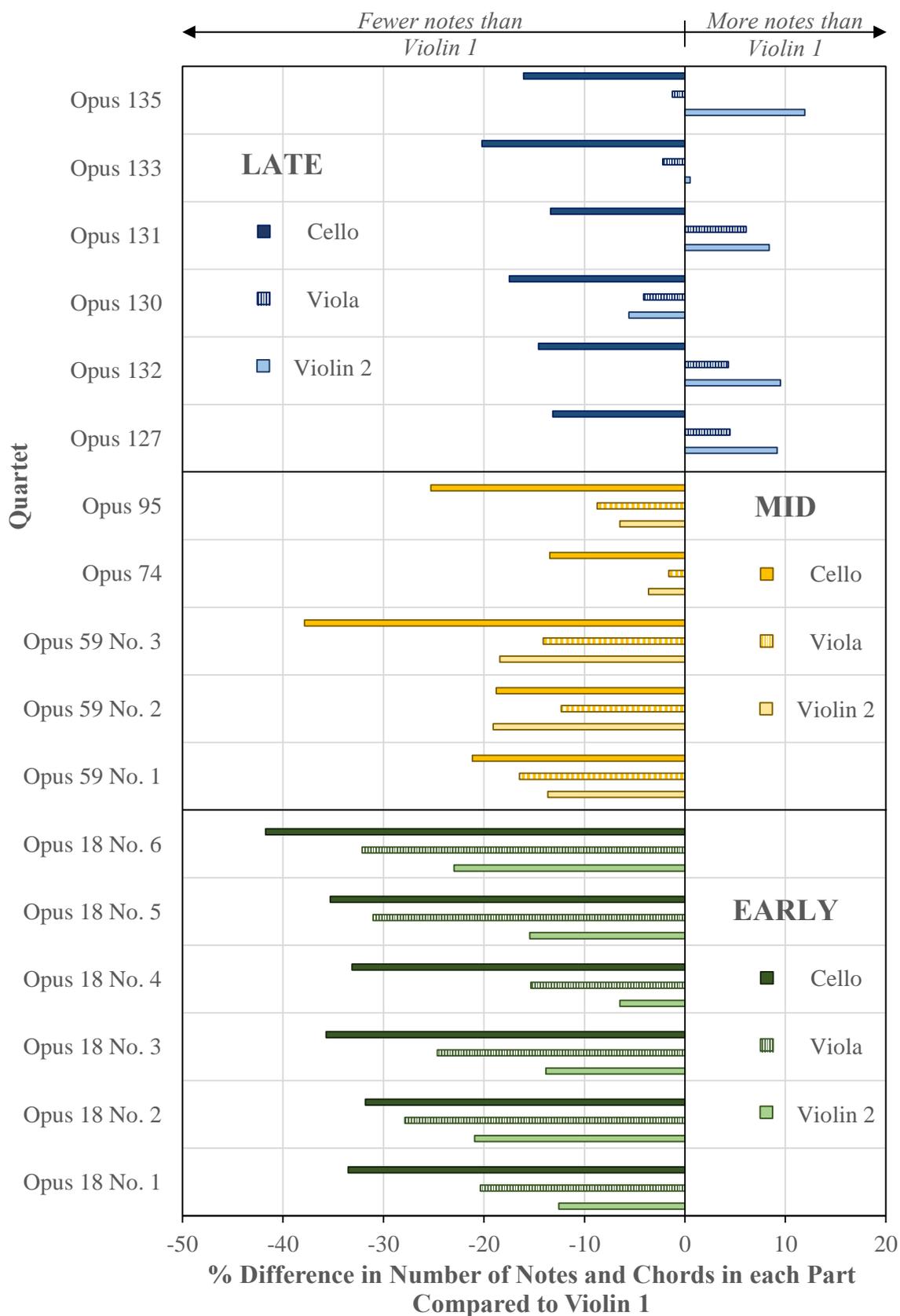


Figure 2-6: Number of notes and chords in each part compared to Violin 1, per quartet and colour-coded by style period and part

This conclusion is statistically verified by Figure 2-7, a set of 'box and whisker' plots that show the total number of notes and chords, per bar according to each part. 'Box and whisker plots' are designed to illustrate the spread of the data. The coloured 'boxes' represent the interquartile range (middle 50%) of the results, while the line across the middle represents the median and the average is displayed as a cross. The 'whiskers' are the lines either side of the box that show the outlying points of the data. As can be seen, the average has often been distorted by the extreme range of some of the data points, particularly in the late quartets.

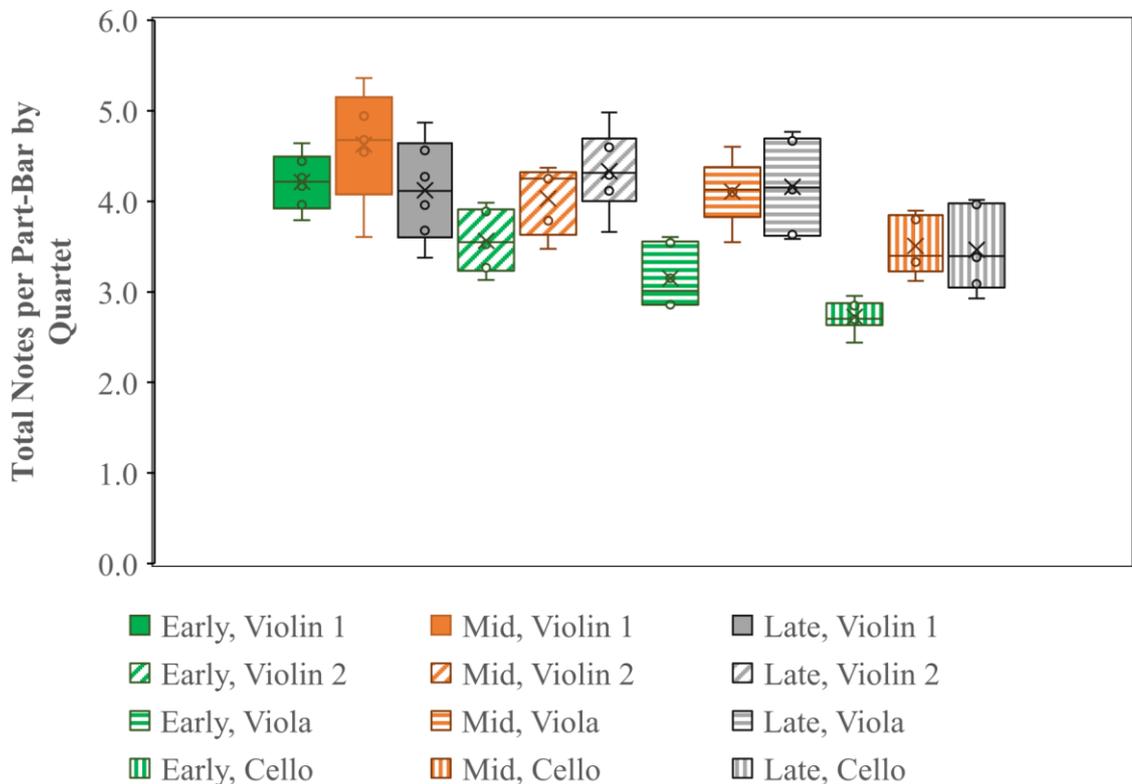


Figure 2-7: 'Box and Whisker' plots showing the proportion of notes and chords distributed between each part per quartet, colour-coded by style period and part

The downward shift of the green boxes as one moves through the parts shows particularly clearly that the early quartets featured a top-heavy texture, showcasing the first violin. However, the second and third grey boxes, representing the second violin and viola parts of the late quartets, show a higher average and median than the first grey box representing the first violin part in the late period. This demonstrates again the surprising shift towards a more equal distribution of notes between parts in the late quartets.

Time Signatures

Figure 2-9 summarises all of the different time signatures employed by Beethoven in his quartet output and indicates in which movement of each quartet they appear. Figure 2-8 lists the same information but broken down per quartet rather than per movement. As shown by the information collated at the bottom of each table, Beethoven had a clear preference for duple time signatures. He employed 3/4 with the greatest frequency, closely followed by 2/4, 4/4 then 2/2.²¹ 12/8 and 9/8 appear in only one movement each within the quartet *oeuvre*. As can be seen, the late quartets demonstrate a far wider spectrum of time signature indications than the early or middle period quartets. Up until Op. 95, only seven different time signatures are used. However, for the late quartets, Beethoven notates an additional four new metres including 12/8, and the more unusual 6/4, 9/4 and 3/2. The late quartets feature a total of ten different time signatures, while the range of the middle period quartets is limited to only six. The only metre that does not

Quartet	Time Signature											Total Time Sigs.	Unique Time Sigs.	Time Sig. Changes per Movement	Unique Time Sig. Changes per Movement
	3/4	9/8	2/4	2/2	6/8	4/4	3/8	12/8	6/4	9/4	3/2				
Opus 18 No. 1	2	1	1									4	3		0.50
Opus 18 No. 2	3		3									6	2	0.50	0.25
Opus 18 No. 3	1		1	1	1							4	4		0.75
Opus 18 No. 4	1			1		1	1					4	4		0.75
Opus 18 No. 5	1		1	1	1							4	4		0.75
Opus 18 No. 6	1		4	1			3					9	4	1.25	0.75
Opus 59 No. 1			2			1	1					4	3		0.50
Opus 59 No. 2	1			1	1	1						4	4		0.75
Opus 59 No. 3	2			1	1	1						5	4	0.25	0.75
Opus 74	1		1			1	1					4	4		0.75
Opus 95	1		2	1	1	1						6	5	0.50	1.00
Opus 127	8		7	2	1	1		2				21	6	4.25	1.25
Opus 132	3			3		5	2					13	4	1.60	0.60
Opus 130	9		1	4		9	1		3			27	6	3.50	0.83
Opus 131	1		3	3	2	2				1		12	6	0.71	0.71
Opus 133			4		4	2						10	3	9.00	2.00
Opus 135	1		1		1	2					2	7	5	0.75	1.00
Early Total	9	1	10	4	2	1	4					31	7	(0.29)	(0.63)
Mid Total	5		5	3	3	5	2					23	6	(0.15)	(0.75)
Late Total	22		16	12	8	21	3	2	3	1	2	90	10	(3.30)	(1.07)
GRAND TOTAL	36	1	31	19	13	27	9	2	3	1	2	144	11	(1.31)	(0.82)
	3/4	9/8	2/4	2/2	6/8	4/4	3/8	12/8	6/4	9/4	3/2				

Figure 2-8: Table showing Beethoven’s use of time signatures in his quartets, per movement and shaded according to density. Darker colours represent higher density.

²¹ As noted above, Beethoven exclusively notated 4/4 as C and 2/2 as C, however music21 could only account for time signatures notated as fractions.

Chapter 2: Beethoven's Late String Quartets in Context

Quartet Movement	Time Signature											Total Time Sigs.	Unique Time Sigs.	Time Sig. Changes per 100 bars	Unique Time Sig. Changes per 100 bars
	3/4	9/8	2/4	2/2	6/8	4/4	3/8	12/8	6/4	9/4	3/2				
Op. 18 No. 1 i	1											1	1		
Op. 18 No. 1 ii		1										1	1		
Op. 18 No. 1 iii	1											1	1		
Op. 18 No. 1 iv			1									1	1		
Op. 18 No. 2 i			1									1	1		
Op. 18 No. 2 ii	2		1									3	2	2.2	1.1
Op. 18 No. 2 iii	1											1	1		
Op. 18 No. 2 iv			1									1	1		
Op. 18 No. 3 i				1								1	1		
Op. 18 No. 3 ii			1									1	1		
Op. 18 No. 3 iii	1											1	1		
Op. 18 No. 3 iv					1							1	1		
Op. 18 No. 4 i						1						1	1		
Op. 18 No. 4 ii							1					1	1		
Op. 18 No. 4 iii	1											1	1		
Op. 18 No. 4 iv				1								1	1		
Op. 18 No. 5 i					1							1	1		
Op. 18 No. 5 ii	1											1	1		
Op. 18 No. 5 iii			1									1	1		
Op. 18 No. 5 iv			1									1	1		
Op. 18 No. 6 i				1								1	1		
Op. 18 No. 6 ii			1									1	1		
Op. 18 No. 6 iii	1											1	1		
Op. 18 No. 6 iv			3				3					6	2	1.7	0.3
Op. 59 No. 1 i						1						1	1		
Op. 59 No. 1 ii							1					1	1		
Op. 59 No. 1 iii			1									1	1		
Op. 59 No. 1 iv			1									1	1		
Op. 59 No. 2 i					1							1	1		
Op. 59 No. 2 ii						1						1	1		
Op. 59 No. 2 iii	1											1	1		
Op. 59 No. 2 iv				1								1	1		
Op. 59 No. 3 i	1					1						2	2	0.4	0.4
Op. 59 No. 3 ii					1							1	1		
Op. 59 No. 3 iii	1											1	1		
Op. 59 No. 3 iv				1								1	1		
Op. 74 i						1						1	1		
Op. 74 ii							1					1	1		
Op. 74 iii	1											1	1		
Op. 74 iv			1									1	1		
Op. 95 i						1						1	1		
Op. 95 ii			1									1	1		
Op. 95 iii	1											1	1		
Op. 95 iv			1	1	1							3	3	1.1	1.1
Op. 127 i	3		3									6	2	1.8	0.4
Op. 127 ii				1		1		2				4	3	2.3	1.5
Op. 127 iii	5		4									9	2	1.8	0.2
Op. 127 iv				1	1							2	2	0.3	0.3
Op. 132 i				1		1						2	2	0.4	0.4
Op. 132 ii	2			1								3	2	0.8	0.4
Op. 132 iii						3	2					5	2	1.9	0.5
Op. 132 iv				1		1						2	2	2.2	2.2
Op. 132 v	1											1	1		
Op. 130 i	8					8						16	2	6.3	0.4
Op. 130 ii				4					3			7	2	5.6	0.9
Op. 130 iii						1						1	1		
Op. 130 iv							1					1	1		
Op. 130 v	1											1	1		
Op. 130 vi			1									1	1		
Op. 131 i				1								1	1		
Op. 131 ii					1							1	1		
Op. 131 iii						1						1	1		
Op. 131 iv			3		1	1				1		6	4	1.8	1.1
Op. 131 v				1								1	1		
Op. 131 vi	1											1	1		
Op. 131 vii				1								1	1		
Op. 133 i			4		4	2						10	3	1.2	0.3
Op. 135 i			1									1	1		
Op. 135 ii	1											1	1		
Op. 135 iii					1							1	1		
Op. 135 iv							2				2	4	2	1.1	0.4
Early Total	9	1	10	4	2	1	4					31	7	(0.16)	(0.06)
Mid Total	5		5	3	3	5	2					23	6	(0.08)	(0.08)
Late Total	22		16	12	8	21	3	2	3	1	2	90	10	(1.02)	(0.33)
TOTAL	36	1	31	19	13	27	9	2	3	1	2	144	11	(0.46)	(0.17)
	3/4	9/8	2/4	2/2	6/8	4/4	3/8	12/8	6/4	9/4	3/2				

Figure 2-9: Table showing Beethoven's use of time signatures in his quartets, per movement and shaded according to density. Darker colours represent higher density.

appear in the late quartets is 9/8, which Beethoven notates once in the second movement of Op. 18, No. 2. There is a marked preference for 3/4 and 2/4 in the Op. 18 quartets, whereas in the middle-period quartets the distribution between metres is more even. Although C (4/4) appears only once in the Op. 18 quartets, Beethoven uses it five times in the middle period quartets, and in ten different movements in the late quartets. C is also employed with far more frequency in the late quartets, appearing in 9 different movements.

The ways in which Beethoven employs different time signatures within movements is also of significant interest. The total number of time signatures employed per movement were counted, as well as the number of unique time signatures per movement. This was to account for the distinction between movements in which Beethoven oscillated between two different time signatures, and more complex movements in which he notates multiple different time signatures. For example, in the first movement of Op. 130 there are a total of sixteen time-signature *changes*, but only two metres employed, whereas the fourth movement of Op. 131 includes four unique time signatures. The results show that only in isolated movements in the early and middle period quartets did Beethoven employ more than a single time signature. The last movement of Op. 18, No. 6 is a notable exception, with six notated changes of time signature throughout the course of the movement. However, until Op. 95, there are no more than two *different* time signatures employed in a movement. In the case of Op. 18, No. 6, the movement oscillates between 2/4 and 3/8, while Op. 95 shifts from 2/4 to 6/8 to C without returning to any of the same material. The results of the late quartets tell a drastically different story. Beethoven frequently employed multiple changes of metre within the same movement. In comparison with the early and middle period quartets, which comprise a total of 31 and 23 time-signature changes respectively, there are 90 changes of metre within the late quartets.

It could be argued that this change in number is partly due to the lengthier nature of the late string quartets, many of which comprise several movements more than the four-structure model of the early and middle quartets. Statistical tests were thus run to compare the average number of time signature changes per 100 bars. These results highlight that the length of the late quartets was not a factor in this trend. As Figure 2-8 shows, the average number of time signature changes per movement in Op. 18 is only 0.29, with the middle period quartets notably lower at 0.15, in comparison with the drastically-larger average of 3.30 in the late quartets. The number of unique time signature changes per

movements reveals a slightly different trend: in the early quartets there is an average of 0.63 changes of time signature per movement, 0.75 in the middle quartets, and 1.07 in the late quartets.

Key Signatures

Figure 2-10 summarises Beethoven's use of key signatures within his quartets, broken down by movement. As the data show, his use of key signatures follows a similar trend to that of his notation of time signatures, in which relatively common key signatures are replaced by increasingly complex and remote keys in the later quartets. The complexity is defined in terms of the number of sharps or flats in the key signature. It should be noted that the quantitative approach only accounted for Beethoven's written notation, and as such does not qualify whether keys are either major or minor. Until Op. 95, Beethoven did not employ key signatures with more than four sharps or flats. However, in the late quartets this extends to include six flats in the key signatures in Op. 127, Op. 130, Op. 131, and Op. 133, and five sharps in Op. 131. In Op. 18 there is only one instance of a key signature with four flats, whereas in the middle period quartets there are five movements notated with four flats, and two movements with four sharps. Overall, Beethoven shows a tendency towards flat keys. Of the 181 notated key signatures

Quartet	Key Signature												Total Key Sigs.	Unique Key Sigs.	Key Sigs. per Movement	Unique Key Sig. Changes per Movement		
	6b	5b	4b	3b	2b	1b	-	1#	2#	3#	4#	5#					6#	
Opus 18 No. 1						4									4	1	1.00	
Opus 18 No. 2						1	3	3							7	3	1.75	0.50
Opus 18 No. 3					1	1			4						6	3	1.50	0.50
Opus 18 No. 4			1	4			2								7	3	1.75	0.50
Opus 18 No. 5									1	3					4	2	1.00	0.25
Opus 18 No. 6				1	3										4	2	1.00	0.25
Opus 59 No. 1			1		1	2									4	3	1.00	0.50
Opus 59 No. 2								3			2				5	2	1.25	0.25
Opus 59 No. 3						1	5								6	2	1.50	0.25
Opus 74			1	5			2								8	3	2.00	0.50
Opus 95			5	1		1			3						10	4	2.50	0.75
Opus 127	1		3	7	2		2	1			2				18	7	4.50	1.50
Opus 132						1	9	1	2	4					17	5	3.40	0.80
Opus 130	1	5	3	3	8	2	1	3	1						27	9	4.50	1.33
Opus 131	1					1	1		3	8	9	2			25	7	3.57	0.86
Opus 133	1		2	1	3	1		1							9	6	9.00	5.00
Opus 135		2	2			8	1	2	2	2	1				20	8	5.00	1.75
Early Total			1	5	4	6	5	3	5	3					32	8	1.33	0.29
Mid Total			7	6	1	4	7	3	3		2				33	8	1.65	0.35
Late Total	4	7	10	11	13	13	14	8	8	14	12	2			116	12	4.30	0.41
GRAND TOTAL	4	7	18	22	18	23	26	14	16	17	14	2	0		181	12	2.55	0.15
	6b	5b	4b	3b	2b	1b	-	1#	2#	3#	4#	5#	6#					

Figure 2-10: Table showing Beethoven's use of key signatures in his quartets, per movement and shaded according to density. Darker colours represent higher density.

throughout the quartets, over half are flat keys, a third are sharp and a sixth have no sharps or flats. The most common key signatures in the early and late quartets include either 1 flat or no sharps or flats, but in the middle period quartets keys with three and four flats are also favoured. Between the range of four flats and sharps, the late quartets show a remarkably even distribution of key signatures.

Regarding the number of key signature changes employed per movement, there is again a clear trend towards employing multiple key signature changes per movement. Until Op. 74, Beethoven had not notated a change of key signature within a movement more than three times, whereas in the late quartets it is unusual to see *less* than three key signatures per movement. There are only five of the twenty-four movements of Op. 18 that have key signature changes. Op. 74 and Op. 95 feature five and six key signature changes respectively in their third movements, and this increase in quantity continues throughout the late quartets, with up to ten changes in the fourth movement of Op. 135. Each of the late quartets includes a movement with at least five changes in key signature. The early and middle quartets have a total of 32 and 33 notated key signatures, which is vastly overshadowed by the late quartets’ total of 116. As shown in Figure 2-11, this means that the average change of key signature per movement in the late quartets is 4.00, in contrast to only 0.3 and 0.65 for the early and middle quartets respectively.

The nature of these changes in key signature also become increasingly complex with an increase in the number of new key signatures introduced to each quartet per movement. For example, although the third movement of Op. 74 includes five changes of key signature, only two keys are used (see Figure 2-11). Up until Op. 95, which features three different notated key signatures within a single movement, Beethoven notated no more than two different keys per movement. However, the late quartets feature up to six different keys per movement. Movements that feature only one key are in fact the exception, usually only comprising short sections of music, such as the third and sixth movements of Op. 131. As the results show, there is an average of 1.87 unique key signature changes introduced per movement in the late quartets, in comparison to 0.33 and 0.45 in both the early and middle quartets.

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Quartet Movement	Key Signature												Total Key Sigs.	Unique Key Sigs.	Key Sig. Changes per 100 bars	Unique Key Sig. Changes per 100 bars	
	6b	5b	4b	3b	2b	1b	-	1#	2#	3#	4#	5#					6#
Op. 18 No. 1 i						1								1	1		
Op. 18 No. 1 ii						1								1	1		
Op. 18 No. 1 iii						1								1	1		
Op. 18 No. 1 iv						1								1	1		
Op. 18 No. 2 i								1						1	1		
Op. 18 No. 2 ii						1	2							3	2	2.2	1.1
Op. 18 No. 2 iii							1	1						2	2	1.1	1.1
Op. 18 No. 2 iv								1						1	1		
Op. 18 No. 3 i									1					1	1		
Op. 18 No. 3 ii					1									1	1		
Op. 18 No. 3 iii						1				2				3	2	1.2	0.6
Op. 18 No. 3 iv										1				1	1		
Op. 18 No. 4 i				1										1	1		
Op. 18 No. 4 ii							1							1	1		
Op. 18 No. 4 iii			1	1										2	2	1.0	1.0
Op. 18 No. 4 iv				2			1							3	2	0.9	0.4
Op. 18 No. 5 i										1				1	1		
Op. 18 No. 5 ii										1				1	1		
Op. 18 No. 5 iii										1				1	1		
Op. 18 No. 5 iv										1	1			1	1		
Op. 18 No. 6 i						1								1	1		
Op. 18 No. 6 ii				1										1	1		
Op. 18 No. 6 iii					1									1	1		
Op. 18 No. 6 iv					1									1	1		
Op. 59 No. 1 i						1								1	1		
Op. 59 No. 1 ii						1								1	1		
Op. 59 No. 1 iii			1											1	1		
Op. 59 No. 1 iv						1								1	1		
Op. 59 No. 2 i								1						1	1		
Op. 59 No. 2 ii											1			1	1		
Op. 59 No. 2 iii								1			1			2	2	0.7	0.7
Op. 59 No. 2 iv									1					1	1		
Op. 59 No. 3 i							1							1	1		
Op. 59 No. 3 ii							1							1	1		
Op. 59 No. 3 iii						1	2							3	2	2.1	1.0
Op. 59 No. 3 iv							1							1	1		
Op. 74 i							1							1	1		
Op. 74 ii			1											1	1		
Op. 74 iii				3			2							5	2	0.8	0.2
Op. 74 iv				1										1	1		
Op. 95 i			1											1	1		
Op. 95 ii										1				1	1		
Op. 95 iii			3	1						2				6	3	2.4	1.0
Op. 95 iv			1			1								2	2	0.6	0.6
Op. 127 i				3	1		1	1						6	4	1.8	1.1
Op. 127 ii			3								2			5	2	3.1	0.8
Op. 127 iii	1			2	1									4	3	0.7	0.5
Op. 127 iv				2			1							3	2	0.7	0.3
Op. 132 i						1	3	1						5	3	1.5	0.8
Op. 132 ii							1			2				3	2	0.8	0.4
Op. 132 iii							3		2					5	2	1.9	0.5
Op. 132 iv							1			1				2	2	2.2	2.2
Op. 132 v							1			1				2	2	0.2	0.2
Op. 130 i	1		1		3			1	1					7	5	2.5	1.7
Op. 130 ii		3			2									5	2	3.7	0.9
Op. 130 iii		2	1											3	2	2.2	1.1
Op. 130 iv							1	2						3	2	1.3	0.7
Op. 130 v				1										1	1		
Op. 130 vi			1	2	3	2								8	4	1.4	0.6
Op. 131 i	1									1	2	1		5	4	3.3	2.5
Op. 131 ii									1					1	1		
Op. 131 iii										1				1	1		
Op. 131 iv						1	1			3				5	3	1.4	0.7
Op. 131 v										3	4			7	2	1.2	0.2
Op. 131 vi												1		1	1		
Op. 131 vii									2		3			5	2	1.0	0.3
Op. 133 i	1		2	1	3	1		1						9	6	1.1	0.7
Op. 135 i						2		1						3	2	1.0	0.5
Op. 135 ii						2		1		1				4	3	1.1	0.7
Op. 135 iii		2									1			3	2	3.7	1.9
Op. 135 iv			2			4	1		2	1				10	5	3.2	1.4
Early Total			1	5	4	6	5	3	5	3				32	8	(0.3)	(0.2)
Mid Total			7	6	1	4	7	3	3		2			33	8	(0.3)	(0.2)
Late Total	4	7	10	11	13	13	14	8	8	14	12	2		116	12	(1.5)	(0.8)
GRAND TOTAL	4	7	18	22	18	23	26	14	16	17	14	2	0	181	12	(0.8)	(0.4)
	6b	5b	4b	3b	2b	1b	-	1#	2#	3#	4#	5#	6#				

Figure 2-11: Table showing Beethoven's use of key signatures in his quartets, per movement and shaded according to density. Darker colours represent higher density.

Dynamics

Music21 categorises accent and emphasis symbols such as *sfz* and *rf* as dynamic markings, and so the total count of dynamics was split into two groups: volume markings and accent markings. The accent markings were also collated into two broad groups, comprising all emphasis markings (*sf*, *sfz*, *fz*, *rf* and *rfz*) and markings indicating an initial emphasis followed by an immediate drop to *piano* (*fp*, *sfp*). Brown’s discussion of the application of *sf* and *rf* in compositions of the period suggests that there was much disagreement between theorists, with many seeming to suggest that the difference between the two markings was rather a matter of degree rather than kind. As he suggests of Beethoven’s application of *rf*, ‘it seems plausible that, in accordance with the views of Koch and Fröhlich, he desired a less forceful accent than would have been elicited by *sf*’.²² *Sf*, *sfz* and *fz* were ‘overwhelmingly regarded as synonymous’,²³ as were *fp* and *sfp*. For the purposes of a quantitative survey, the collecting of the data into the smallest number of categories was advantageous, providing greater clarity to the overall trends. Moreover, as it is highly likely that Beethoven expected signs to serve a variety of functions depending on the musical context, the precise meaning of symbols was of less interest in this chapter than the range and density of the ways in which they were employed throughout his quartets.

Figure 2-12 shows the distribution of different volume and accent markings, per quartet. In order to account for the disparity between movement lengths in all of the quartets, the count is shown as a figure per 100 bars per individual part to demonstrate the relative density of the markings. As can be seen, although there is a slight increase in the number of volume markings employed in the late quartets (an average of 23 markings per 100 bars per part in comparison with only 16 and 17 in the early and middle quartets), this is balanced out by a notable decrease in the application of accent markings (the early quartets comprise an average of 12 accent markings per 100 bars per part, whereas the late quartets feature an average of only 6). Overall, taking both accent and volume markings into account, the results show that the average number of markings per 100 bars remains strikingly consistent between all style periods, with a total of 28 in the early quartets, 24 in the middle period quartets and 29 in the late period.

²² Brown, *Classical and Romantic Performing Practice*, p. 91.

²³ Brown, *Classical and Romantic Performing Practice*, p. 75.

Quartet	Volume Markings per 100 Part-Bars								Accents Marking per 100 Part-Bars			Total Dynamic Markings per 100 Part-Bars
	<i>ppp</i>	<i>pp</i>	<i>p</i>	<i>mp</i>	<i>mf</i>	<i>f</i>	<i>ff</i>	All Volume Markings	<i>fp</i> *	<i>fz</i> **	All Accent Markings	
Opus 18 No. 1	0.2	3.1	7.3			4.2	1.4	16	2.0	9.4	11	28
Opus 18 No. 2		2.2	7.5			3.6	1.2	15	1.0	7.2	8	23
Opus 18 No. 3		2.3	7.5			4.7	2.0	16	0.2	12.1	12	29
Opus 18 No. 4		2.3	7.6			5.1	1.9	17	0.6	14.0	15	31
Opus 18 No. 5		2.5	8.2			4.2	0.4	15	0.6	10.5	11	26
Opus 18 No. 6		4.4	10.1			4.3	1.5	20	1.9	10.8	13	33
Opus 59 No. 1	0.1	2.4	6.9		0.0	3.6	2.3	15	0.4	5.8	6	22
Opus 59 No. 2		3.1	7.7	0.0		5.5	3.6	20	1.8	6.9	9	29
Opus 59 No. 3		1.9	7.9			7.6	1.4	19	3.1	4.9	8	27
Opus 74	0.2	1.6	5.9			4.3	1.0	13	0.3	4.2	4	17
Opus 95	0.1	2.3	8.7			4.1	2.8	18	0.8	11.2	12	30
Opus 127		4.1	10.4			10.2	1.6	26	0.1	5.0	5	31
Opus 132		3.5	13.1			7.8	0.9	25	0.4	6.7	7	32
Opus 130		5.5	15.1		0.8	9.2	1.1	32	0.5	6.8	7	39
Opus 131	0.1	2.0	11.3			4.8	1.1	19	0.5	3.9	4	24
Opus 133		1.8	1.8			10.6	3.2	17	0.2	10.1	10	28
Opus 135	0.1	3.2	9.4			4.6	0.8	18	0.7	2.5	3	21
Early Period	0.0	2.8	8.0			4.4	1.4	16	1.0	10.6	12	28
Mid Period	0.1	2.2	7.3	0.0	0.0	4.9	2.2	17	1.2	6.3	7	24
Late Period	0.0	3.4	10.8		0.1	7.7	1.4	23	0.4	5.6	6	29
All Quartets	0.0	2.8	8.9	0.0	0.1	5.8	1.6	19	0.9	7.3	8	27
	<i>ppp</i>	<i>pp</i>	<i>p</i>	<i>mp</i>	<i>mf</i>	<i>f</i>	<i>ff</i>	<i>Vol. marks</i>	<i>fp</i> *	<i>fz</i> **	<i>Accents</i>	<i>Total</i>

Figure 2-12: Table showing Beethoven's use of dynamic and accent markings in his quartets, per quartet and shaded according to density. Darker colours represent higher density.

Figure 2-13 shows this information in more detail, broken down per movement. Particularly noteworthy is the fact that Beethoven only notated *mf* in two movements of his entire quartet output. Notated only once in the first movement of Op. 59 No. 1 and several times in the third movement of Op. 130, it may seem surprising that a marking that is now so ubiquitous in notational culture was not part of Beethoven's lexicon. Furthermore, he never notated *mp*. Although the count found an *mp* in the third movement of Op. 59, No. 2, this was an erroneous addition by the editor of the score. Spot check manual verifications of other counts all showed a very close correlation with the Henle scores. The results show that the range of dynamics, from *ppp* to *ff*, remained consistent throughout all style periods. No new markings were introduced at any stage, with the exception of *mf* which was never notated in the Op. 18 quartets.

‘A New Type of Part Writing’: Notation and Performance in Beethoven’s Late String Quartets

Quartet Movement	Volume Markings per 100 Part-Bars							Accents Marking per 100 Part-Bars			Total Dynamic Markings per 100 Part-Bars		
	ppp	pp	p	mp	mf	f	ff	All Volume Markings	fp*	fz**		All Accent Markings	
Op. 18 No. 1 i		2.4	5.1			4.6	2.2	14		4.2	12.3	16	31
Op. 18 No. 1 ii	0.9	12.7	17.0			8.2	1.8	41			8.9	9	50
Op. 18 No. 1 iii	0.7	2.4	3.4			1.4	0.7	9		4.1	6.2	10	19
Op. 18 No. 1 iv		1.2	7.7			3.7	0.8	13			8.3	8	22
Op. 18 No. 2 i		2.1	11.1			6.1		19			8.9	9	28
Op. 18 No. 2 ii		3.5	12.0			4.3		20	5.4	2.2		8	27
Op. 18 No. 2 iii		3.3	8.7			2.2	1.1	15	3.3	1.1		4	20
Op. 18 No. 2 iv		1.7	4.1			2.2	2.2	10	0.2	8.6		9	19
Op. 18 No. 3 i		1.1	9.0			7.5	1.5	19		14.8		15	34
Op. 18 No. 3 ii		5.5	10.8			4.0	3.3	24		9.9		10	33
Op. 18 No. 3 iii		1.6	7.1					9	1.2	14.0		15	24
Op. 18 No. 3 iv		2.2	5.1			5.2	2.7	15	0.1	10.1		10	25
Op. 18 No. 4 i		2.4	8.9			7.0	3.7	22		16.4		16	38
Op. 18 No. 4 ii		3.7	5.0			1.9	0.4	11	0.5	13.5		14	25
Op. 18 No. 4 iii		1.0	5.0			0.7		7	2.0	20.3		22	29
Op. 18 No. 4 iv		1.0	10.6			8.7	2.5	23	0.7	9.5		10	33
Op. 18 No. 5 i		2.7	8.7			8.1		20	1.5	12.0		13	33
Op. 18 No. 5 ii			8.0			0.9	0.9	10	0.9	10.1		11	21
Op. 18 No. 5 iii		5.6	9.2			3.3		18		9.7		10	28
Op. 18 No. 5 iv		1.6	7.5			3.0	0.7	13		10.0		10	23
Op. 18 No. 6 i		3.3	7.4			5.3	1.1	17	3.1	11.3		14	31
Op. 18 No. 6 ii		12.0	15.5				2.5	30	5.1	15.5		21	51
Op. 18 No. 6 iii			13.9			8.8	3.4	26	2.0	18.9		21	47
Op. 18 No. 6 iv		4.5	10.1			3.5	1.0	19		7.2		7	26
Op. 59 No. 1 i		0.3	5.8		0.1	1.6	1.0	9	0.4	3.2		4	12
Op. 59 No. 1 ii		3.7	8.0			4.2	2.4	18	0.8	7.4		8	27
Op. 59 No. 1 iii		1.5	11.1			8.1	0.8	21		9.8		10	31
Op. 59 No. 1 iv	0.3	3.4	5.1			3.5	4.4	17		5.2		5	22
Op. 59 No. 2 i		5.7	9.1			6.7	6.1	28		12.0		12	40
Op. 59 No. 2 ii		1.8	15.9			10.4	2.9	31	1.6	4.1		6	37
Op. 59 No. 2 iii		4.0	9.5		0.2	3.5	4.0	21		4.8		5	26
Op. 59 No. 2 iv		1.6	3.0			3.5	2.1	10	3.7	5.4		9	19
Op. 59 No. 3 i		4.1	6.9			11.4	1.1	23	0.5	3.9		4	28
Op. 59 No. 3 ii		2.4	13.2			6.0		22	11.1	6.5		18	39
Op. 59 No. 3 iii		3.1	13.3			13.8		30	2.6	7.8		10	41
Op. 59 No. 3 iv			4.8			4.5	2.6	12	1.1	4.2		5	17
Op. 74 i	0.4	1.2	9.9			7.4	0.7	20	0.3	6.4		7	26
Op. 74 ii		1.0	9.5			3.0	0.6	14	1.3	8.6		10	24
Op. 74 iii	0.2	1.8	3.5			2.9	1.5	10		1.1		1	11
Op. 74 iv		1.9	3.3			4.5	0.5	10		5.0		5	15
Op. 95 i		3.3	7.3			5.0	6.8	22		17.1		17	39
Op. 95 ii		1.7	11.1			3.6		16	0.5	5.2		6	22
Op. 95 iii		1.6	5.4			3.9	2.9	14	0.7	10.3		11	25
Op. 95 iv	0.6	3.1	11.2			4.0	2.3	21	1.8	13.8		16	37
Op. 127 i		1.2	9.8			9.0	0.7	21		7.4		7	28
Op. 127 ii		6.7	24.2			3.8		35		6.7		7	42
Op. 127 iii		4.5	7.0			6.7	2.0	20	0.2	5.0		5	25
Op. 127 iv		5.1	9.9			19.2	2.7	37		1.9		2	39
Op. 132 i		3.8	14.5			12.5	1.9	33	0.5	5.2		6	38
Op. 132 ii		3.9	8.6			4.1		17		1.4		1	18
Op. 132 iii		3.9	22.9			8.3		35		6.5		6	42
Op. 132 iv		1.6	13.6			16.8	2.2	34	2.2	9.2		11	46
Op. 132 v		3.0	9.8			5.8	1.1	20	0.6	10.6		11	31
Op. 130 i		5.2	20.4			19.9	0.8	46		10.4		10	57
Op. 130 ii		5.6	5.6			8.4	0.9	21		2.8		3	23
Op. 130 iii		23.6	36.7		10.0	7.5		78	6.1	2.2		8	86
Op. 130 iv			25.8			6.0		32					32
Op. 130 v		3.8	23.1			3.0		30					30
Op. 130 vi		4.3	6.5			6.4	2.0	19		9.6		10	29
Op. 131 i		0.8	15.2			1.8		18		10.9		11	29
Op. 131 ii		3.0	12.1			8.0	1.5	25	0.1	5.8		6	31
Op. 131 iii			29.5			31.8		61		9.1		9	70
Op. 131 iv	0.4	2.0	16.1			1.7	0.1	20	2.0	5.6		8	28
Op. 131 v		2.4	8.5			5.1	0.6	17		0.6		1	17
Op. 131 vi			25.0					25		7.1		7	32
Op. 131 vii		1.5	8.3			5.4	2.7	18	0.6	3.5		4	22
Op. 133 i		1.8	1.8			10.6	3.2	17	0.2	10.1		10	28
Op. 135 i		2.1	13.1			6.7		22	0.3	1.3		2	23
Op. 135 ii	0.4	3.6	5.2			2.1	0.4	12	2.0	0.5		2	14
Op. 135 iii		8.3	23.6			0.9		33		9.3		9	42
Op. 135 iv		2.5	8.2			6.3	1.9	19		4.0		4	23
Early Period	0.0	2.8	8.0			4.4	1.4	16	1.0	10.6		12	28
Mid Period	0.1	2.2	7.3	0.0	0.0	4.9	2.2	17	1.2	6.3		7	24
Late Period	0.0	3.4	10.8		0.1	7.7	1.4	23	0.4	5.6		6	29
All Quartets	0.0	2.8	8.9	0.0	0.1	5.8	1.6	19	0.9	7.3		8	27
	ppp	pp	p	mp	mf	f	ff	Vol. marks	fp*	fz**	Accents	Total	

Figure 2-13: Table showing Beethoven’s use of dynamic and accent markings in his quartets, per movement and shaded according to density. Darker colours represent higher density.

Another surprising outcome is Beethoven's clear preference for *piano* over *forte*. In all of his quartets, he notated an average of 8.9 *piano* markings per 100 bars per part, in comparison with only 5.8 *forte* markings. There is also a slight preference for *pianissimo* over *fortissimo*, with an average of 3.4 *pp* markings per 100 bars, per part, in comparison with 1.6 *ff* markings. The extremes of *fortissimo* and *pianissimo* are the only volume markings that Beethoven notated more frequently in the middle period quartets. However, there is a clear increase in density in the late quartets for *p* (with an average of 10.8 markings per 100 bars per part, in comparison with 8.0 and 7.3 for the early and middle quartets respectively) and *f* (with an average of 7.7 markings per 100 bars per part, in comparison with 4.4 and 4.9 for the early and middle quartets respectively). This trend is reversed in the case of accent markings, which gradually decrease in prevalence throughout the quartet style periods. For example, Beethoven notated an average of 10.6 emphasis (*fz* and *rfz*) markings per 100 bars per part in the early quartets, whereas the average drops to only 6.3 and 5.6 in the middle and late quartets. Similarly, in comparison with an average of 1.0 and 1.2 notations of accent markings in the *fp* and *sfp* category per 100 bars per part in the early and middle period quartets, the late quartets only contain an average of 0.4 markings. Given that both markings relating to *rinforzando* and *sforzando* were conflated in the *fz* accent marking category, it is perhaps not surprising that the results show a clear preference for accents of emphasis rather than those indicating an immediate decrease in volume. However, the difference between the two categories is greater by around a factor of 10 in the early quartets, 5 in the middle period and a factor of 14 in the late quartets.

Markings indicating gradations in volume, including *crescendo*, *diminuendo* and *decrescendo*, are also considered as dynamics, although they were counted as part of the function written to extract all the text expressions from the quartets. It is important to note that the equivalent symbols (< and >) were not counted, as manual verification suggested that there was too much unreliability in their application between editors in the Gutenberg scores. However, the textual indications for *cresc.* and *decresc.* were found to be very accurate in comparison with the Henle scores. The results are summarised in Figure 2-14, another set of 'box and whisker' plots illustrating the spread of the data, including the interquartile range, median and average (represented by the coloured boxes, and the line and cross respectively within them), and the range of data points (shown by the 'whiskers', the lines either side of the box).

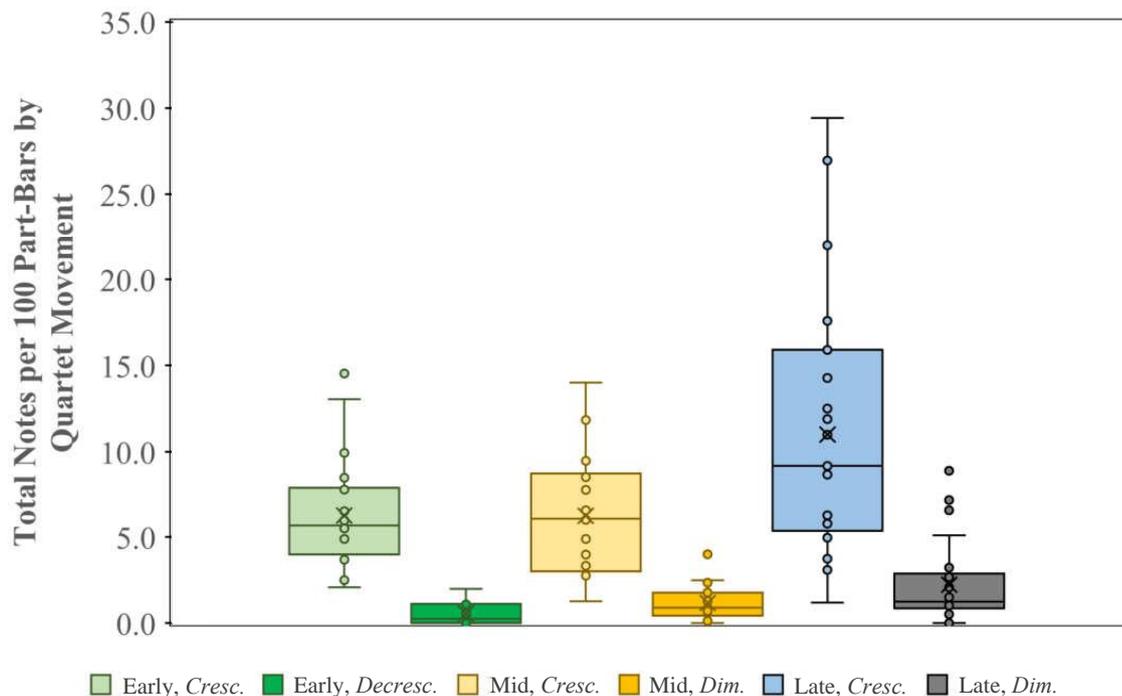


Figure 2-14: ‘Box and Whisker’ plots showing Beethoven’s volume gradation markings in his quartets, per movement and colour-coded according to style period

The most striking feature of the results is a rare watershed moment: Beethoven stopped notating the term *decrescendo* after the early quartets, and thereafter reverted to *diminuendo* instead. As the plots show, Beethoven notated *crescendos* much more frequently than either *decrescendo* or *diminuendo*. The interquartile range of results for the *crescendo* count in the late quartets is much larger than in the early or middle quartet results, showing that Beethoven’s notation of the term is much more varied between different movements in contrast with a more consistent usage in the early and middle periods. The average number of indications per 100 bars per part, indicated by the horizontal line across each coloured box, suggest only a slight increase in the late quartet in comparison with the early and middle quartets. Figure 2-15 breaks the results down per movement. It shows that the outlying movements are the third movement of Op. 130, and the second movement of Op. 127, and suggests that in each style period it was in his slow movements that Beethoven notated the greatest number of gradations in volume.

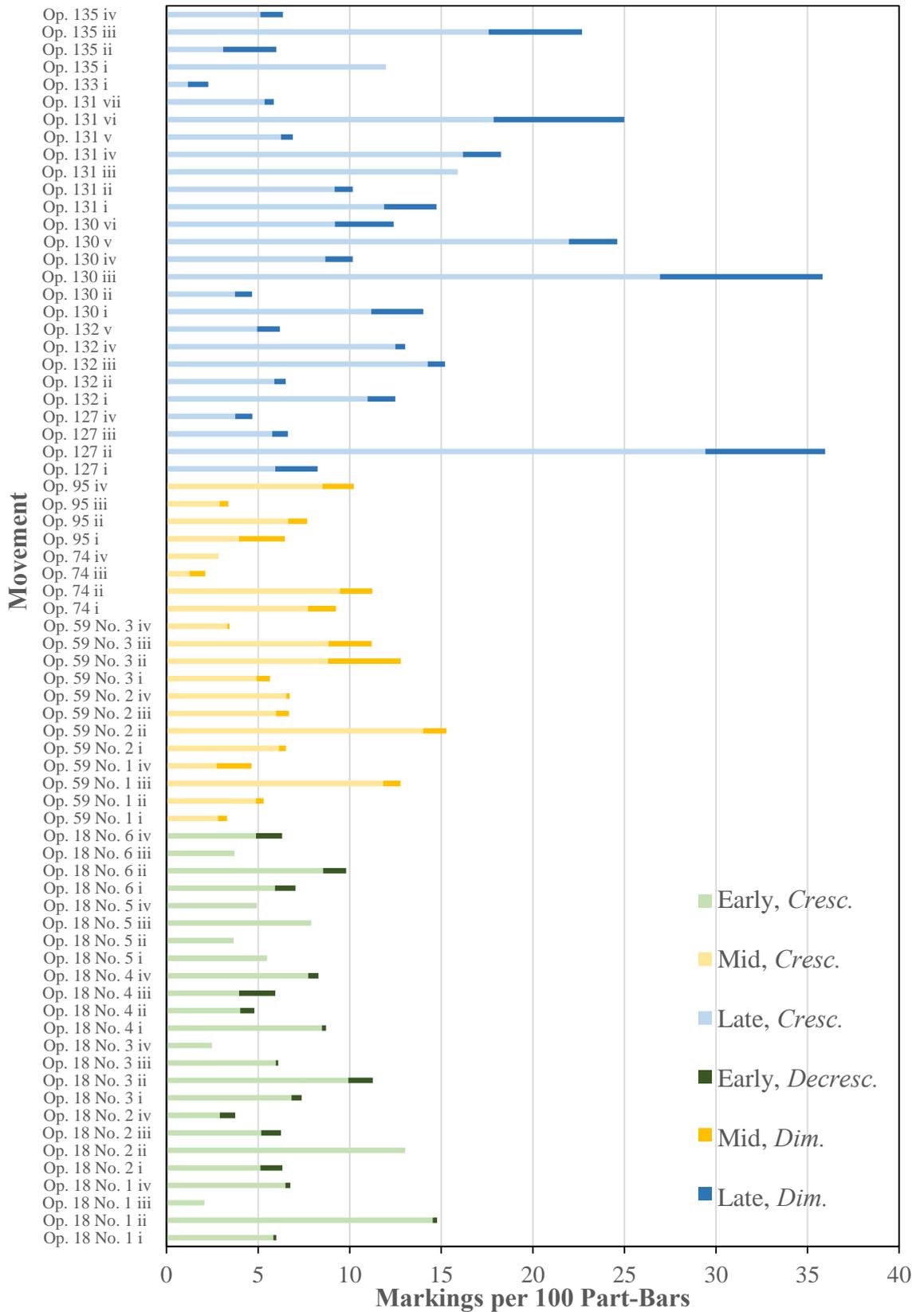


Figure 2-15: Beethoven's volume gradation markings in his quartets, per movement

Text Expressions

A list of 283 unique text expressions was extracted by a function that looped through every quartet part. A separate function then extracted information, including titles, that only existed in the score rather than the parts. These lists were amalgamated and then processed by hand in Microsoft Excel. Since the text within the scores comprised everything from written-out dynamic markings to tempo indications, the list was first sorted into 9 different categories. These categories were as follows:

1. Dynamics
2. Expression words
3. Structural Indications
4. Tempo/Mood Indications
5. Unique Titles
6. Technical Instructions
7. Emphatic/Modifying Instructions
8. Articulation markings
9. Tempo Changes

The information from the ‘Dynamics’ category was removed and conflated with the dynamic markings count. ‘Expression words’ were considered to include any term that inspired a mood, emotion or musical character without prescribing the means of delivery in terms of articulation or volume. These included words such as *cantabile*, *dolce*, *morendo* and *calando*. The category of ‘Structural Indications’ covered all markings that Beethoven employed to indicate to his performers (or readers!) information about genre or style of the movement (such as Scherzo, or *con Variazioni*), as well as instructions about how to realise the structure whether by a simple Da Capo or more elaborate phrases. The category ‘Tempo/Mood Indications’ included indications of speed, such as Allegro or Adagio, but as Beethoven also often qualified a specific character for the speed (for example, Allegro Appassionato), it also extends to cover some indications of mood. ‘Unique Titles’ included titles that appear only in one movement or quartet (such as *La Malinconia* in Op. 18, No. 6), whereas technical instructions comprised all notation relating to how the performer should physically interact with their instruments (for example, *pizz*, or *sul G*). Any marking that acted as a caveat or additional information to a previous marking (such as *ma non troppo* or *sempre*) was classified within ‘Emphatic/Modifying Instructions’, and words relating to the length of a note (including

marcato and *tenuto*) were grouped as 'Articulation markings.' Lastly, phrases relating to the modification of speed, such as *ritardando* or *Tempo Primo*, were categorised as 'Tempo Changes.' There were inevitably possible overlaps between categories (for example, indications of mood or character might have been categorised as expression markings), and they should therefore not be regarded as definitive or mutually exclusive. Furthermore, there was an enormous number of possible combinations and ways of presenting the data. Only a few illustrative examples have been chosen for the purposes of this chapter.

However, before the categorisation of the different types of text expression, a simple count of the volume of words in each movement of each quartet was conducted. Figure 2-16 shows a clear trend whereby the number of written words (excluding dynamics, as noted above) increased in quantity between each style period. Beethoven began to write not only more words, but increasingly long phrases as his compositional career progressed. Only five movements in the early quartets have an average of more than ten words per 100 bars per part, in comparison to ten movements in the middle quartets. In the late quartets, there are only three movements that do not exceed this average, with twelve movements exceeding more than twenty and five more than forty. These results follow a familiar pattern, whereby the data points are much more spread out in the late quartets. The information was analysed according to density rather than volume to account for the varying lengths of movements in the late quartets in comparison with the earlier quartets. However, this does mean that some shorter movements (such as the third movement of Op. 131 which comprises only fifteen bars) are represented disproportionately on the graph.

This increase in the number of words in the notation is partly due to an expansion of Beethoven's vocabulary for expression markings in the middle period quartets. Figure 2-17 demonstrates the different terminology that he used in each style period. There is a remarkable lack of expression words in Op. 18, with some quartets not including any at all. This result was so surprising that a manual check was conducted on all of Op. 18. Not a single expression word appears in the body of the notation in Op. 18 Nos. 1, 4 and 6. There is clear shift in Beethoven's notation style in the middle period quartets, with an expansion of his expressive palate. This includes the exploration of a variety of poetic

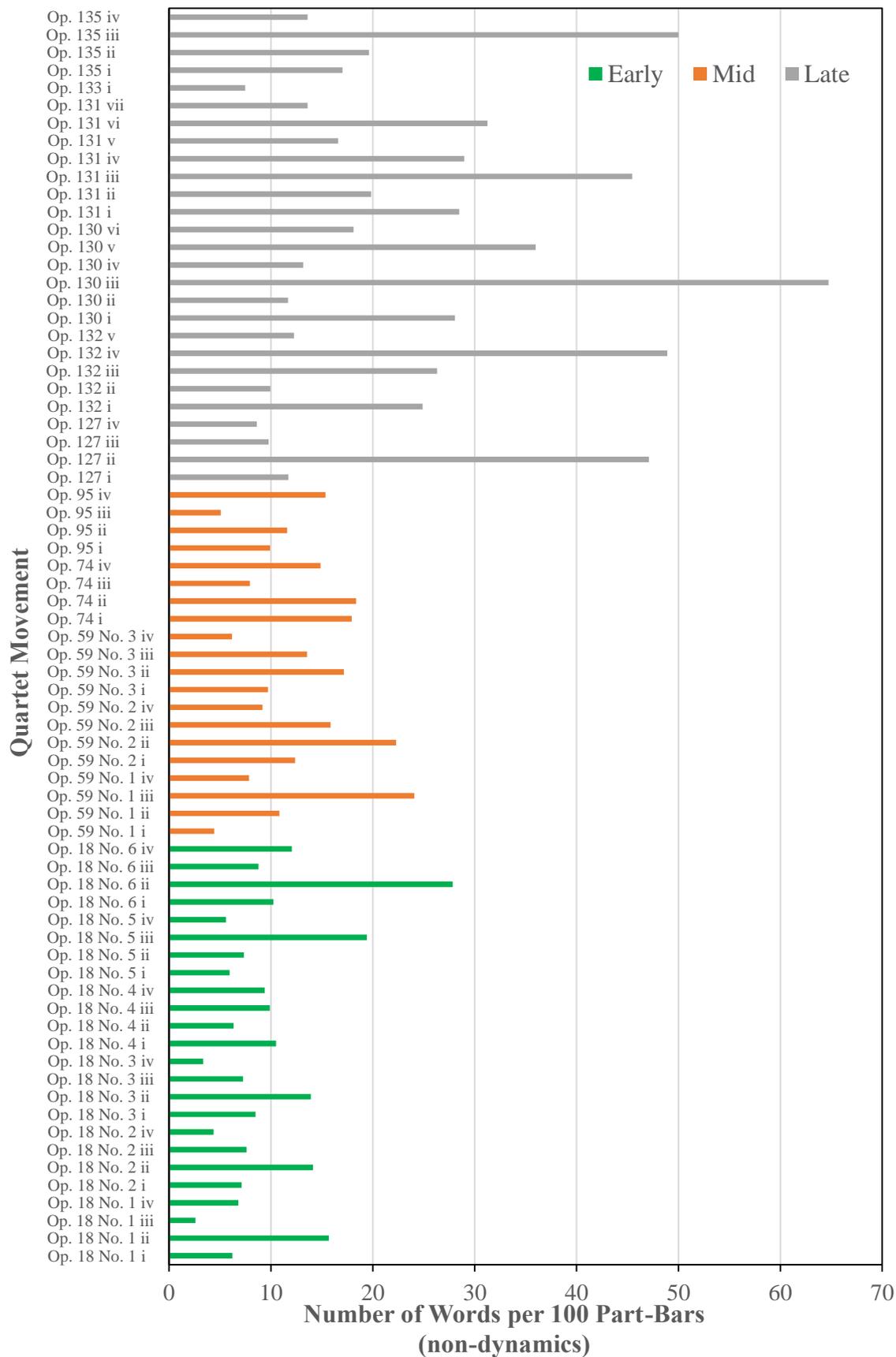


Figure 2-16: Average number of words per 100 bars per part in all movements of Beethoven’s string quartets

Quartet	Expression Words Frequency																		Unique Expression Words		
	<i>smorzando</i>	<i>dolce</i>	<i>cantabile</i>	<i>morendo</i>	<i>sotto voce</i>	<i>espressivo</i>	<i>perdendosi</i>	<i>mesto</i>	<i>mancando</i>	<i>legato</i>	<i>grazioso</i>	<i>leggiarmente(o)</i>	<i>mezza voce</i>	<i>sostenuto</i>	<i>teneramente</i>	<i>beklemmt</i>	<i>piacevole</i>	<i>lusinghiero</i>		<i>semplice</i>	<i>ritente</i>
Op. 18 No. 1																					1
Op. 18 No. 2			1																		1
Op. 18 No. 3	8	5																			2
Op. 18 No. 4																					
Op. 18 No. 5			4																		1
Op. 18 No. 6																					
Op. 59 No. 1		30	1	12	5	2	2	1													7
Op. 59 No. 2		19				6			6	4											4
Op. 59 No. 3		3									1										2
Op. 74		10	3	4	8	18					1	3									7
Op. 95		5			1	12					1	2									5
Op. 127		22	3		2	3															4
Op. 132	1	18		4	4	13			4					4	5						8
Op. 130		20	1		13	5										1					5
Op. 131		20	3	4	5	14							4				6	1	3	9	10
Op. 133																					
Op. 135		4			1														1		3
Early Total	8	5	5																		3
Mid Total		67	4	16	14	38	2	1	6	4	1	2	5								12
Late Total	1	84	7	8	25	35				4			4	4	5	1	6	1	4	9	15
TOTAL	9	156	16	24	39	73	2	1	6	8	1	2	9	4	5	1	6	1	4	9	20

Figure 2-17: Range of Beethoven's notated expression words per quartet

ways to indicate sonic ‘dying away’, including *morendo*, *perdendosi* and *mancando*.²⁴ His use of terms to indicate a singing, sweet quality in the timbre (*dolce*, *cantabile* and *espressivo*) increase drastically, with *dolce* appearing a total of 67 times in the middle period quartets in comparison to just five from a single movement in the early quartets.

The results also show an interesting trend in relation to the late quartets. Although there is significant overlap, the table suggests that some of the terminology that Beethoven favoured in the middle period quartets did not remain current in his notational lexicon. The late quartets instead show new experimentations with vocabulary, and the inclusion

²⁴ In 1825 Castil-Blaze equated these terms in his Dictionary of Music: ‘On se sert les termes *calando*, *mancando*, *morendo*, *smorzando*, *perdendosi*, dont la signification est à peu près la même, pour certains passages où l’on doit laisser évaporer tout-à-fait le son, et finir pas n’être plus entendu’. Castil-Blaze, *Dictionnaire de musique moderne, Tome 1* (Paris, 1825), p. 190.

of slightly more unusual Italian words such as *piacevole*, *teneramente* and *lusinghiero*. There is even the astonishing inclusion of the German word *beklemmt* in the Cavatina of Op. 130. Both the middle and late quartets introduce seven new words, and demonstrate Beethoven’s increasing tendency to notate expression words unique to the particular musical context. Five of the seven new words in the middle period quartets appear in only one quartet, in comparison with six in the late quartets. In total, the middle period quartets show a range of 12 different expression words, in comparison with 15 in the late quartets. In terms of the number of appearances of dynamic markings, the only marked differences include the notation of 84 *dolces* in comparison with only 67 in the middle period and 25 occurrences of the phrase *sotto voce* compared to 14. Although it should be noted that these numbers are not weighted proportionally and the increased length of the late quartets could explain the increase in volume, this perhaps makes the instances in which the middle period quartets supersede late quartet markings more significant. For example, the middle period quartets feature 38 *espressivo* markings in comparison to the late quartets’ 35, and 16 instances of *morendo* to only 8 in the late quartets.

A clear tendency towards an increased use of modifying terms and compound sets of notated instructions in both the middle and late quartets can be seen in Figure 2-18. The text compiled within this category comprised both emphatic instructions that augment the meaning of a particular dynamic symbol (such as *sempre*, *più*, *molto* and *poco*) and cautionary instructions such as *ma non troppo* and *ma non tanto*. The category also included the simple connecting word ‘e’ to account for Beethoven’s increasing use of compound notation. As the results of the expression and tempo words show, the early quartets rarely featured more than single words. In the middle period quartets, it became common to see phrases such as *piano e dolce*. In the third movement Op. 132 Beethoven notated *p, cantabile e espressivo*. However, the most likely location of such modifying terms was in movement headings.

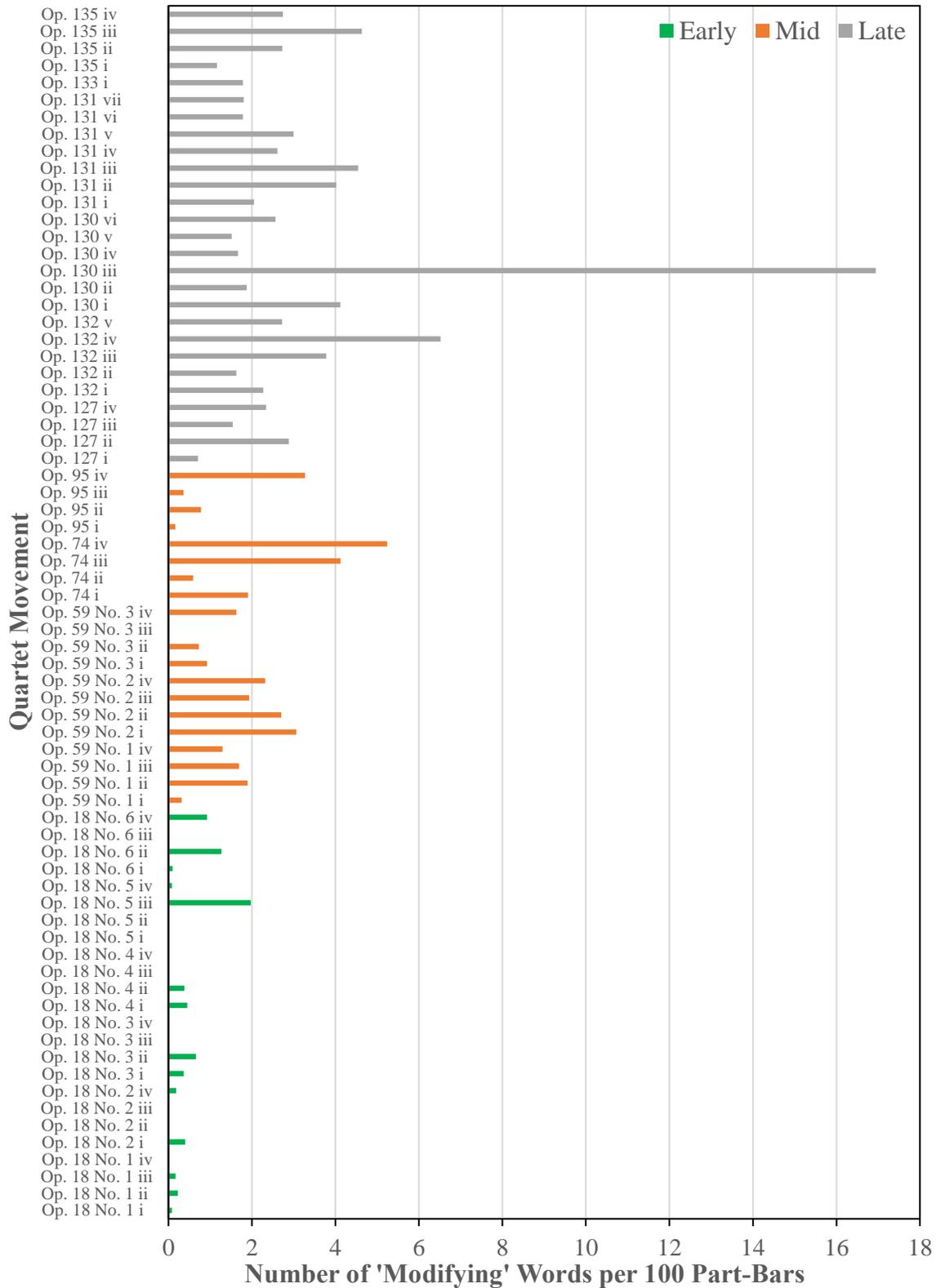


Figure 2-18: Average number of 'Modifying' words per 100 bars, per part, displayed per movement

The text list also made it possible to isolate single markings and trace their usage throughout Beethoven’s compositional career. One such marking was the unusual phrase ‘non ligato’, which only appeared in Beethoven’s notational lexicon in the final middle-period quartet. Figure 2-19 shows an intriguing trend: after first notating the marking in Op. 95, *non ligato* then appears in all of the late quartets, with the exception of Op. 135 and Op. 133. Moreover, it features heavily in Op. 130 and is notated 20 times in the score. The significance of this is explored in detail in Chapter 3.

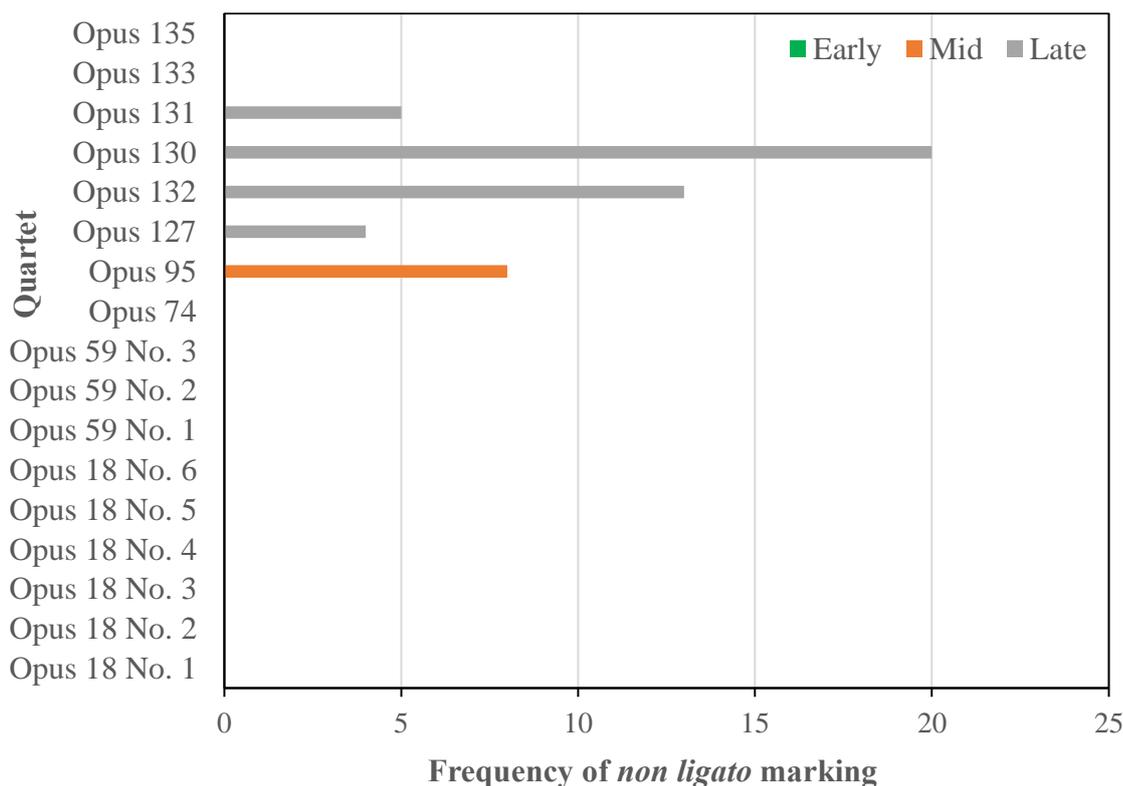


Figure 2-19: Appearances of ‘non ligato’ in each quartet

There were many other ways of displaying the data from the text expression count, but due to reasons of space only the categories that suggested the most interesting or surprising trends were selected for demonstrative purposes. Some categories were self-evident. For example, the list of ‘Unique titles’ that appear in only one movement mostly relate to the late quartets, with titles such as *Alla Marcia*, *Cavatina*, *Alla Danza Tedesca*, *Heiliger Dankgesang*, and *Grosse Fuge*. Regarding structural indications, the unusual numbering structure of Op. 131, featuring a number before each of the seven movements, was also an innovation in the late quartets. However, the categorised lists also showed that the notational trends in the late quartets had some earlier precedents. For example, in the early period quartets the enigmatic inscription *La Malinconia* appears before the final

movement of Op. 18, No. 6, and Beethoven also explicitly labels each variation (Var. 1 – 5) in the third movement of Op. 18, No. 5. In the middle period quartets, Beethoven labels the *Introduzione* and *Finale* of Op. 59, No. 3 and the astonishing second movement of Op. 59, No. 2 features the inscription 'Si tratta questo pezzo con molto di sentiment.' The structure of the final movement of Op. 74 is also suggested by the title *Allegretto con Variazioni*. This evidence suggests that Beethoven's use of text in the late quartets was not so much a break with previous notational habits, but an amplification of tendencies that were already there.

Discussion

As Lockwood noted, one aspect of the complexity of notation in the late quartets is Beethoven's tendency to 'violate' normal rules of notational convention. Beethoven often used expression markings to undermine metrical patterns of emphasis as indicated by time signatures, and in the first movement of Op. 130 it is curious that the notational 'modulation' to G \flat major arrives only in bar 71, some twenty bars after the functional harmonic modulation to the second tonal area. Due to the nature of quantitative method of data collecting and the object-orientated infrastructure of music21, it was only possible to quantify what was actually encoded into the digital scores themselves, rather than to qualify what was missing or how the notation subverts these frameworks. For example, there are several instances in the late quartets in which the key signature changes in the middle of the bar – a blatant violation of notational convention – including bar 32 of the third movement of Op. 135. In bars 76–77 of the second movement of Op. 127 both the time and key signature changes are notated in the middle of the bar. This is an intriguing moment from the perspective of the autograph score, which suggests that not only did Beethoven not immediately notate 12/8 in the middle of bar 76 (it is clearly inked in later with a different colour ink over a notated \square time signature), but that he also originally notated the change of key signature at the beginning of bar 77, before scribbling it out and re-writing it in the middle of the bar (see Figure 2-20).

Although the Henle Verlag Urtext scores are usually successful at typesetting such idiosyncrasies, in this instance the key signature change is placed one beat earlier than Beethoven's notation, so that it falls on the second rather than third beat of the bar as indicated in the autograph. Notably, the musical software used to create the Gutenberg score of this passage was unable to account for such a subversion of notational convention altogether: the editor was forced to include a double barline before the time signature

Figure 2-20: Autograph score of the second movement of Op. 127, p. 13, bb. 75–78.

(Kraków, Bibliotheka Jagiellońska, Mus.ms.autogr.Beethoven, Artaria 207).

change and place the key signature change one beat earlier at the beginning of the bar. As this isolated example suggests, and there are many others in the late quartets, the danger of a quantitative study is that it risks losing sight of the application of individual markings. However, the methodology did usefully highlight some anomalies.

Among the most surprising outcomes was the prominence given to the third movement of Op. 130. Despite the fact that it was consistently highlighted as an extraordinary outlier in terms of the density of markings, it is a movement that receives relatively little comment in the literature.²⁵ It came second only to the second movement of Op. 127 in terms of the density of *crescendo* and *diminuendo* markings (see Figure 2-15), and drastically outstripped all other quartet movements in the density of modifying terms (see Figure 2-18). With an average of over 16 modifying markings per 100 bars per part, it features over twice the number of markings in the fourth movement of Op. 132 which,

²⁵ See Barry Cooper, *Beethoven and the Creative Process* (Oxford, 1990), pp. 197–214, and Robert Hatten, ‘Plenitude as Fulfillment: The Third Movement of Beethoven’s String Quartet in B ♭, Op. 130’ in Kinderman (ed.), *The String Quartets of Beethoven*, pp. 214–233. Hatten’s analysis does not comment directly on the extraordinary proliferation of dynamic markings, although he obliquely refers to it by attributing the ‘density of activity’ to a textural strategy that he describes as ‘plenitude’: a state implying ‘saturation or repleteness.’ See Hatten, ‘Plenitude as Fulfillment’, p. 224. Cox’s study of the ways in which different quartets interpret the notation in this movement goes no further than describing the aural effects of each different approach, and summarising the various characterisations that critics have made. See Cox, ‘The Interpretation of Unusual Dynamic Markings in Beethoven’s String Quartet in B flat major, Op. 130.’

with an average of just over 6, comes second in terms of density. The movement also comprises the greatest density of dynamic markings of all of Beethoven's quartet movements, with a total of 78 volume markings per 100 notes per part (see Figure 2-13). Beginning in a notated key signature of D ♭ major (although D ♭ major is only confirmed harmonically in the third bar), the movement also features two key signature changes; a significant proportion given the relative brevity of the movement, which is just 88 bars long. Due to this proliferation of markings, it is a movement that *looks* highly complex on the page. This in itself might suggest that Beethoven took special care and attention over the notational detail (see Figure 2-21).

Figure 2-21: Autograph score of the third movement of Op. 130, fol. 14v, bb. 24–25.

(Paris, Bibliothèque nationale de France, département Musique, MS-34).

The frequent appearance of *mf* markings is particularly noteworthy – even extraordinary – given that it is only the second movement in the entirety of Beethoven's quartet output that features the marking. There is evidence to suggest that, in the early nineteenth century, *mf* was employed to indicate a slightly higher dynamic level than *poco forte*, meaning that, perhaps perversely to modern eyes, Beethoven's combination of *poco forte* and *m.f.* indicates a small increase (rather than decrease) in volume. Indeed, composer and theorist J. F. Reichardt categorised the degrees of volume (albeit in relation to orchestral rather than string quartet performance) that the sign □ would elicit as follows: 'the orchestra will make the second bar *p.* the third bar *poco p.* the fourth *rinf.* the fifth *poco f.* the sixth *mf.* The seventh *più f.* the eighth *f.* and the ninth *ff.*'²⁶ In fact, the only *forte* marking in the whole movement that does not appear in combination with other

²⁶ Johann Friedrich Reichardt, *Über die Pflichten des Ripien-Violinisten* (Berlin, 1776), pp. 65–67. As cited in Brown, *Classical and Romantic Performing Practice*, p. 60.

markings, such as *fp* or *poco forte*, occurs on the very final note, the culmination of a majestic, harp-like sweep across nearly all of the strings in the quartet range. Beethoven’s unusual use of *mf* may suggest that he was at pains to ensure that the atmosphere of the movement remained suitably gentle and relaxed, never reaching a loud dynamic level. Furthermore, the indication ‘ma non troppo’ was added later to the ‘Andante con moto’ marking at the beginning of the movement in the autograph score, reminding the performer not to play at a hurried tempo (as the ‘con moto’ marking and semiquaver figuration might seem to imply).

As this example shows, outlying results highlight potentially unexplored and even unexpected avenues of enquiry. Taken as a whole, the broader picture of the data can also usefully act as a corrective, or a means of substantiating existing critical observations. For example, Sheer’s profile of the dynamics in the late instrumental works replicates narrative tropes of Beethoven’s retreat into interiority (‘sublimation’ and ‘restraint’) in contrast to extrovert works of the heroic style.²⁷ The results were able to show that, contrary to Sheer’s claim that the late works feature a lesser use of loud dynamics, Beethoven in fact notated an average of 7.7 *forte* markings per 100 bars in contrast with only 4.9 in the middle period. However, her observation that ‘Beethoven’s particular interest in shaping soft dynamic spans’ through the use of graduated dynamics is corroborated by the data – although with the modification that Beethoven used the marking *ppp* more frequently in the middle period.

November’s assertion that ‘especially in the Adagios of the middle-period quartets, where, in the eighteenth century, the voice of the performer-interpreter was to come most prominently to the fore, one sees that Beethoven specified fine nuances of performance with a wealth of markings’²⁸ is also not wholly supported by the results of the data collection. For example, as shown in Figure 2-13, the density of volume and dynamic markings remained remarkably consistent between all style periods overall (with the exception of outliers noted above). Figure 2-22 divides these results per movement.²⁹ As can be seen, there is no evidence that Beethoven specified a greater volume of markings

²⁷ Sheer, ‘Dynamics in Beethoven’s Late Instrumental Works’, p. 358.

²⁸ November, *Beethoven’s Theatrical Quartets*, p. 46.

²⁹ As discussed above, as these results are shown as an average, the third movement of Op. 131 appears particularly prominently due to its extraordinary brevity (comprising only 11 bars); it thus features a disproportionately high number of markings in comparison to its length.

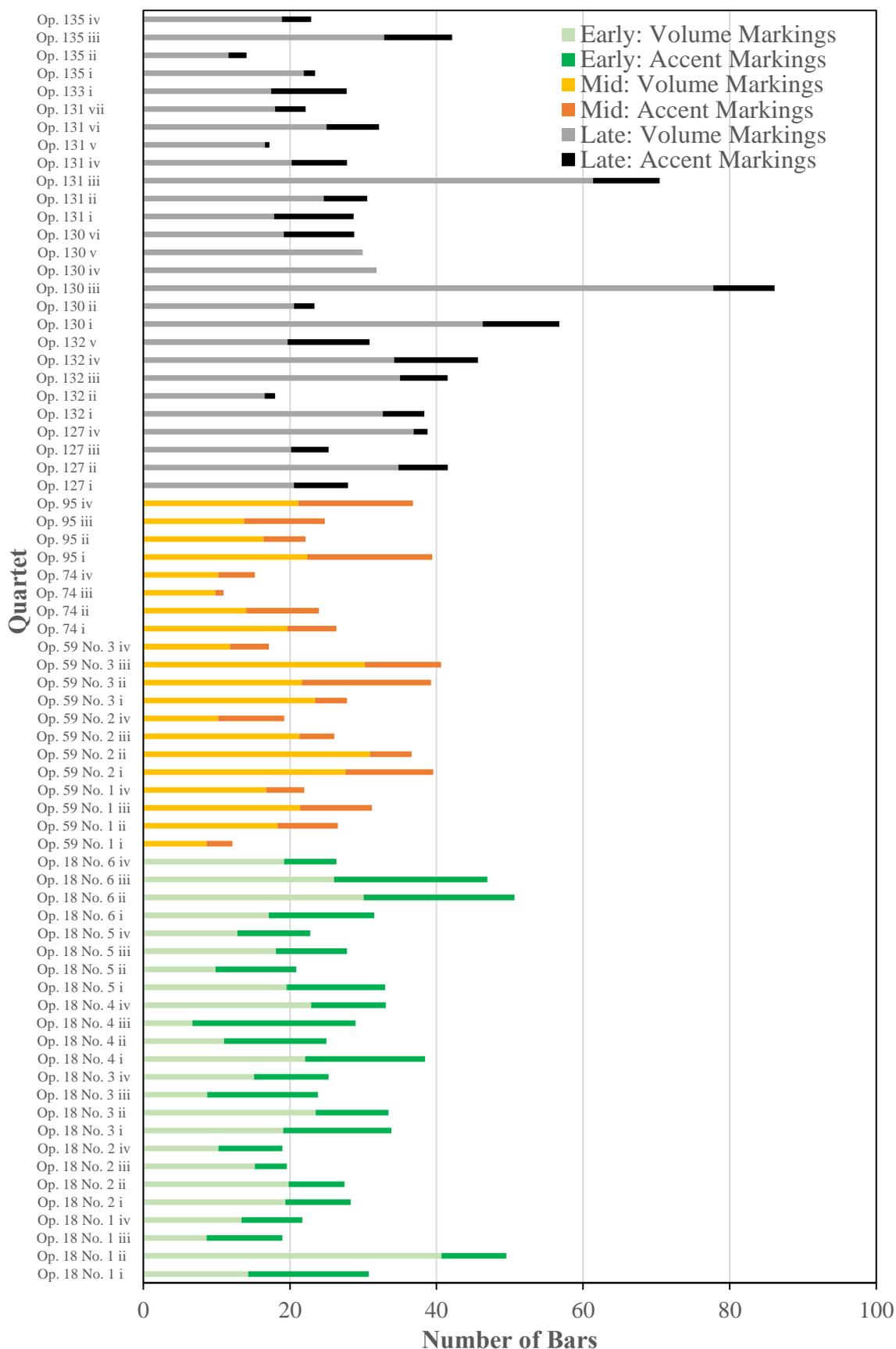


Figure 2-22: Beethoven's use of accent and volume markings in each movement of his quartets

in his slow movements in particular in these quartets. Of the three Op. 59, only the first has an Adagio with a greater number of markings than other movements. The results suggest that Beethoven in fact notated more markings in his Op. 18 quartets, with the slow movements of Op. 18 Nos. 1 and 6 standing out in particular as comprising a greater volume than any movements in the middle-period quartets. However, November is correct that in the middle-period quartets, Beethoven notated comparatively more *expression* words in all of his slow movements (see Figure 2-16).

The results clearly showed that, in line with what scholars such as Sheer and Treitler have argued, Beethoven began to use more written expressions and words in his middle and late quartets. His increased use of modifying terms does also suggest a concern to indicate greater levels of precision in his notated texts. Yet not all words and phrases suggest a prescriptive function and many of the expression words that he adopted in the middle period quartets, such as *mancando* and *smorzando*, invite a degree of poetic licence on the part of the performers. In such instances, the notation seems not to *prescribe* action, but rather *describes* a mood or a colour. Expression words allow the performer to imagine a sounding result and choose their own way to realise it (albeit within the confines of a specific performance tradition). As suggested in Chapter 1, Beethoven’s notation in the late quartets is often ambiguously poised between what appears to be an attempt to *describe* his experience or memory of sound and the work-based notion that it *prescribes* action for the performers to replicate this experience. As Beethoven’s process of notating undoubtedly contained sediments of his own performing experiences, the binary separation between prescriptive vs. descriptive is not wholly helpful. Moreover, no amount of notation can ‘fix’ a definitive interpretation of a musical work. Perhaps the more ambiguous or unusual the notation in Beethoven’s later quartets, the greater the scope for interpretative licence on the part of performers, whether this was Beethoven’s ‘intention’ or not.

The results suggest that Beethoven had a notable preference for time signatures with the smallest number of possible ‘strong’ beats per bar in the early quartets. Of a total of 31 time signatures, he notated 3/4 nine times, and there are ten instances of a notated 2/4. In these time signatures there is only a single ‘strong’ beat per bar, in contrast with 4/4 which comprises two strong beats per bar. This hypothesis is supported by the larger number of accent markings in the early quartets in comparison with the middle and late quartets, suggesting that these were employed to control or subvert the patterns of accentuation within the metrical framework. In this way, his notation in the Op. 18 quartets seems to

demonstrate more of an affinity with an eighteenth-century understanding of notation as a means of subverting or modifying a collectively understood musical grammar in performance. As outlined in the Introduction, notation in the eighteenth century hinged upon a mutual interaction between composer and performer; symbols in the score were dependent on context, representing a subversion or modification of a 'normal' stylistic grammar with which a professional performer would have been familiar. As Johann Schulz put it in 1771, dynamic marks are 'often put there only so that very crude improprieties may not be committed.'³⁰

Beethoven was sensitive to the different types of performances that the notation would have elicited from the first performers according to a system of metrical hierarchy and tempo delivery codified by theorist Johann Kirnberger.³¹ As early as 1790, he jotted on the back of a draft of his song 'Klage', WoO. 113 'that which follows will be sung still more slowly, *adagio*, or, at the most *andante quasi adagio*. *Andante* in 2/4 time must be taken must faster than the tempo of the song here. As it appears, the latter cannot remain in 2/4 time, for the music is too slow for it. It appears best to set them both in C time ... The smaller note values determine the tempo; for example, semiquavers and demisemiquavers in 2/4 time back the tempo very slow. Perhaps the contrary is also true.'³² By using notation to undermine or subvert metrical patterns of emphasis (for example, by using *sforzandi* to emphasis syncopations or weak beats of the bar and phrase markings to shape expressive accentuation), Beethoven demonstrates this practical knowledge of such eighteenth-century grammatical rules in the early quartets.

By far the most striking shift in notation style in the late quartets concerns Beethoven's manipulation of the basic parameters of Western staff notation: the frameworks for time and key signatures. This is a feature of the notation in the late quartets that has never been

³⁰ Johann Georg Sulzer, *Allgemeine Theorie der schönen Künste* (Leipzig, 1771–4), p. 709. As cited in Brown, *Classical and Romantic Performing Practice*, p. 59.

³¹ Beethoven possessed his own copied-out version of Kirnberger's compositional treatise and used it in his teaching methods. See Bonn, Beethoven-Haus, HCB Mh 46g, and Thayer-Forbes, p. 467. In 1817, Beethoven requested that the Viennese publisher Tobias Haslinger should 'kindly send the Kirnberger, to add to mine. I am teaching someone counterpoint and I cannot find my own manuscript under my pile of papers.' See Richard Kramer, 'Notes to Beethoven's Education', *Journal of American Musicological Society*, 28 (1975), pp. 72–101.

³² Cited in Brown, *Classical and Romantic Performance Practice*, p. 299.

noted before. Not only did he begin to notate unusual metres such as 9/4 and 3/2,³³ but in the late quartets it became common for Beethoven to change time signature multiple times per movement. His key signatures began to look more complex on the page as he regularly notated keys with over four or five flats. Like his time signatures, in the late quartets Beethoven began to notate multiple changes of key signature per movement. In combination with some unusual movement headings and writing that bears little resemblance to the traditions of quartet writing, including a more equal distribution of material between each part, it is perhaps not surprising that nineteenth-century performers struggled to make sense of what they saw in front of them. Violinist Andreas Moser (pupil and colleague of Joachim) observed that the visual appearance of the music does not invite an intuitive response from the performer: ‘[Moser] conceded however that there were many instances where “musical instinct” did not suffice to decide on the phrase divisions, citing Beethoven’s late quartets as especially difficult in this respect. In such circumstances, he suggested “only a basic insight into the rules of phrase structure and the formation of melody” could provide clarification’.³⁴ Moser’s experience is remarkably similar to Rochlitz’s account of his struggles to make sense of Op. 131 from the perspective of individual instrumental parts, outlined in the previous chapter. The results of the data collection go a long way to providing greater insight into why Beethoven’s new type of part writing was so instrumental in shifting a culture of sight-reading towards one of rehearsal and the study of scores.

Conclusion

The results of this study have supported the hypothesis outlined in Chapter 1, first proposed by Marston and Wallace, that Beethoven increasingly turned towards the physical experience of writing to shape his compositions in the later years of his life. This does not mean that the memory of sound, or even actual residual aural and sonic experiences were no longer important to him. Indeed, George Ealy has argued that ‘Beethoven’s late works were not composed in total deafness, as is commonly believed,

³³ These signatures first appeared in Op. 131, but Cooper has shown that Beethoven’s sketches for the Cavatina of Op. 130 also included melodic themes in both 9/4 and 3/2. See Cooper, *Beethoven and the Creative Process*, p. 203.

³⁴ Brown, *Classical and Romantic Performing Practice*, p. 166.

but in a state of limited hearing'.³⁵ However, it does suggest that the physical process of notating and other material factors took on new importance as he found ways of adapting to his increasing deafness.³⁶ This is reflected quite literally in his increasing use of written language rather than musical symbols. On these grounds, it may even be possible to posit that his increased use of flat keys in the middle and late quartets is related to his turn to sketching as his hearing became progressively worse. Indeed, drawing flat signs requires only a single stroke of the pen, whereas sharp signs require four; perhaps the act of inscription with a quill encouraged this as a graphic rather than aural preference. Furthermore, as Danuta Mirka has shown, the late-eighteenth-century theoretical models of metre with which Beethoven was familiar hinged upon audibility and the perception of phenomenologically-distinguished patterns of strong and weak beats.³⁷ Whereas in his earlier, and even middle quartets, the clarity of the beat is almost always immediately audible from the outset – indeed, Burnham has lauded rhythmical impulse as a defining feature of his 'heroic' style – Beethoven's metrical manipulations in the late quartets take on a more writerly quality, playing with eccentric patterns of grouping as a visual rather than aural exercise.

What the overview of Beethoven's whole *oeuvre* has suggested is not what Butt has described as a Weberian process of rationalisation,³⁸ whereby notation increases in complexity in order to 'prescribe' to the performer or to shut down what November characterizes as the 'voice of the performer-interpreter.' In fact, no clear teleological narrative emerges. Beethoven is shown to have engaged creatively and perhaps even playfully with different sorts of notation in various phases of his compositional career, exploring different types of expression words and patterns of emphasis, with clusters of favoured words emerging during certain time periods and falling out of use again while others are employed. These shifts in notational style cannot be understood as isolated acts of creativity and innovation: they relate both to the output as a whole, and to Beethoven's own implication in an ever-unfolding network of mutually constitutive relationships.

³⁵ George Thomas Ealy, 'Of Ear Trumpets and a Resonance Plate: Early Hearing Aids and Beethoven's Hearing Perception', *19th-Century Music*, 17 (1994), p. 263.

³⁶ See Wallace, *Hearing Beethoven*.

³⁷ See Danuta Mirka, *Metric Manipulations in Haydn and Mozart: Chamber Music for strings, 1787–1791* (Oxford, 2009).

³⁸ Butt, *Playing with History*, p. 98.

In Gell’s terms, the entirety of Beethoven’s quartet *oeuvre*, like an archaeological tradition, could be understood as a spatio-temporally distributed object. Gell’s notion of the ‘distributed object’ conceives of a corpus of artworks as being constituted by parts that each have their own histories and genealogies, while also being inherently interrelated. In this light, I would argue that, contrary to what scholars such as Cox have suggested of the notation in the late quartets, Beethoven is not simply reacting against notational ‘convention’ as a hypostatized set of rules and constraints.³⁹ Rather, changes and shifts in style are emergent from an improvisatory, ongoing process of negotiation and exploration that evolves in, and between, each different quartet. The words of Hallam and Ingold aptly summarise this process:

Every idea is like a place you visit. You may arrive there along one or several paths, and linger for a while before moving on, perhaps to circle around and return some time later. Each time you revisit the idea it is a little different, enriched by the memories and experiences of your previous stay . . . Only when we look back, searching for antecedents to new things, do ideas appear as the spontaneous creations of an isolated mind encased in a body, rather than way stations along the trails of living beings, moving through a world.⁴⁰

This theoretical perspective highlights how apparent watershed moments, such as Beethoven’s seemingly sudden reversion to *diminuendo* rather than *decrecendo* in the middle period quartets and the introduction of the term *non legato*, are highlighted only from the retrospective purview of the whole. While in this way the results of the data collection provide useful spotlights for avenues of historical enquiry, they risk foregrounding individual acts of innovation (or eccentricity) as products of ‘an isolated mind’. Furthermore, Cook suggests that ‘the more sophisticated our analytical models, the more divorced the object of analysis seems to become from the experience of music, and especially from the sense of physical engagement in which much, if not all music, has its source.’⁴¹ The graphs shown throughout this chapter are susceptible to this charge,

³⁹ Cox argues that ‘it is as though musical expression has been liberated from convention and taste and awakened to the possibilities of stranger and more diverse interpretation’. See Cox, ‘The Interpretation of Unusual Dynamic Markings in Beethoven’s String Quartet in B flat major, Op. 130’, p. 6.

⁴⁰ Tim Ingold and Elizabeth Hallam (eds.), *Creativity and Cultural Improvisation* (New York, 2007), p. 8.

⁴¹ Cook, ‘Computational and Comparative Musicology’, p. 121.

divorcing notation entirely from its performative and contextual dimension – just as the language and methodology of this chapter isolates it within the course of the dissertation. To regain ‘the sense of physical engagement in which much, if not all music, has its source’, it is thus necessary to expand the field of interpretation more explicitly to the domain of practice. Picking up on the threads left at the end of Chapter 1, the next chapter reconnects Beethoven's notation to the physical and tactile dimensions of the late quartets, as experienced by their earliest performers.

3. Mapping the Social Network

Introduction

Naomi Cumming makes a powerful case for the role of the interpretative agent:

If the purpose of analytical texts is to aid others in their process of coming to grips with a work, could it not be as informative to give an account of an interpretative process in which the terms of description are fallible, incomplete and subject to ongoing reinterpretation, as it is to make assertions of content that have a greater certainty than is possible with the given material? The interpretative agent then reappears, not as one who imposes meanings on signs, but as one who acknowledges his or her place within a shifting discourse and is not afraid of the ultimate incompleteness of any interpretative enterprise.¹

Cumming's privileging of the interpretative *process* over a final interpretative outcome will be highly relevant to the approach developed in this chapter. I will attempt to 'give an account of an interpretative process' that situates Beethoven's notation in practice by drawing on a constellation of sources relating to his first performers – from autograph sources, to compositional treatises, to instruments, to Beethoven's conversation books. This approach allows me to map ways in which these early performers might have interpreted notational information within the context of early-nineteenth-century Vienna, thereby broadening our historical knowledge of the ways in which Beethoven's notation may have operated in practice without imposing definitive meanings. James Johnson has written that 'Musical meaning does not exist objectively in the work – or even in its composer's intentions. It resides in the particular moment of reception.'² To highlight the role of the 'moment of reception' in the mediation of meaning, I will also explore the ways in which two centuries of 'shifting discourses' have generated very different perspectives on Beethoven's notation. The possible interpretations that I propose in this chapter will themselves take part in these shifting discourses, forming yet more strands

¹ Cumming, *The Sonic Self*, p. 70.

² James Johnson, *Listening in Paris: A Cultural History* (California, 1995), p. 2.

of the rhizomes that map connections and proliferate possible meanings in the ongoing reception of the composer’s music.

Semiotic Approaches

The long and rich tradition of semiotic theory offers a readily-available framework within which to situate this interpretative process. As a study of the ways in which signs communicate meaning, a semiotic approach necessarily focuses on the ‘moment of reception’, and foregrounds the role of the interpreter of the sign. It thus offers a robust way of accounting for the ways in which Beethoven’s notation may have carried meaning to the first performers, and highlights how Beethoven’s own process of notating cannot have been a purely cerebral affair. As Cumming puts it, ‘a semiotic philosophy has the advantage of not forcing any unwarranted separations between the “psychological” as a set of private feelings or states, and the “culturally conditioned,” “social” or “historical.”’³ Nonetheless, scholars such as Webb Keane have argued that lingering models of the sign inherited from the structuralist legacy of Ferdinand de Saussure still hinge upon the long-established ‘mind–body’ dualism, characteristic of Western thought since Descartes.⁴ According to Keane, Saussurean semiotics insist upon a ‘radical separation of the sign from the material world’,⁵ thereby perpetuating what he describes as the ‘representational economy.’ This ‘economy’ would see Beethoven’s notation in terms of textual representation, as an image of the composer’s intentions to be decoded, rather than as a performative, mediating material in its own right, as this dissertation proposes.

Rooted in a paradigm that sees Beethoven’s late quartets as a rejection of the worldly, critical approaches to Beethoven’s notation have, historically, tended to reside within a structuralist model of semiotic interpretation. This model assumes a stable and linear relationship between producer and receiver, emphasising what semiologist Jean-Jacques Nattiez would describe as the ‘poietic’ dimension of interpretation. The ‘poietic’ aspect of symbolic form ‘results from a *process of creation* that may be described or

³ Naomi Cumming, *The Sonic Self: Musical Subjectivity and Signification* (Indiana, 2000), p. 17

⁴ Webb Keane, ‘Semiotics and the social analysis of material things’, *Language and Communication*, 23 (2003), p. 410.

⁵ Keane, ‘Semiotics and the social analysis of material things’, p. 410.

reconstituted.’⁶ This ‘description’ or ‘re-constitution’ thus reads the creative process backwards from the position of completion; a perfected and finished product that originated in the mind of an agent. Hallam and Ingold characterise this as the ‘backwards reading of modernity’,⁷ a mode of interpretation characteristic of the hylomorphic model of creativity described in Chapter 1. It conceives of symbolic or notational inscription as the transmitter of an originary artistic source to be decoded by the recipient performer (see Figure 3-1).

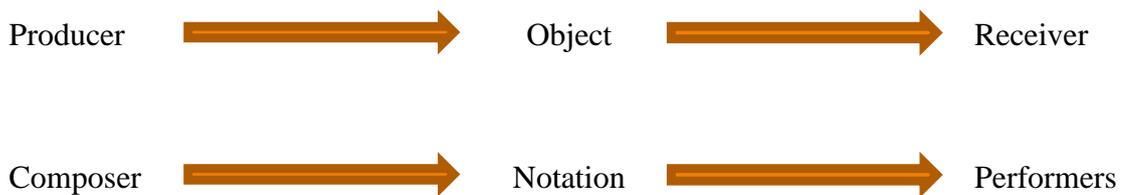


Figure 3-1: A linear model of communication

However, as this chapter shows, the possible meanings and implications of Beethoven’s new type of part writing are not immanent in the score; they are experienced in, and thus mediated by, practice. In order to begin to map the possibility of a networked understanding of Beethoven’s notation, this chapter moves beyond Beethoven’s personal approach to composition to explore the ways in which his uses of notation are entangled in a varied and ever-expanding web of relationships between performers, instruments, and materials – both past and present. To do this, it looks to the work of nineteenth-century semiotician and pragmatist philosopher, Charles Sanders Peirce

Peirce’s revolutionary contribution to the model of the sign was the introduction of the notion of the ‘interpretant’, thereby generating a tripartition out of the traditional sign-object relationship. The ‘interpretant’ explicitly introduces a psychological dimension, and accounts for the mental activity involved in the recognition of signs. Cumming has described this phenomenon with particular lucidity: ‘what the idea of “interpretant” does is allow a very important distinction between what the sign conveys in its moment of presentation and what constitute the preconditions of its being understood.’⁸ The

⁶ Jean-Jacques Nattiez, *Music and Discourse: Toward a Semiology of Music* (Chichester, 1990), p. 12.

⁷ Ingold and Hallam, *Creativity and Cultural Improvisation*, p. 3.

⁸ Cumming, *The Sonic Self*, p. 75.

theoretical implications of Peirce’s semiotic tripartition is that the relationship between the sign and the object is reconstituted as one that is only ever in a process of infinite referral, mediated by the lived experience of the perceiver. As Nattiez puts it, the object of the sign does not in fact exist ‘except within and through the infinite multiplicity of ‘interpretants’, by means of which the person using the sign seeks to allude to the object.’⁹ Peirce’s notion of the ‘interpretant’ thus prevents any possibility of linearity or stability in the chain of communication; rather, semiotic information is always relayed and referred via a specific frame of reference, a ‘knowing’ that is socially and inter-subjectively constituted. Such a model can be represented in the following way (see Figure 3-2):¹⁰

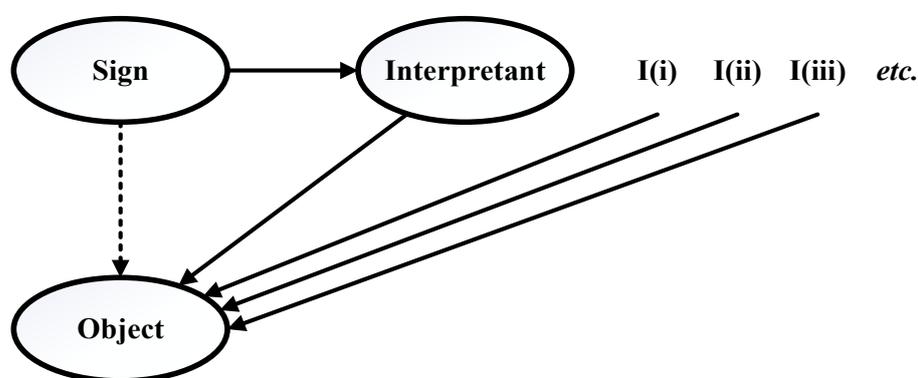


Figure 3-2: Peirce’s Semiotic Tripartition

According to this process of referral, the ‘interpretant’ itself functions as a sign, and is therefore inherently unstable and dynamic. Nattiez cites the words of semiologist Molino: ‘the sign is a fragment of actual experience, which refers to another fragment of actual experience that remains in general “virtual”’.¹¹ The notion of the ‘virtual’ is crucial here. For example, by notating a particular expression or bowing marking Beethoven may be imagining his own gestural response to the sign as a performer. Yet as this relationship between the notated sign and its object is imaginary and dependent on the lived experience of the perceiver, the marking cannot delimit the sorts of responses it might elicit in a particular scenario, culture or context. By itself behaving as a sign, the ‘interpretant’ powerfully reveals the fundamentally emergent nature of meaning itself.

⁹ Nattiez, *Music and Discourse*, p. 7.

¹⁰ This figure is adapted from Nattiez’s own illustration of the Peircean semiotic tripartition. See Nattiez, *Music and Discourse*, p. 6,

¹¹ Nattiez, *Music and Discourse*, p. 8.

It was outlined in Chapter 1 how Wagner's Schopenhauerian-inspired notion of Beethoven's 'Hearing Eyes' suggested that it was precisely the purity of Beethoven's cognitive processes, his retreat from society, that produced what was meaningful and therefore valuable in the late quartets. In contrast, Peirce's conception of the 'interpretant' takes its cue from pragmatist philosophy. Rather than dealing in idealised concepts, pragmatism privileges 'knowing' through active and practical encounters in day-to-day life with social others. A pragmatist approach necessitates consideration of the social and material transactions that reciprocally enriched Beethoven's creative process. Indeed, there is ample testament to the fact that Beethoven had lively and convivial relationships with the musicians of Viennese society. The most famous and long lasting of these relationships was with the Schuppanzigh Quartet, who, in various configurations, performed, rehearsed and worked with Beethoven on all of his quartets, from Op. 18 to Op. 135. Members of the Schuppanzigh Quartet did not just discuss Beethoven's use of notation with him, they actually undertook notating tasks directly themselves, introduced innovations, and advised on the layout of new editions.¹² Any understanding of Beethoven's notation in the late quartets must account for the sorts of practical, social and musical encounters that Beethoven transacted on a daily basis with these musicians. A pragmatic view of musical notation allows it to be reframed not within a 'representational economy' as a text to be decoded, but as an object with meanings produced in the social process of activity.

Keane has argued that it is in the 'rediscovery' of Peirce's work that recent commentators have sought to 'overcome the sign-world' dichotomy.'¹³ In the context of interpreting musical signs, Cumming similarly advocates Peirce's approach as a means of 'disarming' any tendency to a mind/body dualism as 'the musical "mind" is not a distinct entity engaged in the cognition of abstract patterns, and isolated absolutely from the actions of the body.'¹⁴ The networked model in this chapter attempts to overcome such unhelpful binaries by drawing on Peirce's notion of the 'interpretant' in light of the anthropological approaches to material objects outlined in Chapter 1. Indeed, Gell's notion of the art

¹² See Gingerich, 'Ignaz Schuppanzigh and Beethoven's Late Quartets.'

¹³ Keane, 'Semiotics and the social analysis of material things', p. 413. For a general introduction to Peircean semiotic theory, see James Hoopes (ed.), *Peirce on Signs: Writings on Semiotics by Charles Sanders Peirce* (London, 1991), and Cumming, *The Sonic Self*, pp. 72–104.

¹⁴ Cumming, *The Sonic Self*, p. 16.

object as an index already explicitly acknowledges its Peircean legacy. Although Nattiez acknowledges the importance of the material trace of the sign, whose ‘symbolic form is embodied physically and materially in the form of a trace accessible to the five senses’, he also describes it as an ‘amorphous physical reality until it is entrapped by analysis.’¹⁵ In contrast, I take the the material object to have agency and meaning independent of its interactions with and ‘entrapment’ by human actors. While the ontology of a mind-body dualism conceives of a rational mind imposing itself on the material world, here the material world is assumed to push back.¹⁶ It was shown in Chapter 1 how the unique physical properties and affordances of material objects can encourage modes of perception on the part of the performer or reader. In this way, materials such as instruments and bows have also affected the sorts of ‘interpretants’ that have stimulated contrasting readings of Beethoven’s notation.

Although only one small element of Peirce’s semiotic theory, the ‘interpretant’ is the most crucial element for the purposes of this chapter: it will be used loosely as the lens through which to theorise the ‘moment of reception’ of Beethoven’s new type of part writing. Crucially, the ‘interpretant’ is not a singular phenomenon: a varied range of potential ‘interpretants’ might be brought to bear on the meaning of a sign. Thus, in contrast with the linear representation of an infinite chain of ‘interpretants’ outlined above (see Figure 3-2), ‘interpretants’ might instead be conceived as caught in an ever-expanding web of multiple interactions – akin to a Deleuzian ‘rhizome’ – mediating information through lived, social, embodied and material encounters, both past and present. The rest of the chapter is dedicated to three case studies, which explore the varying ways in which Beethoven’s use of notation is intrinsically embedded in social and performative contexts. It will consider the ways in which the notation may have ‘meant’ to the first performers; the types of ‘interpretant’ that may have been brought to bear on the meaning of notational signs; and the sorts of material and technological interactions that afford possible sources of meaning. As Cumming’s view of the role of the interpretative agent emphasised, this exploration is necessarily speculative: Peirce’s notion of the ‘interpretant’ renders any claim to transhistorical meaning inherently problematic.

¹⁵ Nattiez, *Music and Discourse*, p. 15

¹⁶ See Tim Ingold, ‘A Naturalist Abroad in the Museum of Ontology: Philippe Descola’s Beyond Nature and Culture’, *Anthropological Forum*, 26 (2016), pp. 301–320.

Case Study 1: Double Barlines and Notating Silence in Op. 131

In a conversation book entry dating from August 1826, Karl Holz reacted with surprise to the formal design of Beethoven latest quartet in C sharp minor, Op. 131. He asked: ‘but when are we going to tune?’¹⁷ This simple question – a concern of all string players – may seem innocuous enough. Yet it simultaneously throws light both on an extraordinary notational feature of Beethoven’s autograph score for Op. 131, and the new sorts of performance practice that the notation in the late quartets demanded of performers. The architecture of Op. 131 expands Beethoven’s previous experiments with multi-movement designs in Op. 132 and 130 to comprise an unprecedented seven different ‘Stücke’ or ‘pieces’ in a largely through-composed structure.¹⁸ Beethoven tended not to notate double barlines at junctures now considered to be editorially essential, such as changes of key or time signature; however, he did usually notate what Barry Cooper has described as an ‘m-type’ double barline sign at the end of a movement or a work.¹⁹ According to this practice, a total of seven m-type barlines might be expected in Op. 131. However, Beethoven only notated one single m-type double barline in the whole of the autograph score.²⁰ Even more surprisingly, this double barline does not occur at the end of the quartet, as is demanded by notational convention: instead, it appears between the fourth and fifth

¹⁷ ‘Wann sollen wir stimmen?’ *BKh* 10, 163.

¹⁸ The numbered system that features in modern editions today, labelling each section from 1–7 respectively, first appeared in the *Stichvorlage* for the first edition of Op. 131, prepared by Wenzel Rampl. The numbers were added retrospectively in Beethoven’s hand, but inaccurately: No. 5 appears twice, meaning that the sixth and seventh pieces, the Adagio quasi un poco andante and the final Allegro are labelled as No. 5 and No. 6 respectively. See Beethoven-Haus, Bonn, NE 240. For the purposes of clarity, I will refer to different ‘Stücke’ according to a (corrected) numbered scheme.

¹⁹ For a discussion of the structural and harmonic significance of Beethoven’s notation of ‘double-single’ barlines in his Piano Sonata in E, Op. 109, see Nicholas Marston, *Beethoven’s Piano Sonata in E, Op. 109* (Oxford, 1995), pp. 9–11

²⁰ The structure of the autograph score as it is now housed in the Bibliotheka Jagiellońska in Kraków is not integral, and two movements – No. 3 and No. 4 – appear only in a sketch score form. The autograph scores for these inner movements were separated early on in their history (see Winter, *Compositional Origins of Beethoven’s Opus 131*, p. 96). They are now housed in Berlin: see Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Mus. Ms. autogr. Beethoven, Mendelssohn 19.

movements, the Andante con moto, and the Presto. The final bar of the autograph score is left elusively inconclusive (see Figure 3-3).²¹

Figure 3-3: Autograph score of the final movement of Op. 131, p. 175, bb. 387–388.

(Kraków, Bibliotheka Jagiellońska, Mus.ms.autogr.Beethoven, Artaria 211)

Holz’s question about tuning primarily concerns the visceral reality of playing on gut strings and the physical fragilities that this entails, including a tendency for strings to fluctuate in pitch at the slightest change in temperature or humidity. Yet it may well offer insight into Beethoven’s decision to place the m-type double barline at the end of the fourth movement, and before the Presto. This notation indicates a clear conceptual and aural break in an otherwise through-composed structure. Elsewhere, the continuous formal design is clearly indicated in the notation in the autograph source by the use of only single barlines between movements in Nos. 2 – 4 (see Figure 3-4).

²¹ Cooper proposes that ‘the absence of any double bar beautifully matches the unstable and ambiguous ending in the music itself, where the C♯ Major chord can be heard either as a strong tonic or as a weak dominant of F♯ minor that had been heard a few bars earlier, and Beethoven may have been responding almost instinctively to this inconclusiveness.’ See Barry Cooper, ‘Beethoven and the Double Barline’, *Music and Letters* (2007), p. 473. Winter has more convincingly argued that the lack of barline relates to an excised coda in D ♭ major that Beethoven toyed with at the end of No. 7, which went on to become the basis of the third movement of Op. 135. Significantly, Beethoven notated an m-type double barline at the conclusion of this sketched coda (Berlin, Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Artaria 216, p. 102; as illustrated in Winter *Compositional Origins of Beethoven’s Opus 131*, p. 328). Winter proposes that Beethoven’s decision to remove the D ♭ coda may have been left until a very late stage. He cites an unusual material feature of the *Stichvorlage* – that the final bifolium comprises a different paper type and size in an otherwise highly organized and consistent layout – as evidence that the coda may even have been removed after the copy had been completed by Rampl and sent to Beethoven for checking. See Winter, *Compositional Origins of Beethoven’s Opus 131*, p. 106.

Figure 3-4: Autograph score of the end of the second and beginning of third movement of Op. 131, p. 36, bb. 197–198 (No. 2); bb. 1–2 (No. 3).

(Kraków, Bibliotheka Jagiellońska, Mus.ms.autogr.Beethoven, Artaria 211)

Between Nos. 1 and 2, not even a single bar line is notated between the movements, with the final note of No. 1 left suspended and open-ended under a fermata. Although there is then a gap in the autograph score, with No. 2 continuing on the next page, there is evidence that Beethoven went to special efforts to preserve continuity in the notation between movements. At the beginning of No. 2 a fresh set of clefs were retrospectively deleted from the beginning of the page, removing traces of any notational signifiers that might indicate a break between movements (see Figure 3-5).²²

Figure 3-5: Autograph score of the second movement of Op. 131, p. 15, bb. 1–3.

(Kraków, Bibliotheka Jagiellońska, Mus.ms.autogr.Beethoven, Artaria 211)

²² The process of deleting inscriptions from paper involved a painstaking process of scraping away ink from parchment with a special tool before re-writing over the top of it. See Cooper, 'Beethoven and the Double Bar', p. 473.

Continuity is further reinforced between movements latterly by the indication *attacca* between No. 5 and No. 6, added at the end of two inserted bars outlining three G#s in octaves to facilitate the harmonic transition (see Figure 3-6).

Figure 3-6: Autograph score of the fifth movement of Op. 131, p. 132, bb. 496–498.

(Kraków, Bibliotheka Jagiellońska, Mus.ms.autogr.Beethoven, Artaria 211)

Similarly, the performative harmonic writing between No. 6 and No. 7 leaves no other choice for the performers, when an unresolved dominant seventh in the final bar of No. 6 is wrenched over the conceptual gap into the final movement by an anticipatory tonic note in the first violin part. In light of this forward-looking trajectory throughout the rest of the quartet, the appearance of an m-type barline after No. 4, and the stark closure that it implies, is striking. The notation appears in both the sketched movement that is part of the autograph score in Kraków, and in the separated Berlin autograph source – although in the Berlin source the m-type double barline appears only in the first violin part (see Figure 3-7).²³

²³ It seems to have been common practice for Beethoven to notate certain instructions only in the first violin part in later sketches, possibly because the first violinist is traditionally the ‘leader’ of the quartet. In the Berlin version of the ending of Op. 131, No. 4, the first violinist is the only member of the quartet not playing *pizzicato*; in contrast, in the Kraków version when all players have the last two notes *arco*, the m-type barline appears in all parts. The gestural nature of the *pizzicato* is such that there would necessarily be a pause while players picked up their bows again: would this have made the m-type barline tautologous in Beethoven’s mind?

Figure 3-7: Autograph score of the fourth movement of Op. 131, p. 57, b. 277.

(Berlin, Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Mendelssohn-Stiftung 19)

From the perspective of live performance, encompassing the concerns of the audience as well as the performers, it is perhaps logical that a break occurs at this moment in the quartet. The juncture between Nos. 4 and 5 is approximately in the middle of the quartet (with the brevity of No. 3 offset by the enormity of No. 7), and from a compositional standpoint, an aural gap signals to the audience that the idiosyncratic theme and variation structure of No. 4 has concluded. The stark contrast in articulation and character between Nos. 4 and 5 almost demands a gap, with the coy lyricism and poised phrasing of No. 4 juxtaposed with the raucous off-the-string arpeggic interjection at the beginning of No. 5. Moreover, the silence at the end of No. 4 simply returns the coda full circle to the beginning of the theme, which grows out of an initial quaver rest.

In this sense, the notation of an m-type barline performatively magnifies an essential quality of the theme that has already been exploited in inserted bars of rest in the coda: silence itself.²⁴ This *lack* of sound allows the sonority of A major to resonate with multiple harmonic possibilities before the tonality of E major is ‘grabbed’ by the cello at the beginning of the Presto, thereby neatly preserving the pivotal subdominant/dominant

²⁴ The concluding bars of the coda were sketched copiously in both pocket sketchbooks and in the lengthy score sketches for No. 4. Even during the sketching process, Beethoven notated m-type barlines to indicate the ends of movements and both types of sketches include several m-type barlines (see, for example, Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Artaria 205 (3), p. 18). For a detailed overview of the later stages of the sketching process for No. 4, see Winter, ‘The Compositional Process at the Autograph Stage of the Fourth Movement’ in *Compositional Origins of Beethoven’s Op. 131*, pp. 211–239.

ambiguity famously composed into the fugue of the opening movement.²⁵ Just as the dynamic markings – *sf* followed by a descending hairpin – on the A in the second bar of the fugue subject of No. 1 allow the pitch to hover in the air before dissipating, so too does the m-type barline fulfil the same dramatic purpose, devoting special attention to the key centre whose pitch is ‘the expressive hinge of the fugue subject’.²⁶

However, such conjecture is to theorise an idealised performance of the sort described by Kerman, whose imperative that between the *fermata* rests ‘there must be no break of attention, no catching of break, no coughs or tuning or uncrossing of legs’ reads almost ironically in light of Holz’s vocal concerns about precisely these considerations.²⁷ This sort of virtual performance, conjured up from the silence of the score, is imagined in order to bring into being the abstract structures composed into the score. However, it is to ignore a signifying absence: the performers themselves and the rich semiotic potential of material and bodily presence during live performance.²⁸ The ‘signifying absence’ of the ‘m-type’ barline is not performative silence, but its very opposite: the reverberating of instruments and bodies that bring silence into being. Beethoven’s verbal response to Holz’s question about tuning offers precisely this sort of insight.

After Holz questions ‘When should we tune?’, he clarifies Beethoven’s response, presumably a gestural or verbal indication, by writing ‘Before the Presto’ in the conversation book.²⁹ This response raises an alternative possibility: was Beethoven also accommodating the practical needs of the performers by notating this double barline? Although Holz posed this question to Beethoven after the *Stichvorlage* had already been sent to the publisher Schott, there is evidence elsewhere in the conversation books to suggest that the issue of tuning and strings were on Beethoven’s mind, particularly with

²⁵ As Winter (and others) have highlighted, that the tonal design of the quartet was of primary importance to Beethoven is attested to in the five ‘tonal overviews’ of the quartet recorded in the *Kullak* sketchbook in particular, all apparently attempting to grapple with the harmonic ‘problem’ posed by adopting a tonal answer for the fugue subject which places an ambiguous emphasis on the subdominant that is never fully resolved throughout the quartet. See Winter, *Compositional Origins of Beethoven’s* pp. 113–134.

²⁶ Kerman, *The Beethoven Quartets*, p. 329.

²⁷ Kerman, *The Beethoven Quartets*, p. 326. See *BKh* 10, p. 164.

²⁸ See Nicholas Cook, *Beyond the Score* (Oxford, 2014).

²⁹ ‘Vor dem Presto.’ *BKh* 10, p. 163.

regard to the last movement.³⁰ In a conversation in early July he asks Holz whether it is possible to play an F double sharp on an open string, and queries the sorts of fingerings that might be employed by a player when presented with the notation of a pitch (F \square) that at first glance is outside the violin's range.³¹ The highly unusual appearance of a fingering in the autograph score, a cautionary '0' notated in bar 3 of the final movement over a B# in both the viola and cello parts to indicate that they should play their lowest open string, suggests that Beethoven had this particular issue specifically in mind when compiling the autograph score (see Figure 3-8). Despite Holz's reassurance that 'the violinist would not play anything other than an open string'³² – suggesting that there was no need for Beethoven to indicate an open string by his marking '0' – Beethoven seems aware that this music not only stretches the formal properties of what constitutes a string quartet, but it pushes the conceptual range and material capabilities of the instruments themselves.³³

Figure 3-8: Autograph score of the seventh movement of Op. 131, p. 138, bb. 3–4.

(Kraków, Biblioteka Jagiellońska, Mus.ms.autogr.Beethoven, Artaria 211)

³⁰ The *Stichvorlage*, copied in the hand of Wenzel Rampl, already features the m-type double barline scheme described above. Beethoven wrote a letter to Schott on 19th August 1826 confirming that the score had already been sent a week earlier. See Brandenburg, *Briefe* 6, p. 269; Anderson, *Letters of Beethoven* 3, p. 1295. The *Stichvorlage* is dated on the front cover as having been received on 13th August 1826. See Beethoven-Haus Bonn, NE 240, p. 1.

³¹ See *BKh* 10, pp. 25–26. The lowest string on the violin is a G, and so although an F \square is enharmonically possible, it *looks* like a note that is not within the range of the violin. Beethoven and Holz clarified with notated examples including fingerings.

³² 'Die Violinspieler nehmen es nie anders als leer.' *BKh* 10, p. 26.

³³ Beethoven also questioned Holz about the meaning of *sul ponticello* – a marking that only appears once in the late quartets, in the Presto of Op. 131 at bar 470. See *BKh* 10, p. 114.

The specific issue of the tuning of strings is thus discussed directly before Holz’s query in August, and in this first discussion in late July. Equal temperament was still not a tuning system that had been widely adopted for instruments other than keyboard or fretted instruments in early-nineteenth-century Vienna, and so an open G on a violin or an open C on a cello would sound higher than an F \square or a B \sharp ; the pitches were not yet conceptualised as the enharmonic equivalents that they would become in the later tuning system. However, notably Holz observes that this ‘high’ tuning is not necessarily bad, clarifying that, as long as the G isn’t tuned flat then it could work, and indeed that it is ‘almost necessary’ when the pitch is a leading note.³⁴ Holz goes on to explain further that the degree of pressure from the bow on the string would also affect the pitch, with a heavy pressure pushing the metal-wound lower strings sharp.³⁵ The technology of the instruments, and even the weather itself – Holz cautions that they should play on a cool evening when the strings are less likely to go sharp due to the heat – impacts the performance of Op. 131.³⁶ As Beethoven would have been well aware, the perils of snapped strings had already gone some way towards ruining the first performance of Op. 127, when Schuppanzigh snapped an E string and did not have a spare violin to switch to.³⁷ When Holz comments that ‘we must buy the best gut strings’, Beethoven replies ‘Mylord [Schuppanzigh] must have the purest!’.³⁸ Moreover, C \sharp minor is a difficult key for string players to play in, making very little use of the resonance of open strings and requiring the use of uncomfortable hand positions to accommodate awkward minor-mode intervals. Thus, although the formal design of Op. 131 was unprecedented, its notation also had drastic repercussions for the performers of the string quartet itself and their instruments.

Beyond this physical discomfort, the structure also had a profound impact on the sorts of performance practice that audiences might have expected from string quartet

³⁴ ‘Wenn das g nicht [zu] unter der Schwebung gestimmt ist, so geht es’; ‘Wenn es der Leitton ist, wäre es beynahe nothwendig.’ *BKh* 10, p. 26. In his treatise, Spohr cautions that ‘as the open strings (particularly E and A) sound sharper than the same tones stopped on the preceding strings, they are avoided as much as possible in chromatic scales.’ Spohr, *Grand Violin school* (London, 1843), p. 70.

³⁵ ‘Auch macht es bedeutenden Unterschied, ob die Saite scharf oder schwach gestrichen wird.’ *BKh* 10, p. 26.

³⁶ ‘Wir müssen es an einem kühlen Abend machen.’ *BKh* 10, p. 163.

³⁷ See Adelson, ‘Beethoven’s String Quartet in E Flat Op. 127’, p. 233.

³⁸ ‘Wie werden uns verlässliche Saiten bestellen’; ‘Mylord muß sich sehr reine bestellen!’ *BKh* 10, p. 164.

performances in Viennese musical culture. In public concerts, it was entirely normal for whole works to be split up throughout the programme, interspersed by genres as diverse as *Lieder* and even circus acts. Gingerich has shown how Schuppanzigh's concert series was pioneering in its programming of exclusively instrumental music, and that it thus played a crucial role in generating a shift in Vienna's listening culture towards 'serious' music.³⁹ Nonetheless, it was common practice for performers to be highly responsive to the reactions of audiences during concerts, often repeating sections of movements, or even whole movements themselves on the spot if the reception was particularly warm. In December 1827, the *Wiener allgemeine Theaterzeitung und Unterhaltungsblatt für Freunde der Kunst, Theater, Geselligkeit und Sitte* reported that the Schuppanzigh ensemble 'as usual performed with the most elegant precision, and with their patented delicacy and multifarious shadings in delivery which always delight the listeners so that frequently movements have to be repeated'.⁴⁰ At the première of Op. 130 both the second and fourth movements were received with thunderous applause, with the *Alla Danza Tedesca* proving particularly popular, and both movements were immediately repeated; the *Alla Danza* several times. However, Beethoven's through-composed structure prevented the players from responding in any such way. When confronted with the possibility of playing through the entirety of Op. 131 without stopping, Holz responded with incredulity: 'Does it have to be played without stopping? But then we won't be able to repeat anything!'.⁴¹

It is possible that this exchange even infiltrated the notation of the next string quartet, Op. 135, prompting Beethoven to notate the cryptic (and even ironic in this light) instruction 'Si repete la seconda parte al suo piacere' at the repeat sign before the coda of the last movement? This notational nod towards his earlier quartets, which often included detailed instructions in Italian about the structure of repeats only highlights its abnormal placement in the late quartets. Moreover, the agency it affords the performers in performance is at odds with the prescriptive manner in which repeats were treated in earlier works; explicit notation was often included in order to *prevent* the performers from exercising creative license about the placement of material. For example, the

³⁹ See Gingerich, 'Ignaz Schuppanzigh and Beethoven's Late Quartets', p. 455.

⁴⁰ See Gingerich, 'Ignaz Schuppanzigh and Beethoven's Late Quartets', p. 503.

⁴¹ 'Muß es ohne aufzuhören durchgespielt werden? – Aber dann können wir nichts wiederholen!' *BKh* 10, 163.

extraordinary detail with which Beethoven instructs his musicians about the precise structure of the third movement of Op. 59, No. 2, including the need to play the Trio twice, was so surprising that the information was underlined in a first edition print (see Figure 3-9).

*Figure 3-9: Third movement of the First Violin part of the First Edition of Op. 59, No. 2, p. 5, bb.
129–135.*

(Bonn, Beethoven-Haus, J. Van der Spek C op. 59)

Although not claiming to offer any substantive proof about Beethoven’s intentions ‘behind’ the text or notation, such examples usefully remind us of the potential of physical presence and the sorts of meanings that this bodily information may provide. Throughout the conversation books, bodies and their materiality constantly assert their presence, from concern about Beethoven’s eating habits and physical health, to sly jokes concerning the physical capabilities of the corpulent Schuppanzigh, to Holz noting that he must arrange the page turns so as to avoid having an extra person on stage during the performance of Op. 131.⁴² Players grappling with strings as they go out of tune, the way a pitch can be distorted by too much pressure on the bow, the physical labour of playing through seven movements without a break, the rustling of the impatient audience: all of these bodily experiences shed different sorts of light on Beethoven’s notation. The next case study explores a different sort of physicality, in relation to the role of a specific notational marking that appears in all but the last of the late quartets. The affordances of instrumental technology, and the possible political implications of these technologies, offer a potential range of ‘interpretants’ that provide insight into a notational marking that puzzles many performers today.

⁴² ‘Ich will es so einrichten daß wir keinen 5ten oder sechsten zum Umblättern brauchen; es soll niemand in die Stimmen sehen.’ *BKh* 10, p. 167. Although Beethoven mentioned an upcoming performance of Op. 131 in a letter to Schott on 29th September 1826, no performance actually took place during the composer’s lifetime. See *BKh* 10, n. 456, p. 372.

Case Study 2: *Non Ligato* and the Politics of Bowing?

The second case study addresses one striking outcome of the data survey in Chapter 2: the function of a specific marking that appeared in all but one of the late quartets. Beethoven began notating the phrase *non ligato* from 1810 onwards, and it appears in both his piano music and string writing, in symphonic and chamber contexts, including the Ninth Symphony. The word ‘ligato’ without the cautionary ‘non’ also appears in the third movement of Op. 59, no. 2. Figure 3-10 (as shown in Chapter 2) details the frequency of the appearances of the notation in each quartet.

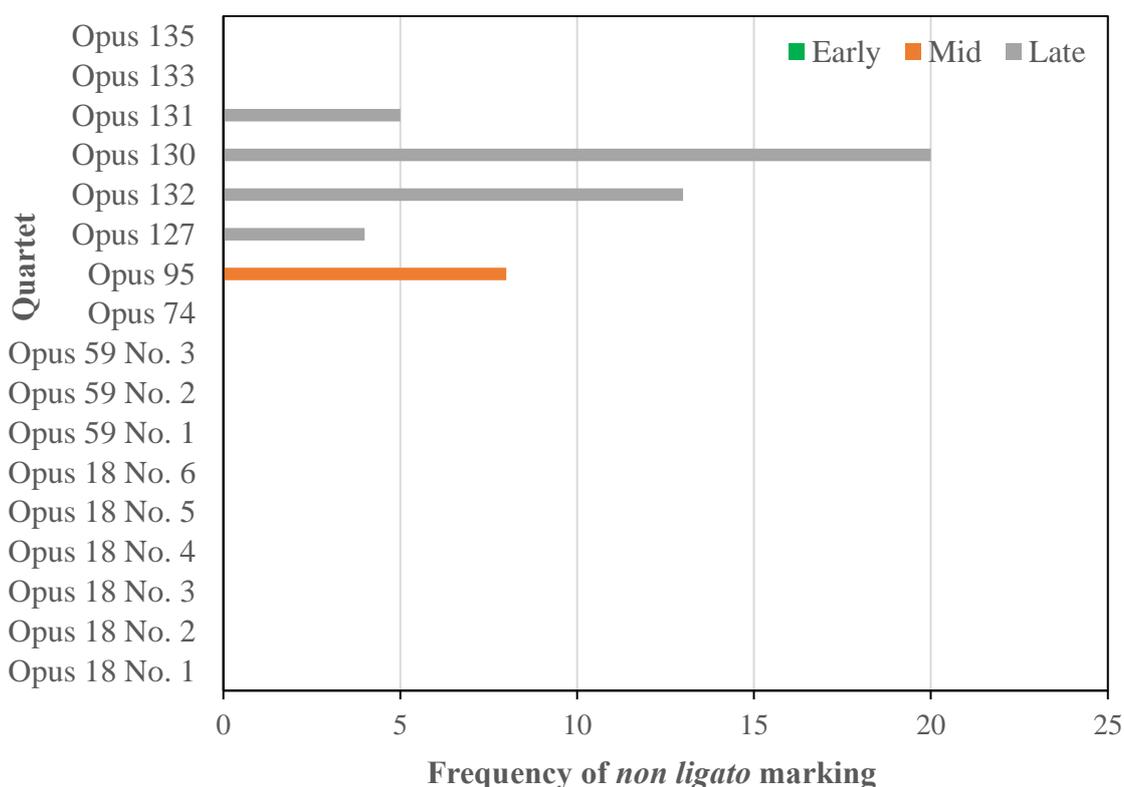


Figure 3-10: Appearances of the notation ‘non ligato’ in each quartet.

The meaning of this marking has proved troublesome to modern performers. Robert Martin imagines a scenario with his string quartet, the Sequoia Quartet, in which they discuss the marking:

‘What is meant by non ligato?’ (Ligato is Beethoven’s spelling of legato.) In modern string terminology, legato means to play several notes smoothly under one bow; in that sense, the passage is obviously non legato because there are no slur marks. What more does Beethoven want? The first violinist experiments with a slightly stiff-armed, accented detached stroke. The cellist worries that the sound is too loaded with musical connotations

– ‘sounds too much like baroque style.’ Off the string sounds wrong to all of them – too light, capricious, not serious enough. A solution is found, for now at least: there should be a lot of energy in the bow changes, to give as much intensity as possible. Beethoven wrote non legato so it won’t be like this: the violist illustrates with smooth bow changes.⁴³

The sorts of creative solutions that the performers experiment with in this scenario are typical of the empirical ways in which performers approach musical notation. To the performers in the Sequoia Quartet, different sounds and bodily approaches to the notation index a whole range of musical values; even cultural narratives about how Beethoven’s music should sound – serious and intense – act as ‘interpretants’ in their reading of *non legato*. However, they take for granted the assumption that ‘ligato’ is Beethoven’s spelling of *legato* and make no attempt to engage with the notation as it may have functioned in its historical context, assuming a direct translation from ‘modern string terminology’. In this instance, the value of an unusual marking whose meaning is no longer current in cultures of reading or playing might best be described by Peirce as residing in ‘a power of exciting the mind (whether directly by the image or the sound or indirectly) to some kind of feeling, or to effort of some kind or to thought.’⁴⁴

However, beyond simply ‘exciting the power’ of the mind, there are other ways of approaching the notational meaning; one that turns outwards from the cognitive core of the mind – what Cumming dubs ‘Cartesian solipsism’⁴⁵ – to embrace physical and embodied perspectives. As Latour argues, physical objects can also mediate and even cultivate meaning by affording, inviting or inhibiting action.⁴⁶ In this way, the affordances and limitations of the instrumental technology that was circulating in Beethoven’s Vienna offer practical insights into what sorts of bow stroke this notation might have encouraged in the first performances of the quartets. Furthermore, technologies such as bows do not only mediate physical and technical meaning, but also act as social and aesthetic signifiers.⁴⁷ Kevin Dawes has proposed an understanding of instruments as ‘objects existing at the intersection of material, social and cultural worlds,

⁴³ Robert Martin, ‘The Quartets in Performance: A Player’s Perspective’, in Winter and Martin, *The Beethoven Quartet Companion*, pp. 113–114.

⁴⁴ Cumming, *The Sonic Self*, p. 79.

⁴⁵ Cumming, *The Sonic Self*, p. 10.

⁴⁶ See Latour, *Reassembling the Social*.

⁴⁷ See Eliot Bates, ‘The Social Life of Musical Instruments’, *Ethnomusicology*, 56 (2012), pp. 363–395.

as social and culturally constructed, in metaphor and meaning.⁴⁸ As cultural objects, these bows may even have mediated the burgeoning nationalist values at the turn of the nineteenth century.⁴⁹ The visual appearance of bows and the material used in their construction are not just questions of artistic and cultural value, but are also the result of economic and political factors.⁵⁰ For example, the penchant for Brazilian pernambucco wood was only made possible by the opening up of certain trade routes in the early nineteenth century. As Kai Köpp has argued, the very choices about such technology may even have taken on a significantly political dimension in Beethoven's Vienna.⁵¹ In the context of a liberated Vienna following Napoleon's downfall, the choice of a bow produced in Saxony over a model exalted by founding performers of the French School was perhaps not simply a question of aesthetics.

Instrumental Technology

Although the structural 'set-up' of early nineteenth-century violins, violas and cellos does not differ substantially from their modern counterparts, there are many small differences that a twenty-first-century violinist might notice. For example, rather than metal strings, pure gut strings were used for the top three strings, and a silver-wound string for the lowest string;⁵² cellists might notice the lack of a cello 'end' pin; and violinists would

⁴⁸ Kevin Dawe, 'People, Objects, Meaning: Recent Work on the Study and Collection of Musical Instruments', *The Galpin Society Journal*, 54 (2001), p. 220.

⁴⁹ In her ethnographic study of Indian *sarangis*, Regula Qureshi notes the absence of the political dimension in studies of embodiment in music, and calls for a willingness to 'allow political and historical implications to surface and thus to hear when music (and its instruments) speak to social struggle and to the politics of dominance and exclusion.' Regula Qureshi, 'How Does Music Mean? Embodied Memories and the Politics of Affect in the Indian Sarangi', *American Ethnologist*, 27 (2000), p. 808.

⁵⁰ Maiko Kawabata offers an intriguing account of a network of militaristic, virtuosic and heroic imagery arising in relation to violin performance at the turn of the nineteenth century, in which bows were wielded like swords and violin-conductors marshalled orchestras like troops. See Maiko Kawabata, 'Virtuoso Codes of Violin Performance: Power, Military Heroism and Gender (1789–1830)', *19th-Century Music*, 28 (2004), pp. 89–107.

⁵¹ Kai Köpp, 'German Bows: From 'Cramer Bow' to 'Bidermeier Bow' in Jérôme Akoka (ed.) *L'Archet Revolutionnaire, Tome II* (London, 2015), pp. 9–12.

⁵² Louis Spohr, *Grand Violin School from the Original German*, trans. C. Rudolphus (London, 1833), p. 6. Contrary to Spohr's description that 'the Violin is strung with cat-gut, the lowest string having silver-wire spun round it', Winter erroneously asserts that 'the G string (the lowest of the four strings on a violin) of the first half of the nineteenth century was not wound in the gold or silver common today but rather with

certainly miss the use of a chin-rest or shoulder rest. These support devices are almost universally used by violinists today, but they were not in common circulation in Beethoven’s Vienna. The use of a shoulder pad was first mentioned by Pierre Baillot in 1835, who described the use of a ‘thick handkerchief or a kind of cushion’ in his *Méthode* for the Paris Conservatory. The chin-rest (literally *Geigenhalter*; or ‘fiddleholder’ in the English translation) was invented by Louis Spohr in around 1820 (see Figure 3-11).

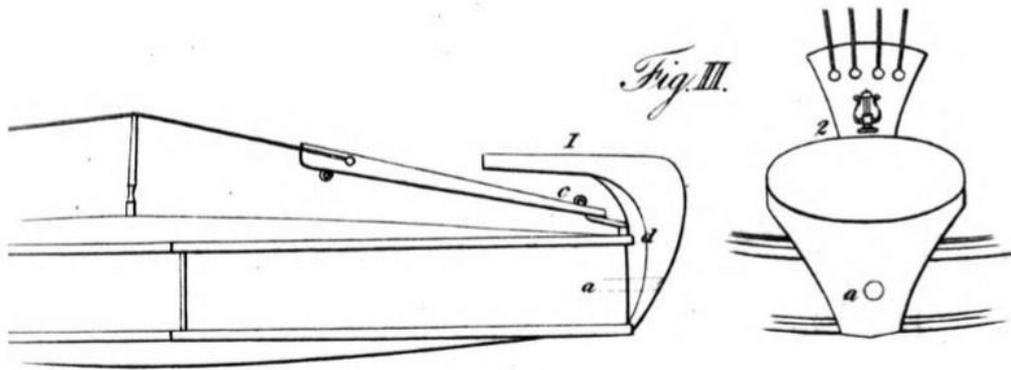


Figure 3-11: Illustration of the placement and structure of Spohr’s ‘fiddleholder’ from Plate A to Spohr’s ‘Grand Violin School’.

Spohr justifies its necessity as a piece of equipment in his 1833 treatise:

The modern style of playing which so frequently obliges the left hand to change its position, makes it absolutely necessary to hold the Violin with the chin. To do this unfettered without and without bending down the head, is difficult, no matter whether the chin rest on the left or on the right side, or even on the tail piece itself. It may also, in the quick sliding down from the upper positions, easily draw the Violin from under the chin, or at least, by moving the instrument, disturb the tranquility of bowing. These evils the fiddleholder perfectly removes.⁵³

gut.’ See Winter, ‘Performing the Beethoven Quartets in Their First Century’, in Winter and Martin, *The Beethoven Quartet Companion*, p. 32. His next assertion that ‘the gut D and A string may not have been wound with anything until after midcentury’ is also incorrect; Gut D and A strings were in use for at least another century. For a more reliable description of the sorts of set-up that might have been expected of early-nineteenth-century violins, see Robin Stowell, ‘Developments in instruments, bows and accessories’ in Robin Stowell (ed.), *The Cambridge Companion to the String Quartet* (Cambridge, 2003), pp. 19–38.

⁵³ Spohr, *Grand Violin School*, p. 4.

It is unlikely that any of the Schuppanzigh Quartet employed a chin rest at this time. Yet Spohr's description of the solutions that the piece of technology offers to a technical problem of 'the modern style of playing' highlights some of the difficulties that Schuppanzigh may have encountered in the first performances of the late quartets – and indeed in the Razumovsky Quartets – which often demand fast passages in high positions, and quick shifting up and down the fingerboard.⁵⁴

The question of which bows were in use is more complex. Indeed, although it is possible that the Schuppanzigh Quartet used the quartet of instruments that was gifted to Beethoven by Count Razumovsky, there is little documentation about the sorts of bows that were in use. However, some of Beethoven's choices of notation may be revealing. Until recently it has been assumed that the Tourte model bows, pioneered by François Xavier Tourte in late-eighteenth-century Paris, were widely adopted by professional musicians under the assumption that 'the musical world of this era unanimously followed the taste and preference of Parisian string players.'⁵⁵ A notable exponent of the Tourte model bow with institutional connections in Vienna was the violinist Louis Spohr.⁵⁶ Spohr purchased a Tourte bow in Hamburg in 1803, and advised all of his students to do the same. This advice was put into print in his treatise:

The best and most approved are those of Tourte in Paris; he has gained them an European celebrity. Their superiority consists of: 1. The trifling weight, with sufficient elasticity of the stick; 2, in a beautiful, uniform bending, by which the nearest approach to the hair is exactly in the middle between the head and the nut . . . and 3, in the very exact and neat workmanship.⁵⁷

⁵⁴ For an exploration of how composers such as Haydn capitalized on the use of high registers in his writing for string quartet, see Nancy November, 'Register in Haydn: Four Case Studies', *Music Analysis*, 26 (2007), pp. 289–322. Register and gesture are central to November's analyses of Beethoven's middle-period quartets. See, for example, November, *Beethoven's Theatrical Quartets*, pp. 56–58

⁵⁵ Köpp, 'German Bows', p. 9. See Clive Brown, 'Bowing Styles, Vibrato and Portamento in Nineteenth-Century Violin Playing', *Journal of the Royal Musical Association*, 113 (1988), p. 98.

⁵⁶ In a 'Note of Thanks' following the premier of his Symphony No. 7 in A major, Beethoven noted 'Hr. Spohr and Hr. Mayseder, each worthy of leadership because of his art, collaborated in the second and third places.' Thayer-Forbes, p. 567. Spohr on the other hand was often deeply critical of Beethoven's playing, conducting and rude manner in public. For other personal accounts see Thayer-Forbes, pp. 546–547; 565–566; and 577–578.

⁵⁷ Spohr, *Grand Violin School* p. 9.

He directly cautions against the purchase of cheaper, German-made bows of a similar model as they are ‘destitute of the above-mentioned advantages of TOURTE’s, because the manufacturers are unacquainted with the true principles of making them.’⁵⁸

Advocates of the Parisian school of playing were very much present in Vienna in Beethoven’s time: Spohr, whose admiration for Rode’s playing in 1803 may have been what prompted him to buy a Tourte bow, was appointed to lead the orchestra at Theater-an-der-Wien in 1812; Rode’s student Joseph Böhm was also an active virtuoso violinist in Vienna, who, after returning from his studies in Paris in 1815, became a professor of the Vienna Conservatory in 1819 and a member of the Imperial Orchestra in 1819. It was indeed Böhm who was successful in obtaining permission to give the next performance of Op. 127 on March 23 1825, after the initial performance of the Schuppanzigh Quartet.⁵⁹ It has been widely assumed that the French school of playing, as pioneered by the famous virtuoso Giovanni Battista Viotti, was indeed one that most professional musicians aspired to. Winter proposed that ‘in general terms we need to remember that Schuppanzigh and his colleagues were much influenced by the brilliant but objective style of French violin playing that was dominant throughout western Europe from about 1780 to 1830.’⁶⁰ It is clear in the conversation books that Holz looked to Spohr for guidance on technical matters. For example, in a conversation with Beethoven about how a violinist might finger a certain passage in the last movement of Op. 131, Holz specifically deferred to Spohr’s authority on the matter, clarifying to Beethoven that ‘he is a violinist’.⁶¹

However, recent research by Köpp has suggested that the new French standard was not accepted as universally as has commonly been assumed. Köpp cites Gustav Adolph Wettengel’s 1828 treatise on violin- and bow-making, in which he likens the ‘battle-axe’ head of a ‘Cramer’ style bow to ‘die Form der Wiener Bogenköpfe’. This leads Köpp to suggest that Saxon bowmakers were supplying Viennese customers with a bow model that was fashionable fifty years earlier in Paris. This model was described by Michel Woldemar as producing the ‘coup d’archet à la Cramer’, after the violinist Wilhelm

⁵⁸ Spohr, *Grand Violin School* p. 9.

⁵⁹ See Adelson, ‘Beethoven’s String Quartet in E flat Op. 127’.

⁶⁰ Robert Winter, ‘The Quartets in Their First Century’, in Winter and Martin (eds.), *The Beethoven Quartet Companion*, p. 38.

⁶¹ ‘Spohr hat in seinen Finger-sätzen auch immer so vorgezeichnet. Er ist doch Violinspieler.’ *BKh* 10, p. 26.

Cramer, who was one of the first exponents of a ‘springing’ bowstroke; in Paris on the other hand, a new aesthetic favouring ‘a singing style, expressive delivery, strong tone, forceful accents and broad or *martelé* bowstrokes’ was not possible on this sort of bow.⁶² As a particularly conservative city, this preference for an older, ‘Cramer’ style of bow in Vienna may not be particularly surprising. Indeed, the Viennese were notorious for being slow to adopt developments in keyboard mechanisms pioneered by the French piano-maker Érard at the turn of the nineteenth century. However, political and nationalistic factors may well also account for Viennese choices of instrumental technology. In Köpp’s words, ‘whoever did not identify with the revolutionary Viotti school of violin playing – and this was as much a matter of politics as of schooling or personal preference – was likely to have retained a traditional bow model in the early 19th century.’⁶³ Describing bows as a ‘cultural interface’, Köpp compellingly links the aesthetic designs of the bows to national styles of furniture making. For example, the frog of the Tourte-model is crafted out of black ebony, with sharp, straight lines and inlaid with ornamental pearl. These characteristics all index the features of French Classical furniture at the turn of the century. In contrast, Köpp’s so-called ‘Biedermeier bow’ indexes stylistic and aesthetic characteristics of Biedermeier domesticity and salon culture, including curved, smoother shapes, a preference for lighter, honey-coloured shades of wood and no metal fixtures or embellishments (see Figure 3-12).⁶⁴

Figure 3-12: Early Nineteenth Century Biedermeier Bow, South Germany (probably Vienna).

(London, Cozio Archive, Tarisio Fine Instruments and Bows)

⁶² Brown, ‘Bowling Styles, Vibrato and Portamento’, p. 101.

⁶³ Köpp, ‘German Bows’, p. 9

⁶⁴ See <https://tarisio.com/archet-revolutionnaire/kai-koepf-french-or-german-bows-for-beethoven/> (accessed 4/10/18).

Such political currents can even be discerned in the aesthetics of Beethoven’s notation; once Vienna was liberated from the French, the restrictions on copyright and printing laws were lifted. Beethoven began to make increasing use of German phrases in his notation in the late quartets, a possibility that was not available during the French occupation. Winter even notes self-conscious nationalism in Beethoven’s sketches, highlighting how Beethoven had even expunged the Italian ‘*senza*’ and replaced it by the German ‘*kein*’ in the *Kullak* sketchbook.⁶⁵

The documented circulation of the French national school of playing is partly due to the influence of the institutional powers that actively labelled and promoted the notion of a nationally-distinct style of playing. Indeed, as Robert Seletsky suggests, ‘although Tourte’s work is brilliant, its lasting success is doubtless partly the result of the nationalist consolidation of French arts and commerce after the Revolution that established the Conservatoire, as well as the position of Paris as perhaps the longest-lived artistic centre in Europe.’⁶⁶ In 1801 Woldemar published a French re-issue of Leopold Mozart’s *Versuch*, in which he stated that the Tourte bow was ‘the only one in use.’⁶⁷ Baillot also claimed that the bows of Monsieur Tourte were in circulation in ‘all countries’ in his *L’Art du Violin*, published in both French and German simultaneously, in 1834:

The reputation that Mr. Tourte has acquired in all countries naturally leads us to cite here the precious finish and goodness of his bows.⁶⁸

Branded and codified under a homogeneous *Méthode* that was put together by the founders of the Paris Conservatory, a distinct lineage of teaching and playing was powerfully articulated. Germany, which was a split nation with no clear national identity at the time, suffers by comparison, and it is perhaps the lack of clear terminology to describe different regions and their playing styles, in contrast with the comparative ease

⁶⁵ Winter, *Compositional Origins of Beethoven’s Opus 131*, p. 374.

⁶⁶ Robert E. Seletsky, ‘New Light on the Old Bow: 2’, *Early Music*, 32 (2004), p. 424.

⁶⁷ Michel Woldemar, *Méthode de violon par L. Mozart rédigée par Woldemar* (Paris, 1801), p. 5.

⁶⁸ ‘La reputation que Mr Tourte s’est acquise dans tous les pays nous porte naturellement à citer ici le fini précieux et la bonté de ses archets.’ Pierre Baillot, *L’Art du Violon, Nouvelle Méthode*, German text trans. J. D. Anton (Mainz & Antwerp, 1835), p. 246.

with which the hallmarks of the French school can be labelled, that has led to the assumption of the dominance of French style in the literature.

Given the politically-charged circumstances of the years in which Beethoven first began notating the marking *non ligato*, and the circulation of different bowing and playing styles, it is plausible to link the notation with these political interests. Brown and November have argued that the marking ‘non ligato’ is likely to be associated with a what Spohr advocates as a ‘French Detaché’ stroke, with Brown suggesting that ‘it is probable that Beethoven wanted a more connected bowstroke in the *non ligato* passage’,⁶⁹ while November contends that ‘his clear specification of *staccato* in proximal and parallel passages in the string quartet examples suggests that by *non ligato* he also intended to indicate something akin to on-string detaché there.’⁷⁰ However, it is also possible to argue that the notation may have elicited the very opposite response from the Schuppanzigh Quartet; a response mediated by the sort of bows that they were using.

Spohr describes the ‘French Detaché’ bow stroke – crucially distinct from the detaché stroke still current today – as follows:

This bowing (French Detaché) is made with a stiff back-arm, and with as long bowings as possible, at the upper part of the bow. The notes must be equal in duration and force and join each other without letting an unequal stop, gap, or rest, be observed at the changing of the Bow. This bowing is at all times understood, when no marks for bowing are given.⁷¹

Given Spohr’s preference for the Tourte-style bow, this bowstroke does not just *prescribe* action to his students: it also *describes* the affordances of the bow itself. The most significant hallmark of the Tourte-model bow is its ability to produce a seamless legato. The introduction of a metal ferrule at the frog enables the bow hair to be distributed evenly, which in turn distributes the weight evenly across the length of the stick. This, and the hammer head tip of the bow, makes ‘the upper part’ of the bow that Spohr advocates for the stroke, an advantageous position.

⁶⁹ Brown, *Classical and Romantic Performing Practice*, p. 192.

⁷⁰ November, *Beethoven’s Theatrical Quartets*, p. 45.

⁷¹ Spohr, *Grand Violin School*, p. 116.

However, the link between *non ligato* and a *detaché* bow stroke is problematic not only in light of Köpp’s recent findings, but also the notational context in which the notation appears in the late quartets. Firstly, Spohr asserts that ‘this bowing is at all times understood, when no markings for bowings are given.’ Yet the scanty appearance of the term *non ligato* throughout the quartets, and indeed its appearance only from 1812 onwards, makes it a special marking. From a semiotic perspective, the marking therefore encourages players to adopt a mode of performance outside their normal practice, or the prevailing mode of performance that has been established in the work. Thus it cannot be ‘at all times understood’. Secondly, the type of bow stroke that Spohr describes is heavy, and glued to the string, in which notes ‘join each other’ without a ‘stop, gap or rest’ observed at the changing of the bow. Whereas this legato style is a typical affordance of the Tourte model, Spohr’s description seems at odds with the indication *not* to play ‘ligato’.

As Brown acknowledges, Beethoven was among the earliest composers to make use of the instruction *non ligato*, but only in his later works: ‘The question arises: why did Beethoven not use staccato marks to signal that the notes were intended to be separate, as he often did in earlier works and continued to do in other instances in late ones?’⁷² Furthermore, why did Beethoven specifically choose the term ‘ligato’ as opposed to ‘legato’? It is possible to argue that there is a political dimension to this notational decision. The term *ligato* is an outgrowth of the French word ‘lié’, which means to slur or to connect. The marking was first notated in Op. 95, just one year after the siege of Vienna and in a political context in which an anti-French sentiment swept through the city.⁷³ Also bearing in mind Beethoven’s proclivity for engaging in writerly puns with members of the Schuppanzigh Quartet, is it possible that Beethoven was punning on this nationalistic implication? Is he in fact saying to his players *don’t play it in the French style?*

⁷² Brown, *Classical and Romantic Performance Practice*, pp. 191–192.

⁷³ The violent tone and gestures of the opening of the first movement are perhaps reminiscent of the sounds of war from which Beethoven tried to hide by covering his ears with pillows in the cellar of his brother’s house. Thayer-Forbes, p. 465. As November comments, ‘the battle imagery is present from the very first extensive writings on this work’, although she attributes the musical content to poetic and philosophical discourses rather than this immediate sonic experience. November, *Beethoven’s Theatrical Quartets*, p. 202.

There is certainly evidence that the French method of bowing, as advocated by Spohr, was not favourably received in Germany.⁷⁴ A review of a concert by Spohr appearing in the *Allgemeine musikalische Zeitung* in 1808 remarks on the monotony of the effect:

Since he takes pains to play the passagework in particular with long-drawn-out and unbroken bowstrokes, he not infrequently spoils thereby the character of the *allegro*, particularly where this is written in a fiery, brilliant and impetuous manner . . . So much the less is he able, therefore, to allow the many small nuances of the *allegro* to appear, and, for all his sterling artistry, one might well not escape a certain oppressive feeling of monotony if one were to hear him often – which is also the case with several of the celebrated violinists of the present Parisian school.⁷⁵

One such celebrated violinist of the Parisian school, Pierre Rode, came to Vienna in December 1812. Beethoven completed his last Sonata for piano and violin, Op. 96, so that Rode could perform it with Archduke Rudolph at a private house concert hosted by Prince Lobkowitz. Perhaps due to ‘the oppressive feeling of monotony’ from his bowing style, Beethoven commented in a note to the Archduke: ‘I had, in writing [the finale], to consider the playing of Rode. In our finales we like rushing and resounding passages, but this does not please R and – this hindered me somewhat’.⁷⁶

⁷⁴ The two styles were notoriously polarized, with the Germanic tradition for ‘serious’ art music disapproving of what they perceived as French frivolity in the use of thrown and spiccato bow strokes. Even the act of naming distinct schools of playing attributed a covert political function to sound and gesture.

⁷⁵ As cited in Brown, ‘Bowling Styles, Vibrato and Portamento’, p. 103.

⁷⁶ Thayer-Forbes, p. 546. The notion of deliberately reacting against the teachings of the French school may also offer insight into the peculiar notation at the opening of Op. 127, in which a mixture of *sf* and dagger markings are used to emphasise an unusual metrical pattern that subverts the notated time signature. In 1829, Carl Guhr describes Paganini’s subversion of this school of playing: ‘in *allegro maestoso* he particularly loves a manner of bowing which materially differs in execution and effect from that taught in the Parisian violin school in *allegro maestoso*. There it is said you are to give every detached note the fullest possible extension and to use half the bow in order that the whole string may vibrate properly and the tone may become round . . . But Paganini allows the bow rather to make a jumping, whipping movement.’ Brown, ‘Bowling Styles, Vibrato and Portamento’, p. 105. The first movement of Op. 127 takes the form of an Allegro Maestoso, and the notation of the second and fourth bars seems to invite such a ‘jumping’ effect onto the second note of the bar.

The instances in which the marking appears in the quartets do suggest that a shorter, more articulated bow stroke of the type elicited by the Biedermeier bows described by Köpp – rather than broad, ‘unbroken’ bowstrokes – might be more appropriate. This accords with the empirical findings described by Winter at the beginning of the Case Study. On the basis of experimentation, the Sequoia Quartet found that ‘there should be a lot of energy in the bow changes, to give as much intensity as possible.’ In fact, for their purposes, the quartet argued that the marking *non legato* was included to mitigate *against* the possibility of the sorts of smooth bow changes advocated by Spohr for the *detaché* stroke. It also supports those observed anecdotally by eminent period-instrument cellist Christoph Coin, a founding member of the only period-instrument string quartet to have recorded any of the late string quartets.⁷⁷ Coin asserts that Beethoven’s marking *col punto d’arco* in bar 377 of the last movement of Op. 132 is a physical effect that can *only* be achieved with a Cramer-style, or Biedermeier model bow.⁷⁸ This is a significant marking as it is the only time throughout the notation in all of his quartets that Beethoven explicitly demands a specific, and even restrictive, physical action from the players; one that, according to Coin, resists the use of other bow models. In this way, even the model of bow used by players offers insight into the specificity of Beethoven’s notation. The ‘interpretants’ in this instance mediate the physical properties and gestural affordances of different bows, excluding as well as inviting different interpretative possibilities. As Köpp suggests, these different possibilities may be divided along distinctly national and political lines.

If such a political meaning does inhere in the notational marking this would be to dispute Mathew’s remark that Beethoven’s musical gestures ‘rarely, if ever, imply any political consequences – that politics might spill over from artistic practice or critical discourse into the material world.’⁷⁹ On the other hand, contrary to the unifying impulse of the French school, Seletsky has wisely cautioned against imputing definitive meanings

⁷⁷ The Quatuor Mosaïques are the only period instrument quartet to have recorded the late quartets. Ludwig Van Beethoven, *The Late Quartets*, Quatuors Mosaïques, (Naïve, 2017) [on CD].

⁷⁸ This comment was made as part of a panel discussion about bows at the Tarisio exhibition in September 2015. See <https://tarisio.com/archet-revolutionnaire/kai-koepf-french-or-german-bows-for-beethoven/>. This may provide an answer to editors Emil Platen and Rainer Cadenbach, who assert in their foreword to the late quartets in the Henle *Beethoven Werke* series suggests that ‘Für die ungewöhnliche Bezeichnung, *col punta d’arco* . . . steht eine überzeugende Deutung immer noch aus.’ See Emil Platen and Rainer Cadenbach (eds.), *Beethoven: Werke: Streichquartette III*, Vol. 5, Band 6 (Munich, 2015) p. X.

⁷⁹ Mathew, *Political Beethoven*, p. 189.

to articulation signs given the huge variety of bow models and playing styles in circulation at the turn of the nineteenth-century. These included distinctions between amateur and professional players in orchestras: indeed, it is likely that a violin section in 1820s Vienna might include players using bows from as far back as the baroque period, as well as more up-to-date technology. From a practical perspective, although it is possible to reify national styles of playing and to essentialise their characteristics in print, in reality it is highly likely that a wide variety of playing styles and technology were in circulation at any one time in 1820s Vienna. For example, Beethoven's nephew compared the playing styles of the three violinists who led quartets in performances of Op. 127. He claimed that 'Mayesder plays more brilliantly, Böhm more expressively. If he [Schuppanzigh] studies it hard, then he also plays it as well. It can't be played more purely than by Mayesder.'⁸⁰ Furthermore, it is also very possible that players regularly swapped instruments and bows, playing what was available to them before distinct musical personalities, such as Paganini, became tied up with their ownership of a particular instrument.⁸¹

Thus, although it is possible to speculate broadly about the sorts of 'interpretants' that the affordances of instrumental technology and their cultural and political contexts might provide, the pragmatics of the musical context of the notation itself also offers compelling clues to the specific function of the marking *non legato* in actual practice. As Peirce's notion of the 'interpretant' highlights, notation markings cannot act as static, trans-historical vessels of meaning. Musical notation mediates such emergent and interweaving relations (whether between players, composer and notation, performers and composer or the tradition of string quartet playing itself) during the unfolding and forward-looking process of performance. The marking *non legato* thus serves an active function in weaving these relations in performance. Moreover, its sparse use throughout Beethoven's output makes its appearance marked, and semiotically significant, demanding special action on

⁸⁰ 'Mayseder spielt *brillanter*, Böhm ausdrucksvoller. Wenn er es fleißig studiert, spielt ers auch so gut. Reiner als Mayseder kann es nicht gespielt werden.' *BKh* 7, p. 246. As cited and translated in Adelson, 'Beethoven's String Quartet in E flat, Op.127', p. 234.

⁸¹ James Davies argues that 'when one heard Paganini, one did not hear instruments, his Guarnerius violin, or hands. One heard difference', citing contemporary Louis-François Lhéritier's assertion that 'in his manner of playing there are no strings, no bow . . . his violin is simply the complement of the great musician'; yet the musical personality is not separated from the violin at all. Rather, as Lhéritier concludes, 'his whole organism merges with his instrument.' See James Q. Davies, *Romantic Anatomies of Performance*, (London, 2014), p. 2.

the part of the performer. This function as a ‘semiotic alert’ is related once again to the important distinction between viewing notation from the perspective of the individual player as it unfolds in real-time performance. In a musical culture in which the notion of rehearsing ‘works’ was only beginning to emerge and recourse to scores to clarify interpretative issues was not yet established, notation needed to function differently. Temporality plays an important role in the mediation of information, and in a culture of sight-reading from individual parts (and without an overview from the score) ‘special’ or unusual notation markings often functioned as a way of alerting players to play in a way that resists the established norm, or unwritten grammatical rules of playing. This argument can be supported through musical examples from the late quartets.

The marking *non legato* appears only once in the String Quartet in E ♭ major, Op. 127. It occurs in bar 289 of the final movement in the first violin part alone, and is notated in the second violin, viola and cello parts shortly afterwards in bar 290 when all parts unite in octaves for a descending scalic pattern (see Figure 3-13). It could be argued that the marking thus behaves as an alert to the players about this textural, rhythmic and melodic unison, perhaps even emphasizing that the articulation amongst the group should be matched.

Figure 3-13: Autograph score of the Finale of Op. 127, p. 24, bb. 286–291.

(Bonn, Beethoven-Haus, BH 72)

This argument is strengthened from the perspective of the first violin part alone (see Figure 3-14). As Figure 3-14 illustrates, the bold, swooping curves that dominate the graphic foreground of the first half of the page immediately suggests to the player that a slurred bowing style should be adopted for this section of music. In the early nineteenth

Figure 3-14: First Violin part of the first edition of Op. 127 (Paris, 1826), last movement, p. 13, bb. 250–299.

(Bonn, Beethoven-Haus Bonn, C 127/9, C 127 / 10)

century the notion of a ‘slurred’ or ‘legato’ style was broadly conceived, and it was common practice for players to split bowings up in a variety of ways as long as a slurred style was maintained, rather than literally adhering to the bowings as they are notated.⁸² In light of this practice, the marking *non legato* instructs the player to stop slurring *ad libitum* and to read the articulation as notated.

That it functions in the final movement of Op. 127 as an instruction ‘not to slur’ is supported by the fact that the notation does not appear in all parts at the same time: the repeated figuration in the lower voices in bar 289 is impossible to slur, and so the marking only becomes necessary in bar 290 when the lower voices join the scalic figuration of the first violin. In the final movement of Op. 131 the notation *non legato* is employed in a similar textural context: it is notated solely in the first violin part in bar 329, above repeated quaver motion in the lower voices. Earlier in the movement, it appears in the second violin part in bars 128 and 139, and in the first violin part in bar 134 and 144. In each instance, the marking *non legato* appears directly after previously slurred quaver figuration, thus instructing the player *not* to play the material as it has previously appeared. Although the viola imitates the same scalic figuration in bar 142, Beethoven does not notate *non legato*. This lack of notation was viewed as an omission by the editors of the Henle Verlag Utrecht score, and the notation was added editorially. However, read in the light of a culture of sight-reading, the fact that in the previous bars the viola has not played any slurred material makes the marking redundant.

That the marking simply means ‘don’t slur’ is supported by Beethoven’s editorial corrections in the autograph score. In the passage from bars 128–144 the marking *non legato* appears twice in ink (bars 139 and 144); in bars 134 and 139 it is notated first in pencil, before being written over in ink. Beethoven may have omitted these markings when first writing out the autograph because he had also missed out slurs from the previous bars. As can be seen in Figure 3-15, slurs in the two bars before bar 144 were also pencilled in; the marking *non legato* becomes necessary only once these slurs are

⁸² This broad notion of a ‘slurred’ style in which a string player could choose the most appropriate bowing to create a *legato* effect was even common in orchestral practice. Andreas Moser, a student of Joachim (who in turn was a student of Böhm in Vienna), proposed that in *cantabile* passages a conductor should ‘leave it to the individual violinist to make the bow changes as unnoticeable as possible in whatever might seem to him the best place.’ Joseph Joachim and Andreas Moser, *Violinschule*, (Berlin, 1905), p. 16. As cited in Brown, *Classical and Romantic Performance Practice*, p. 167.

present. Similarly, *non ligato* was clearly first added in pencil in bar 134 in the autograph score, along with additional slurs in 130 and 131 that were omitted during Beethoven's first time through the score.

*Figure 3-15: Autograph Score of Op. 131, final movement, p. 151, pp. 140 – 144.
(Kraków, Biblioteka Jagiellońska, Mus.ms.autogr.Beethoven, Artaria 211)*

The marking makes its most frequent appearance in the first movement of Op. 130, where it is notated in ten different instances in all parts. It is thematically associated with the cascading semiquavers that erupt suddenly in bar 14, interrupting the opening Adagio with a boisterous Allegro. The notation sets up a seemingly-irreconcilable opposition between the slurred lyricism and bow vibrato of the Adagio and the vigorous, separated bowstroke of the Allegro. This sonic and gestural opposition is played out throughout the movement. Like the formal structure that it generates, the *non ligato* notation is paradoxical. Michael Spitzer has described the semiquaver figuration as a 'cadenza topic', and Hatten describes the writing as 'soloistic', proposing that Ratner would characterize the topic as 'brilliant'.⁸³ While all such topical references might imply a free, improvisatory style of performance, the marking *non ligato* insists on the unanimous use of a separated bow stroke. This paradox perhaps explains why Beethoven explicitly, even obsessively, re-notated the term *non ligato* each time the semiquaver material from the Allegro reappears in its functional position as a member of the first group, performatively distinguished from the slurred semiquaver roulades in the second tonal area. It is a notation that Beethoven considered sufficiently important to notate retrospectively in pencil during corrections to the autograph score in bar 192 (see Figure 3-16). Furthermore, the marking *non ligato* is explicitly notated after passages involving slurs.

⁸³ See Michael Spitzer, *Music as Philosophy: Adorno and Beethoven's Late Style*, (Indiana, 2006), p. 140, and Hatten, *Musical Meaning in Beethoven*, p. 134.

Beethoven is particularly dogmatic about ensuring this: despite the cumulative thematic association of the marking with the Allegro semiquavers, *non ligato* is notated at each iteration of the small semiquaver fragments that appear in bars 96, 100, 105 and 109 of the ‘development’ section.⁸⁴

*Figure 3-16: Autograph score of the first movement of Op. 130, p. 29, b. 192.
(Kraków, Biblioteka Jagiellońska, Mendelssohn-Stift 7)*

That the marking *non ligato* seemed to carry such importance to Beethoven suggests that it should be understood perhaps not so much as specific articulation marking but rather an indication to players to subvert the prevailing norm of practice for a special effect. The preconditions for understanding Beethoven’s marking ‘*non ligato*’ are thus multiple and varied. A range of possible ‘interpretants’ have been outlined, from the affordances and limitations of instrumental technology, to the politics of nationalism, to the experience of reading the notation from an individual part in a temporal flow. For the Sequoia Quartet, the cultural values associated with Beethoven’s music and its sonic index in timbre and articulation were an important factor in the mediation of the notation’s meaning, with a springing bowstroke apparently ‘not serious enough’. The next case study also addresses the ways in which subsequent narratives in the reception of Beethoven’s music have conditioned the ways in which meaning has become attached to one of his most mysterious markings in the late quartets.

⁸⁴ It is arguable whether the term ‘Development’ is appropriate in this context given its curiously static quality and the lack of either tonal or motivic development. Spitzer argues that it is ‘no “development” at all, but a static drift through the circle of fifths supporting a new melody...for all its allure, this “development” is nothing but a glorified retransition.’ See Spitzer, *Music as Philosophy*, pp. 140–141.

Case Study 3: Hearing Voices in the Finale of Op. 135

That the ‘interpretant’ is an emergent phenomenon, and therefore preconditioned by the historical, material and cultural circumstances of reception, is illustrated by one of the most peculiar inscriptions in all of the late quartets: the ‘Muss es sein?’ quotation found at the beginning of the final movement of Op. 135. Entitled ‘Der schwer gefasste Entschluss’, it features two different musical fragments in different metres and keys relating to the structure of the ensuing movement; an initial Grave followed by an Allegro in F major. The ‘signifying absence’ in this notation draws attention to itself: it is not, as Cook would propose, the performers of the string quartet who are absent in the score, but another performer, a disembodied voice that sings through writing – a voice that has been attributed to ‘the lips of Fate’ itself.⁸⁵ The voice has also been widely attributed to Beethoven, as though the notation were acting as a form of primitive recording technology, ‘telegraphing’ his voice to us through the text.⁸⁶ Yet before such technology was even on the horizon in 1820s Vienna, the first readers of this notation may have heard a very different sort of voice; one whose meaning arose and was circulated via a network of social interactions and exchanges between March and August 1826.

The inscription was printed in the posthumous first edition parts of Op. 135 by the Schlesinger publishing company, published by both their Berlin and Paris branches in August 1827 (see Figure 3-17).

⁸⁵ See Knittel, ‘“Late”, Last and Least: On Being Beethoven’s Quartet in F major, op. 135’.

⁸⁶ Mathew has perceptively outlined the rhetoric of ‘presence and absence’ that conceptually divides the composers Rossini and Beethoven as a backdrop to the première of the Ninth Symphony. See Mathew, ‘On being there in 1824’, in Mathew and Walton (eds.), *The Invention of Beethoven and Rossini*, pp. 178–193. The recitative at the beginning of the last movement of Op. 125 is another example of vocality intervening in an instrumental genre. Mathew argues that: ‘the recitatives for cellos and basses imitate compositional choice, staging the intervention of Beethoven’s “masterful hand” in the course of the music . . . [and encouraging] a mode of reception that listened “past” the real voices, the real performance, and the real presence of the music to a figurative version of these very things beyond them.’ See Mathew, ‘On Being there in 1824’, in Mathew and Walton (eds.), *The Invention of Beethoven and Rossini*, p. 187–188.

*Figure 3-17: First Violin part of the first edition of Op. 135 (Berlin, 1827), p. 9, bb.1–3.
(Bonn, Beethoven-Haus, C 135/1)*

In the first edition score, published later in Autumn of 1827 by both Schlesingers, the two fragments are even joined up to make a single musical utterance, and subsequent editions (including Schott’s 1867 edition and four-hand piano arrangements) retained this format (see Figure 3-18).

*Figure 3-18: First Edition score of Op. 135 (Berlin, 1827), p. 24.
(Bonn, Beethoven-Haus, C 135/2)*

The appearance of such an inscription must have seemed extremely incongruous in these early editions. What should performers do with it? Should it be played? What, then, is the purpose of the words? The presence of a virtual voice in a string quartet part, a genre that celebrated the abstract properties of form over theatrical representation and mimesis, was unprecedented.⁸⁷ Not only was the appearance of German text in itself unusual (notably, the Paris Schlesinger edition translated the inscription into French), but representational or poetic titles were the domain of string quartet arrangements of operas and the *Quatuors Brilliants* of the Parisian school, not serious chamber music.

Nearly two hundred years later, the finale of Op. 135 still remains something of a puzzle. Christopher Reynolds describes it as ‘part musical riddle and part philosophical enquiry’,

⁸⁷ Notwithstanding this, string quartet arrangements of operas were in fact very popular in the salon culture in Vienna, and these often included titles in German (see Chapter 4).

and Kerman likens the annotation to ‘a ‘Sphinx’ in Schumann’s *Carnaval*’, remarking with Kerman-esque wit that ‘presumably [Beethoven] did not mean to have the sphinxes actually played or sung prior to the Finale, but the urge to get his quartets talking was certainly carrying him a good way.’⁸⁸ In contrast, and in line with the deconstructive approach to current Beethoven scholarship, Julian Johnson has asserted more pragmatically that ‘the ironic gravity of the motto seems designed to laugh in the face of the earnest hermeneutician.’⁸⁹ This case study examines the different ways in which the meaning of the notational inscription has been ‘made to talk’ through the lens of different ‘interpretants’; from the perspective of nineteenth-century critics with their own narrative agendas, to the life of the text before its appearance in Op. 135, to the expectations of the Schuppanzigh Quartet, to the techniques and paradigms of twenty-first-century musicology.

Following the composer’s death, the inherent fluidity of signification transformed the elusive inscription into a site that was ripe for myth-making and cultural appropriation. At stake was not just the import of Beethoven’s mysteriously-notated words, but *who* had the final say over this meaning. Several self-interested parties attempted to lay claim to authoritative meaning as a form of cultural capital in the aftermath of Beethoven’s death. The ever-untrustworthy Schindler made a false entry in a conversation book in order to link the genesis of the motto to Beethoven’s weekly encounters with his housekeeper. A notation of the ‘Es muss sein!’ fragment – notated erroneously in the bass rather than the treble clef, and without the necessary B \flat in the key signature – was accompanied by the additional words ‘the old woman needs her allowance’.⁹⁰ However, both words and notation were added by Schindler, undoubtedly to reinforce the notion that he alone had unique insight into the meaning behind the composer’s cryptic inscription, and intimate knowledge of his living situation.⁹¹

⁸⁸ Christopher Reynolds, ‘The Representational Impulse in Late Beethoven, II: String Quartet in F major, Op. 135’, *Acta Musicologica*, 60 (1988), pp. 180; Kerman, *The Beethoven Quartets*, p. 362.

⁸⁹ Mathew and Walton (eds.), *The Invention of Beethoven and Rossini*, p. 268.

⁹⁰ ‘die Alte braucht wieder ihr Wochengeld.’ *BKh* 10, p. 319. The pitches as they appear on the staff match the first entry of the joke canon (WoO 196) – written by Beethoven in jest with his colleagues – that formed the basis of the motto in Op. 135. However, if read in the bass clef, Schindler’s notation is a third too high.

⁹¹ In fact, the ‘old woman’ to whom the written text refers (Barbara Holzmann) had not yet resumed employment by Beethoven on 20 December when this inscription was added. See *BKh* 10, n. 870.

The publisher of Op. 135, Moritz Schlesinger, also claimed unique insight into the meaning of the inscription. He recounted a letter that Beethoven had apparently written to him on 30 October 1826 shortly after having sent the parts for engraving. The letter explains that the purpose of the ‘Muss es sein?’ inscription was to convey the composer’s artistic struggle with the need to write a quartet for financial reward alone.⁹² It was perhaps convenient for the publisher that his memory was the only evidence of such a letter, as all of his paperwork and correspondence from Beethoven had been destroyed in a fire. In a version of the letter that he had published in 1867 – also dictated from memory, having sent the initial letter to A. B. Marx in 1859 – Schlesinger embellished the story even further. The later version of the letter reads:

Here my dear friend, is my last quartet. It will be the last; and indeed it has given me much trouble. For I could not bring myself to compose the last movement. But as your letters were reminding me of it, in the end I decided to compose it. And that is the reason why I have written the motto.⁹³

By way of this letter, not only does Schlesinger take personal credit as the inspiration (or at least motivation) that led Beethoven to compose the last movement of his last quartet; he also attempts to elevate the meaning of the words to compensate for the fact the this ‘neues kleines quartett’ did not seem to be on equal par with some of Beethoven’s self-declared ‘much greater works’. Perhaps for the purposes of commercial self-gain, Schlesinger’s edition makes clear the ‘posthumous’ status of the Quartet on the title page. Of all of the notational eccentricities in the late quartets, the ‘Muss es sein?’ quotation at the beginning of Op. 135 has perhaps illustrated most aptly the unique symbiosis of biography and works that has loomed large in the reception of Beethoven’s music. Knittel has illustrated insightfully how historians and critics have heard Beethoven’s voice in the inscription, as a metaphysical cry to fate from beyond the grave.⁹⁴ Such a reading served

⁹² See Brandenburg, *Briefe* 6, p. 303.

⁹³ ‘Hier mein lieber Freund mein letztes Quartett, es wird das letzte sein, aber es hat mir Mühe gemacht; ich konnte mich nicht dazu bringen, den letzten Satz zu schreiben. Da mich aber Ihre Briefe daran mahnten, so habe ich mich endlich entschlossen es zu schreiben, und deshalb habe ich das Motto geschrieben.’ Brandenburg, *Briefe* 6, p. 304; Anderson, *Letters of Beethoven* 3, p. 1318.

⁹⁴ See Knittel, ‘“Late”, Last and Least: On Being Beethoven’s Quartet in F major, op. 135’, pp. 47–49.

the critical aim of drawing the potentially ‘problematic’ Op. 135 – with its seemingly light-hearted character and turn away from the formal expansion and experimentation of the previous quartets – into a Romantic plot; that of Beethoven’s heroic overcoming of the personal and emotional trauma of failing health and his nephew’s attempted suicide. In this instance, the ‘interpretant’ of biographical preconception – knowledge of Beethoven’s deafness and personal familial circumstances – and the need for a narrative disciplining of the trajectory of the late quartets, leads to a reading of the notation that links it directly to Beethoven’s emotional and subjective state. No longer able to communicate with those around him in his social *milieu*, Beethoven’s voice instead bursts the boundaries of notational convention to communicate directly through writing in an ever-immediate present.

Kerman’s notion of Beethoven ‘talking to us’ through the quartets is an apt example of what Mathew has characterised as a peculiar ‘rhetoric of presence and absence’ in the reception of the composer. According to this historiographic trope, ‘Beethoven turns away from his historical surroundings, guaranteeing that his music will endure’.⁹⁵ In the case of Op. 135, although the notation of such a title represents a ‘turning away’ from the generic conventions of string quartet writing, the silent inscription has maintained a sense of historical immediacy, crystallising in notation a biographical moment in the composer’s life. The exclamation marks in the ‘es muss sein!’ response seems to turn it into an ethical imperative, urgently striving to communicate its purpose. It indexes the presence of an agent behind the utterance; an agent that forges a seemingly direct relationship with the onlooker across time, space and historical consciousness. Yet this presence is paradoxically a silent, bodiless one, sustaining itself through writing alone: in the words of Mathew, ‘Beethoven’s music, obsessively mediated and written about in itself, is able to write back – surpassing the brute facts of its sonic reality by telegraphing its presence to us.’⁹⁶

In this instance, Beethoven’s apparent presence in the notated inscription of Op. 135 entirely eclipses the space of performance. The inscription does not signify on its own musical terms as a singing voice; its semiotic appeal lies rather in its status as text. This assumed primacy of text over performance has led to a seemingly obvious omission: the

⁹⁵ Mathew and Walton (eds.), *The Invention of Beethoven and Rossini*, pp. 179–180.

⁹⁶ Mathew and Walton (eds.), *The Invention of Beethoven and Rossini*, p. 185.

extraordinary fact that the notation *cannot* be performed, or even imagined, as an intelligible musical utterance as it appears on the printed page of early editions has rarely been noted.⁹⁷ The shift from F minor to F major, notated explicitly as a single musical sentence in the first published score and ensuing editions, renders it harmonically and melodically nonsensical – a nonsense that is further reinforced by the first Grave’s lack of key signature (see Figure 3-19).

*Figure 3-19: First Edition score of Op. 135 (Berlin, 1827), p. 24.
(Bonn, Beethoven-Haus, C 135/2)*

It has also been assumed that the notation encapsulates a single voice, Beethoven’s voice, despite the fact that a clear question and answer is implied. This is Beethoven’s ‘difficult resolution’. Yet the sudden change in clef, register and tempo puts the two incipits in different sonic universes; the jarring shift in key, with a diminished fourth, followed by a jaunty Allegro entry up a semitone, stages their utter musical and subjective incompatibility. The two statements cannot exist intelligibly side-by-side in sonic reality according to nineteenth-century harmonic convention. Thus, despite the notated presence of music, this inscription can, paradoxically, only sustain itself in writing. As Mathew aptly puts it, ‘Beethoven’s face turns out to be curiously textual rather than physical, producing writing rather than singing.’⁹⁸

Gell might argue that this index of Beethoven’s presence is only a trick of signification that has been sustained by the rhetoric of reception. However, it is the very opacity of the

⁹⁷ Chua notes the impossibility of musical meaning in this atonal phrase, in which ‘the notes explain nothing semantically. Rather, this ‘hard won decision’ is merely a grammatical play, a purely musical logic that abstracts the meaning of the words in kaleidoscopic patterns of difference . . . These contrasts are merely shapes, grammatical arrangements designed to preclude meaning. Indeed, the double barlines . . . symbolize[] the binary blockage between them – there is no mediation of meaning’. See Daniel K. L. Chua, *Absolute Music and the Construction of Meaning* (Cambridge, 1999), p. 286. It should be noted that the double barlines are a product of the first edition print of the quartet, and do not originate with Beethoven.

⁹⁸ Knittel, ‘“Late”, Last and Least: On Being Beethoven’s Quartet in F major, op. 135’, p. 185.

relationship between the text and the notation, its ability to withstand numerous claims to meaning, that imbues it with such a compelling sense of agency ‘behind’ the object. In reality, this agency is not reducible to a single creative mind. The notation indexes not only the presence of a composer, but of copyists, engravers, editors and publishers who are responsible for the particular material form of the notation as it is read in different guises. The materials involved in these processes of production also each possess their own affordances. These affordances shape the notation in its printed form, such as the scrapings of a quill and ink on rough parchment, the detailed and laborious process of engraving, and the heat of the paper as it is imprinted with the impression of each template. The notation itself possesses agency: lacking in sonic coherence and colonising the space of performance, the notation draws attention to its status as writing, thereby inviting the sorts of hermeneutic and score-based enquiry that became typical of pseudo-philological approaches to musicology in the nineteenth century. This has led to analytical work such as that by Reynolds, which plays with the writerly status of the word ‘Es’ and the notated pitch ‘E ♭’.⁹⁹

In this way the notation also compellingly indexes the presence of readers: it demands interpretation. In the words of early critic A. B. Marx, the words ‘scarcely clarify’ the finale; yet it is this compelling opacity that draws readers into its social milieu, connecting us to an ever-expanding network of readers and performers throughout history. As suggested in Chapter 1, the appearance of blank space and silent, printed words seems to simulate the inner workings of a private consciousness, tempting us into the position of onlookers, eavesdropping on an intimate truth. Yet it is too simplistic to assert that these words represent a private outpouring by a composer who has ‘turned away from his historical surroundings’. In fact, it is Beethoven’s very situation in the social and musical life of 1826 Vienna that offers another source of meaning from the perspective of the first readers of the quartet. Told from the perspective of Holz, the notation indexes the presence of another historical agent: that of the Viennese patron, Ignaz Dembscher. Indeed, it was indignation on the part of Schuppanzigh that led Beethoven to compose a joke canon (‘Muss es sein?’, WoO 196) at Dembscher’s expense. Although Thayer cautions that ‘it cannot be determined whether or not the motif of the canon was destined from the first for the finale of the quartet’,¹⁰⁰ the use of the motif as a recurrent joke in

⁹⁹ Reynolds, ‘The Representational Impulse in Late Beethoven, II’.

¹⁰⁰ Thayer-Forbes, p. 1009.

the conversation books throughout the summer of 1826 usefully alerts us to the value of a networked understanding of notation and readership. Once again, Peirce’s notion of the ‘interpretant’ allows the possibility of accumulating a constellation of possible historical circumstances that acted as the precondition for the first performers’ engagement with the notation.

A Stingy Patron

Ignaz Dembscher was an amateur cellist and a well-known, wealthy patron of the arts in Vienna. He had a large house that he frequently used for house concerts with players in the Viennese musical circle, including Schuppanzigh’s violinist rivals Joseph Mayseder and Joseph Böhm.¹⁰¹ A dispute arose between Beethoven and the unfortunate patron following Dembscher’s initial failure to attend the premier of Op. 130 by the Schuppanzigh Quartet on 21st March 1826. While this in itself was not a significant crime, it was Dembscher’s subsequent boastful claims that he could organise a performance with ‘better artists’ in his own house – bragging that he would have no trouble obtaining the coveted parts from Beethoven himself – that inevitably riled the group of friends and colleagues.¹⁰² The material agency of the notated parts for Op. 130 therefore also played a role in the story; before parts were published, there was only ever a single set in circulation in Vienna. The ability to play the latest music was therefore limited by social access. Although Beethoven had previously made parts of his quartets available to Dembscher for his private house performances, the request for the parts for Op. 130 was used as an opportunity to seek revenge for the public slight against Schuppanzigh. In early April 1826 Holz recounted an encounter with the embarrassed Dembscher with glee, describing how he had informed the patron that the first step to regaining Beethoven’s favour was to pay the 50 florins subscription fee to Schuppanzigh.¹⁰³

However, the payment was apparently not forthcoming. Three months later in July, Holz raised Dembscher in conversation again, this time describing how, upon reiterating the

¹⁰¹ Both violinists briefly supplanted Schuppanzigh in Beethoven’s favour when they were used for the performance of Op. 127. See Adelson, ‘Beethoven’s String Quartet in E flat Op. 127’, p. 226.

¹⁰² ‘besseren Künstlern.’ See *BKh* 10, n. 215.

¹⁰³ ‘... ich sagte, der erste Schritt dazu ist, daß er dem Mylord 50 f schickt, als wenn er im Quartett gewesen wäre.’ *BKh* 9, p. 207.

request for payment, the patron had groaned, and asked the (now immortal) question.¹⁰⁴ As the story famously goes, on being informed of Dembscher's response, Beethoven had laughed, and responded – as he often did – by writing a comic canon 'Es Muß seyn!' featuring the words 'It must be! Yes Yes Yes Yes! Out with your wallet!'¹⁰⁵ Holz gave Dembscher the letter including the canon at the beginning of August.¹⁰⁶ Latterly the relationship seems to have become less humorous and more sour as Dembscher continued not to pay the necessary penalty. Holz informed Beethoven that Dembscher and his family had been 'very tense' with him when he had met them 'because of the 50 F', and that he had even written to Dembscher accusing him again of 'stinginess'; shortly thereafter Holz again reminded Beethoven of Dembscher's bad behaviour towards him, recounting how he had reiterated the contents of the letter to him in person after passing him in Vienna.

Furthermore, whether or not Holz was exaggerating, it does seem apparent that the encounter was widely known within the city. Holz even claimed not to care whether he publicly annoyed Dembscher, and that if he wanted revenge he would simply print the canon and the anecdote.¹⁰⁷ Even without printing the canon, the story had already spread through Vienna; Holz informed Beethoven that at the 'Börse' it was known that Beethoven had written the canon, and that Dembscher himself was annoyed that the story had become public knowledge.¹⁰⁸ While it is difficult to speculate about the demographic of the consumers of the quartets in their published cities of Berlin and Paris, such evidence suggests that the Viennese readership and musical connoisseurs of Beethoven's close circle may have heard not Beethoven's presence in the notation, but the echoing voice of a stingy patron who made the mistake of slighting the composer's *Leibquartett*.¹⁰⁹ In this way the notation indexes a much broader set of implications beyond that of philosophical or musical enquiry: it reveals an insight into the inequalities of the social and economic

¹⁰⁴ 'Dem Dembscher habe ich das billet gegeben; er lachte recht, und fragte, ob es seyn muß? Ich antwortete: Das ist die einzige Bedingung, um alles zu verzeihen.' *BKh* 10, p. 63.

¹⁰⁵ 'Es muß seyn! Ja ja ja ja! Heraus mit dem Beutel!' See *WoO* 196.

¹⁰⁶ Written on 31st July, Schuppanzigh's birthday, Holz urged Beethoven to send the canon directly to the offending patron as a birthday present. See *BKh* 10, p. 70.

¹⁰⁷ See *BKh* 10, p. 136.

¹⁰⁸ See *BKh* 10, p. 131.

¹⁰⁹ This was an affectionate term that Beethoven used to refer to the Schuppanzigh Quartet. See Theodore Albrecht, 'Beethoven's Leibquartett: A Case of Mistaken Identity', *The Journal of Musicology*, 16 (1998), pp. 410–419.

structures of Viennese society, in which a burgeoning freelance market was still highly dependent on musical patrons, and in which reputation was everything.

A Biography of Notation

The purpose of recounting the entries in the conversation books is to illustrate that the material had been on Beethoven’s mind throughout the summer of 1826. The notation appears as a sort of leitmotif throughout the conversation books and letters during the August of 1826, notated in different keys and voiced differently – Beethoven even quotes the text ‘muss es seyn? Es muss seyn!’ in a letter to Holz in July 1826.¹¹⁰ Through a mixture of conversation books and letters, it is possible to build up a detailed biography of the notational motto as it passed through various mediums, transformed from verbal utterance, to formal composition, to written inscription, to notated fragments, to word-of-mouth as tales of the notorious canon threaded its way throughout Vienna. Appearing in fragmented forms and in different guises in letters, conversation books and autograph sources, the material inscriptions of the notation weave traces of a particular set of social encounters between Beethoven and the musical circle of 1826 Vienna. The textual status of the notation as it is codified in printed scores obscures the contingency of its genesis and the fluidity of its various guises as it threaded an interface between the oral and the written, the live and the historically immortalised.

Although the silent authority of the score is now taken for granted, the writerly status of such notation was unprecedented in the early nineteenth century. As explored in Chapter 1, as the first string quartets to be published simultaneously in part and score format the late string quartets represented a paradigm shift in a musical culture that had previously privileged the immediacy of performance over the disembodied text.¹¹¹ This burgeoning score-based thinking represented a shift from a horizontal to a vertical notational axis, in which notation began to mediate information from a top-down perspective. That this was not yet established as a mode of reading can perhaps explain one facet of the notation of the ‘Muss es sein’ quotation that is revealed in comparison between the autograph score

¹¹⁰ See Beethoven-Haus Bonn, Sammlung H. C. Bodmer, HCB BBr 24. It first appears during an encounter between Beethoven and Schuppanzigh, who complains about the ‘filthy guy’. See *BKh* 10, pp. 317–318.

¹¹¹ See Mary Hunter, ‘To Play as if from the Soul of the Composer: The Idea of the Performer in Early Romantic Aesthetics’, *Journal of the American Musicological Society*, 58 (2005), pp. 357–398.

and autograph parts. Indeed, it is significant that in the autograph score for the final movement, the notated incipit does not appear at all.

A particular biographical aspect of Beethoven's life did directly impinge upon the material status of the notation in its various extant sources. Due to the lack of copyists in Gneixendorf, as well as insufficient funds, Beethoven notated a set of autograph parts that were sent to the publisher for engraving. These autograph parts highlight a crucial difference in the sorts of information that parts and scores can convey respectively and thus how they should be read. At the beginning of the autograph parts, the extra notation specifically outlining the motivic relationship to the canon WoO 196 is included at the top of each page in each different voice (see Figure 3-20).¹¹²

*Figure 3-20: Autograph cello part for the last movement of Op. 135, p. 13, bb. 1–8.
(Bonn, Beethoven-Haus, HCB BMh 6/46)*

In contrast, the title 'Der schwer gefaßte Entschluß' is notated in the autograph score, next to an extraneous tempo marking 'Andante assai con moto'. This is above a second line that indicates the tempo marking that was ultimately published, 'Grave ma non troppo tratto', followed by the two statements, 'Muß es seyn? — Es muß seyn!' The slightly darker ink and larger handwriting of the top line seems to have been added retrospectively, fitted in around the 'Muss es sein?' quotation as a title (see Figure 3-21).

¹¹² In the first violin part of the autograph handwritten parts, a poor French translation of the phrase has been added in another hand. It reads 'Un effort d'inspiration: Le-pourrai je? Il le faut! Il le faut!'. See Bonn, Beethoven-Haus, HCB BMh 6/46, First Violin part, p. 15. This was presumably the hand of Schlesinger, who published not only the first edition parts and score, but also the complete edition of all of Beethoven's string quartets. In the complete edition, the 'Muss es sein?' quotation also appears in French, with 'Le pourrai-je?' amended to 'Le faut-il?' See Bonn, Beethoven-Haus, C 249 / 18.

*Figure 3-21: Autograph score of the last movement of Op. 135, fol. 1r, bb. 1–3.
(Berlin, Staatsbibliothek zu Berlin, Mus.ms.autogr.Beethoven, L.v.19B)*

While the accompanying musical notation is omitted at the beginning of the score, it is traced very faintly and incompletely at the bottom of the first folio (see Figure 3-22).

*Figure 3-22: Autograph score of the last movement of Op. 135, fol. 1r.
(Berlin, Staatsbibliothek zu Berlin, Mus.ms.autogr.Beethoven, L.v.19B)*

There is evidence that Beethoven initially wanted to make the relationship between the text and the motive explicit in the autograph score. As can be seen in Figure 3-21, the text seems to have been written under the relevant pitches in the first bars, but was subsequently scribbled out. The responding phrase of the text was also notated under the violin entry at the beginning of the ensuing Allegro section and remained unaltered.

Of course, in the parts it was not possible to resort to the method of writing the words out underneath the respective motives as not all parts have this phrase. Schlesinger’s first edition solves the problem by including a cello cue in the first violin part (see Figure 3-23), although notably no cue is provided in the second violin part – reinforcing the traditional hierarchy of string quartet playing which positions the first violinist as the ‘leader’.

*Figure 3-23: First Violin part of the first edition of Op. 135 (Berlin, 1827), p. 9, bb.1–3.
(Bonn, Beethoven-Haus, C 135/1)*

In the autograph parts, it is not possible to determine from the perspective of an individual part alone which musical phrases the text is referencing (see Figure 3-24).

*Figure 3-24: Autograph first violin part of the last movement of Op. 135, p. 15, bb. 1–6.
(Bonn, Beethoven-Haus, HCB BMh 6/46)*

In this way, the notated incipits act as a substitute for the score, providing shorthand information to the players about what is not apparent from their part alone.

An additional, almost insignificant, marking that appears in the autograph parts, but was not included in early editions, provides evidence to support this argument. The abbreviation ‘*etc.*’ appears after both the initial ‘Muss es sein?’ and the ensuing ‘Es muss sein!’ in each iteration the autograph parts. ‘*Etc*’ was a marking that Beethoven often used as a shorthand during his sketches to imply un-notated continuity. This ‘*etc.*’ subtly changes the purpose of the notation, from a singular utterance, to a quotation from a larger statement. If this is the case, the problem of harmonic intelligibility is solved as the two statements were never meant to be read side-by-side. The fragments simply offer a synopsis of the whole movement, as a sort of shorthand description. Were these ‘*etc.*’ that appeared in the autograph parts for the benefit of the engraver? We know that Beethoven had only recently displayed a tendency to write ironic asides to publishers on his autograph sources, when he claimed that Op. 131 had been ‘put together from various pilferings’ on the *Stichvorlage* that was sent to Schott in August 1826, only two months before Schlesinger claimed to have received the second letter from Beethoven regarding

Op. 135.¹¹³ The incipit might in fact more accurately describe Op. 135, with its re-used motto from a canon as the fourth movement and whose third movement (the Lento Assai) was originally envisaged as the coda of the finale of Op. 131. This begs the question: was the ‘Muss es sein’ epigram a joke not meant for public eyes, a shared joke between Beethoven and his personal acquaintances?¹¹⁴

Ultimately, the question of whether or not it was intended for public eyes, or whether or not the public was meant to understand the joke, is, to an extent, irrelevant. As Nattiez has emphasized, ‘semiology is not the science of communication . . . it is the study of the specificity of the functioning of symbolic forms, and the phenomenon of ‘referring’ to which they give rise’,¹¹⁵ citing an example of a cartoonist in the 1970s who appeared to mock semiologists by omitting to draw a character for the speech bubbles, thereby making him impossible to analyse. The cartoon, however, in fact referred to an ‘inside joke’ between the artist and a semiologist. As Nattiez comments:

Would the “ordinary reader” be *wrong* to interpret the cartoon in the way suggested above? Of course not. I simply wish to emphasise that, from the *poietic* point of view, the “private joke” may well be an integral part of the artist’s intentional meaning, but it is nonetheless inaccessible from the *esthetic* coign of vantage. Proof of this lies in the fact that we cannot fully judge the “poietic” aspect without interrogating the artist about his work. The reader *constructs* a plausible, logical sense that, in this instance, transcends the specific “intentional meaning” of the author.¹¹⁶

¹¹³ In the letter to Schott confirming the delivery of the autograph score of Op. 131 on 19th Augusts 1826, Beethoven wrote: ‘You said in your letter that it should be an original quartet. I felt rather hurt; so as a joke I wrote beside the address that it was a bit of patchwork. But it is really *brand new*.’ [‘. . . sie schrieben, daß es ja ein *original quartett* seyn sollte, es [wah] war mir empfindlich, aus Scherz schrieb ich daher [auf]bey [die]der Aufschrift, daß es zusammen getragen, Es ist Unterdeßen Funkel nagelneu.’] Brandenburg, *Briefe* 6, p. 269; Anderson, *Letters of Beethoven* 3, p. 1295.

¹¹⁴ Beethoven’s letter to George Smart regarding Op. 95 is perhaps relevant here. The composer wrote (in English): ‘N.B. The quartet is written for a small circle of connoisseurs and is never to be performed in public.’ Brandenburg, *Briefe* 3, p. 306; Anderson, *Letters of Beethoven* 1, p. 606.

¹¹⁵ Nattiez, *Music and Discourse*, p. 15.

¹¹⁶ Nattiez, *Music and Discourse*, p. 14.

Here the symbolic trace alone is what the reader interacts with: the status of this notation is that of pure writing. This in itself has affected the sorts of ‘interpretant’ that have been brought to bear on the meaning of the sign throughout history. The question of this incipit being a notation for performance has never been raised despite the extraordinary fact that the notation does not refer to music, but to text. Subsequent receptions of the composer have conditioned the understanding of this relationship between sign and object: in this case, the object of the sign is not music, but metaphysics, unworldly, immaterial. Yet Peirce’s notion of the ‘interpretant’ prevents a sign from becoming rigid, able to telegraph its meaning trans-historically across time and space. The notation’s historical intermingling with the worldly affairs of Viennese society offers another set of preconditions for meaning. In this light, the text acts as a commentary upon the economic status of freelance musicians in early nineteenth-century Vienna, the agency of material objects in affording social and musical relations, and, perhaps most importantly, Beethoven’s care to protect the interests and activities of his *Leibquartett*.

Conclusion: Network or Meshwork?

In the introduction to this chapter it was proposed that a ‘networked’ model of notational meaning was essential to an understanding of Beethoven’s notation, not just as the product of an internal, genius mind, but whose meaning is mediated by a range of factors and relations – captured by Peirce’s notion of the ‘interpretant’. However, as this chapter has also argued, the ‘interpretant’ is ultimately an emergent phenomenon, and therefore cannot hypostasize historical moments. Instead, following the possible (and ultimately speculative) processes of interpretation within shifting discourses, situations and materials opened up new interpretative possibilities. For example, following the lineage of the ‘muss es sein’ inscription revealed traces of Beethoven’s life as it unfolded in Vienna, including all of the banal, contingent and messy interactions that ultimately led to its immortalisation as metaphysics in writing. From this perspective, the networked model begins to look unsatisfactorily inert and inflexible, incapable of mapping temporal processes. As Ingold argues, ‘the lines of the network are connectors: each is given as the relation between points, independently and in advance of any movements from one to the other. Such lines therefore lack duration: the network is purely a spatial construct.’¹¹⁷ Although this spatial construct serves an important heuristic function in its disruption of

¹¹⁷ Tim Ingold, *Making: Anthropology, Archaeology, Art and Architecture* (New York, 2013), p. 132.

linear cognitive models, it also replicates the charge of hylomorphism: it cannot represent growth, change, process – the very human experiences that it seeks to represent. Ingold instead proposes a model that entangles these lines and relationships, a model that he dubs a *meshwork*.

For Ingold, the meshwork is a Deleuzian concept relating to the rhizome, involving ‘an entanglement of lines . . . the lines of the meshwork are of movement and growth.’¹¹⁸ While it might be argued that the distinction between a network and a meshwork is simply a question of clever semantics – what does it matter whether a diagram is represented by straight or entangled lines? – for Ingold it is an issue of ontology: a fundamental shift in perception towards an understanding of the world as constantly *becoming*, rather than already finished. It is this ontological horizon with which historians must grapple, often leading to the sorts of historiographical ‘double vision’ that Mathew has described: tropes of presence and absence that negate the material and sensuous experiences of ‘being there’ at events such as the première of Beethoven’s Ninth Symphony. As Knittel and Wallace have argued, to move away from a deterministic view of Beethoven’s own history, and to accept the intermingling of the worldly, the social, the material and the aesthetic is not to lessen the composer’s artistic value or ‘heroism’; it is to allow him to be human. It was argued in Chapter 1 that, to capture this human quality, Beethoven’s compositional process should be understood in a more forward-looking, improvisatory light because, as Ingold suggests, improvisation is a fundamental mode of human existence; simply a way of life. As Hallam and Ingold have put it, ‘because it is the way we work, the creativity of our imaginative reflections is inseparable from our performative engagements with the materials that surround us.’¹¹⁹ Beethoven was no exception. Drawing further on the ideas developed in the final case study of this chapter, it is to the performativity of the materials themselves that the next chapter turns.

¹¹⁸ Ingold, *Making*, p. 132.

¹¹⁹ Ingold and Hallam, *Creativity and Cultural Improvisation*, p. 3.

4. The Material Lives of String Quartets

Introduction

On 7 October 1826 Beethoven wrote a letter to his old friend Franz Wegeler recounting:

Recently a certain Dr Spieker took my last grand symphony with Choruses to Berlin; it is dedicated to the King and I had to write the dedication in my own hand. I had previously requested permission from the Embassy to dedicate the work to the King and this was granted. Dr Spieker requested that I turn over the corrected manuscript to him myself, with emendations in my own hand, for presentation to the King, since it is to be placed in the Royal Library.¹

Certainly according to modern day standards, but even during Beethoven's lifetime, the value of the manuscript, including Beethoven's signature and corrections in his own hand, was significant. This was a lavish gift worthy of its Royal recipient. Beethoven himself was aware of this value, and wrote to Schott requesting that he 'postpone the publication until I inform you that the King has received the copy. You realise that when a work is published the copy ceases to have any value.'² Yet it was not simply naive generosity on the part of a composer who outwardly shunned such public forms of recognition ('I have never sought such honours').³ The 'gift' function of such an object, in terms of Marcel Mauss's foundational analysis of gift exchange in human culture, enabled it to act as an extension of Beethoven himself.⁴ According to Mauss, it is this residue of the gift-giver

¹ Wegeler and Ries, *Remembering Beethoven*, p. 49.

² 'Nur ersuche ich Sie, mit der Herausgabe so lange zu verziehen, bis ich Ihnen melde, daß der König im Besitz der *Copie* ist; Sie sehen ein, daß mit der Publizirung eines Werkes der Werth einer *Copie* aufhört.' See Brandenburg, *Briefe* 6, pp. 256–257; Anderson, *The Letters of Beethoven* 3, p. 1291; Thayer-Forbes, p. 1001.

³ As Wegeler wryly comments, 'What has been said about Beethoven's alleged indifference to, or even contempt of, such honors should be judged in this light.' See Wegeler and Ries, *Remembering Beethoven*, p. 50.

⁴ See Marcel Mauss, *The Gift*, trans. Jane Guyer (Chicago, 2016).

that implicates the recipient in a social bond; the gift thus has the power to compel reciprocation. King Friedrich Wilhelm duly responded to Beethoven’s gift:

In view of the recognised worth of your compositions it was very agreeable for me to receive the new work which you have sent me. I thank you for sending it and hand you the accompanying diamond ring as a token of my sincere appreciation.⁵

Beyond this material reciprocation, the score-as-Beethoven that was housed in the King’s Royal library in Berlin physically inscribed the presence of the composer in the history of German culture. The manuscript thus not only indexes Beethoven’s authorial agency, but condenses a variety of social relations and transactions, ranging from local acts of personal exchange to much broader economic, bureaucratic and political concerns.

These include material concerns – such as Beethoven’s humorous comment to the publisher Haslinger to have the manuscript ‘as beautifully bound as befits a *king*’,⁶ and his exhortation to Schott to ‘use fine paper specially chosen for that purpose’⁷ in his printing of the score. In the same letter Beethoven explicitly acknowledged the agency that the publisher Haslinger would assume in overseeing the creation of the final object by employing a suitable book binder (although this agency may have been difficult for Beethoven to bequeath – ‘You know far too much about *binding*, just as I do about letting go – I am counting absolutely on your kindness’).⁸ The manuscript also indexes the presence of the King himself, as well as the bureaucratic mechanisms and social niceties that Beethoven had to observe in order to receive permission to print the dedication (thereby reciprocally bestowing value on the work via Royal patronage) from Prince Hatzfeld, the Prussian Ambassador.⁹ Incidentally this permission itself had material ramifications in the format of the final score-object: Beethoven promptly instructed

⁵ See Thayer-Forbes, p. 1002.

⁶ ‘so schön einbinden zu laßen, als es sich für einen König schickt.’ See Brandenburg, *Briefe* 6, p. 283; Anderson, *Letters of Beethoven* 3, p. 1309.

⁷ ‘Für die dem König bestimmten Exemplare bitte ich ausgesucht schönes Papier zu besorgen.’ See Brandenburg, *Briefe* 6, p. 257; Anderson, *Letters of Beethoven* 3, p. 1291.

⁸ ‘auf das Binden verstehn sie sich gar zu wohl, wie ich mich auf’s loßlaßen – ich rechne sicher auf ihre Gefälligkeit.’ See Brandenburg, *Briefe* 6, p. 283; Anderson, *The Letters of Beethoven* 3, p. 1309.

⁹ See Brandenburg, *Briefe* 6, p. 225; Anderson, *The Letters of Beethoven* 3, p. 1300.

Schott that, having received the permission, ‘you may now think out the title-page and you may consider and arrange for the allegorical indication and expression and execution of the other emblems of the Royal Prussian attributes, so that there may be no infringement of etiquette but rather a well set-out title page.’¹⁰

This chapter moves beyond the individual acts of notational interpretation explored in Chapter 3 to consider the role of non-human actors in the mediation of meaning. Ingold’s notion of the meshwork usefully blurs the boundaries between the human and the non-human, and Case Study 3 in the previous chapter has already demonstrated the influence of particular material forms and transactions in the dissemination of knowledge. It was argued that not only did the different functions of autograph notational material – whether in parts or score, intended for copyist or private use – influence the transmission of meaning of the ‘muss es sein’ inscription, but also the choices of editors and the material forms that the notation took in print. I now consider the ways in which notational objects themselves as material entities act as indexes of agency, spinning connections between people, people and objects, and objects and objects across time and space, as theorised by Gell. It is not only social relations that are transformed during this process: as Born summarises, ‘the art object has a kind of career; it changes not only via its changing interpretation in performance and reception, but it can change even its physical form.’¹¹

An Anthropology of Notation

Published posthumously in 1998, Gell’s ‘Art and Agency’ was a radical theoretical manifesto that attempted to move away from linguistic models of art and meaning towards an understanding of artworks as performative: Gell argued that meaning can be located in the types of work that such works are *doing*. This performative dimension is theorised by Gell as ‘agency’. In his own words, ‘the anthropology of art is constructed as a theory of agency, or of the mediation of agency by indexes, understood simply as material

¹⁰ ‘Sie können also schon auf’s Titelblatt denken u. die übrigen *embleme* der Königlich[en]-Preußischen Formen *allegorisch* bedenke[n] u. ausdenken u. ausführen laßen, damit kein verstoß vielmehr ein wohlgebildetes Titelblatt erscheine.’ See Brandenburg, *Briefe* 6, p. 230; Anderson, *The Letters of Beethoven* 3, pp. 1278–1279.

¹¹ Georgina Born, ‘On Musical Mediation: Ontology, Technology and Creativity’ in *Twentieth-Century Music*, 2 (2005), p. 16.

entities which motivate inferences, responses or interpretations.’¹² For Gell, meanings are performed in the transactions and relationships engendered by the artworks-as-agents. Crucially, these meanings may also be completely separate from those ‘intended’ by the artist. For example, the material may inherently dictate to the artist the form that it assumes, either on the basis of specific physical affordances and restrictions, or on the basis of traditional knowledge. Gell references examples such as the ritual occult procedures observed by Christopher Columbus in Antilles, during which it was believed that the trees themselves gave orders about how to carve their trunks into idols.¹³ The Western doctrine of ‘truth to materials’ is also cited by Gell, and the notion that a craftsman themselves may view as simply ‘liberating’ forms that inhere in uncut wood or stone, or the use of ‘found objects’ such as Marcel Duchamp’s selection of apparently indifferent, anonymous artefacts to be framed for exhibition. In musical terms, the act of notating from a specific repertory of graphic symbols within a set of visual grids (staves, pages, clefs), as well as the dictates of convention and grammar, might be understood to impose certain material forms and limitations on the music’s final form.

One step removed from the immediacy of Beethoven’s notating process, printed editions possess a different sort of agency. Gell makes a case for a sense of agency motivated by patronage. He argues:

One may readily conceive that a great king (such as Louis XIV strolling in the grounds of Versailles) surveying the works he has commissioned and financed, regards himself as the author of the scene before his eyes, for all that these works have been created, in the material sense, by hosts of architects, artists, craftsmen, masons, gardeners and other labourers. The patron as provider of the commission is an efficient cause of the index; his glorification is its final cause. The patron is the social causation of such works of art; his agency is therefore readily abducted from it.¹⁴

As Gell argues, portraits of Monarchs act as clear indexes not of the artist, but the power relations and socio-economic circumstances – as well as the physical form of the body in the painting – that motivated its material form. Although this category of agency may

¹² Gell, *Art and Agency*, p. ix.

¹³ See Gell, *Art and Agency*, pp. 28–29.

¹⁴ Gell, *Art and Agency*, p. 33.

seem to bear little relevance in the context of music, a comparison between the front cover of two different editions separated by 200 years is telling. The Dover miniature score for Beethoven's late quartets bears a portrait of the composer – an iconic index of the agent lying behind the object – and his name dominates the page. In contrast, Beethoven's name shares the space with another on the title page of Artaria's score edition of Op. 130: that of Prince Nikolaus Galitzin, the Russian music-lover and amateur cellist who commissioned the first three of Beethoven's late quartets (Op. 127, Op. 130 and Op. 132).

Figure 4-1: Front cover of Dover's Minature Scores of Beethoven's late string quartets (New York, 1988) and Title Page of Artaria's first edition score of Beethoven's Op. 130 (Vienna, 1827).

(Bonn, Beethoven-Haus, C 130/10)

The title page of Artaria's score notes that the music contained within its covers comprises the third of the quartets that were composed and dedicated to His Royal Highness, Prince Nicolas de Galitzin.¹⁵ This impressive, and conspicuous, dedication dominates the visual foreground of the title page and bestows a measure of prestige upon the edition: the Prince's name is emblazoned upon an image of a sovereign's orb, which serves as a symbol of the sovereign's power on earth but also that of the Christian world. The graphic proximity of Beethoven's authorship to this Royal symbol, whose shadow extends to cover the middle letters of his name, acts as a portend to the later Dover edition: two centuries later, the status of both names is now reversed. In its historical context,

¹⁵ 'composés et dédiés à son Altesse Monseigneur Le Prince Nicolas de Galitzin; Lieutenant Colonel de la Garde de sa Majesté Imper[ia]le de toutes les Russies.' See Bonn, Beethoven-Haus, C130/10.

Galitzin’s name on the Artaria score indexed his role in the production of this artwork. Two hundred years later, Beethoven has long surpassed the status of his Royal patron; it is now the association with Beethoven’s name in print that defines Galitzin’s legacy today.

The significance of names on the front of printed editions and how such dedications performatively position the performer has been explored by Beghin in the context of Haydn’s keyboard sonatas.¹⁶ For Beghin such dedications offer insight into Haydn’s changing attitude towards his identities as a performer and composer in a culture that increasingly valued and consumed published ‘works’, as well as a means of distinguishing between a ‘female-inspired’ rhetoric from a ‘male-inspired’ rhetoric in his musical writing. Twenty years later, the separation between performer and composer was complete for Beethoven, and his late quartets were written and published with posterity, rather than specific performers, in mind: Beethoven used dedications as a marketing tool like no other composer before him.¹⁷

A concern with posterity is suggested by his meticulous attention to the wording of the dedications on his title pages. In April 1826 Beethoven had even written to the Censorship Authorities regarding the publication of Op. 114 and 116 as ‘the titles are worded so barbarously that their publication would be a disgrace to Vienna.’¹⁸ The composer’s obsession with printed titles demonstrates an awareness of the performative power of printed words that could circulate beyond his immediate milieu. The publisher Artaria presented Beethoven with the title page of Op. 133 to check over before publication as Holz had informed him that Beethoven did not like the term ‘composé’.¹⁹ Accordingly, the *Grosse Fuge* was published featuring a dedication to ‘Monseigneur le Cardinal Rodolphe’, but with different wording: rather than the traditional ‘composed for and dedicated to’, the inscription was changed to ‘dedicated with the deepest reverence.’²⁰

¹⁶ Tom Beghin, ‘A Composer, His Dedicatee, Her Instrument, and I’, in *The Virtual Haydn: Paradox of a Twenty-First-Century Keyboardist* (Chicago, 2015), pp. 1–42.

¹⁷ See Staffan Albinsson, ‘Early Music Copyrights: Did They Matter for Beethoven and Schumann?’, in *International Review of the Aesthetics and Sociology of Music*, 43 (2012), p. 282.

¹⁸ ‘die Aufschriften sind so [von der] Barbarischer Art, daß Sie vien schande machen würden, ich ersuche daher eine löbl.’ See Brandenburg, *Briefe* 6, p. 236; Anderson, *Letters of Beethoven* 3, p. 1282.

¹⁹ ‘Die *Fuge* ist nun gestochen und ich werde Ihnen die *Correcturen* senden. Hier sind die Titel, wollen Sie sehen ob sie so recht sind’. *BKh* 10, p. 292.

²⁰ ‘dediée avec la plus profonde vénération.’ See Bonn, Beethoven-Haus, C 133/7.

This change in wording is significant: it suggests that Beethoven did not view his compositions as composed *for* anyone specific – even his wealthiest patrons.

Nonetheless, the demanding cello writing in the ‘Galitzin’ quartets can be linked to the immediacies of the Prince’s skills as a cellist: the Prince specifically informed the composer in a letter that ‘the instrument that I am cultivating is the violoncello’, to which Beethoven responded ‘since I see that you are cultivating the violoncello, I will take care to give you satisfaction in this regard’.²¹ Beethoven’s dedicatees also reflected other personal interests: for example, the dedication of Op. 131 to Baron von Stutterheim was made as a gesture of gratitude for allowing Karl into his regiment following his suicide attempt. As Beethoven wrote to Schott on 10th March 1827:

The quartet must now be dedicated to the Lieutenant Field-Marshal Baron von Stutterheim to whom I am indebted for many kindnesses. If you have perhaps already engraved the first edition, I beg you for Heaven’s sake to alter it, I will gladly compensate you for the expense of doing so. Do not treat my remarks as empty promises. Indeed, this matter is of such importance to me that I will gladly reimburse you to any extent whatsoever.²²

This material expression of gratitude – a further example of the sorts of social reciprocity that gifts generate according to Mauss’ system – was only possible in print: a public inscription of Beethoven’s relationship with the Baron that would survive long after the composer’s death. This status is amplified by the long list of Stutterheim’s achievements that dominates the title page of the parts (see Figure 4-2) – a title that was apparently specifically worded by Beethoven, and included in his letter to Schott (‘I enclose the title’).

²¹ ‘Comme je vois, que vous cultivez le violoncelle, je prendrai soin de vous contenter en ce point.’ See Brandenburg, *Briefe* 5, p. 11; Anderson, *Letters of Beethoven* 3, p. 988; Thayer-Forbes, p. 815.

²² ‘Er muß dem hiesigen Feldmarschal-Lieutenant Baron v. Stutterheim, dem ich große Verbindlichkeiten schuldig bin, gewidmet werden. Sollten Sie vielleicht die erste *Dedication* schon gestochen [zu] haben, so bitte ich Sie um alles in der Welt, dieß abzuändern, und will Ihnen gerne die Kosten dafür ersetzen. Nehmen Sie dieß nicht als leere Versprechungen, allein es liegt mir so viel daran, daß ich gerne jede Vergütung zu leisten bereitet bin.’ See Brandenburg, *Briefe* 6, p. 372; Anderson, *Letters of Beethoven* 3, p. 1340.

*Figure 4-2: Front cover of Schott’s first edition parts of Op. 131 (Paris, 1827)
(Bonn, Beethoven-Haus, C 131 / 7)*

As well as indexing the agency of patrons, Gell has proposed that, in a similar vein, such objects index the creative agency of the spectator or consumer – just as Louis XIV was able to construct himself as the author of his material surroundings. Gell argues that ‘there is almost always a sense in which the recipients of a work of art can see their own agency in the index.’²³ He cites the notion of post-enlightenment Western individualism, predicated on the principles of individual freedom, autonomy and personal and economic responsibility, as the framework within which this effect of agency is experienced. Underlining the demographic of those who visit modern day art galleries as ‘mostly middle class and educated’, he argues that, in the face of works of art:

They do not feel passive; after all, entering a gallery is something they do voluntarily, out of motives which can certainly be attributed to their own social agency . . . in that gallery, art is a commodity, gallery-goers as consumers can infer that their ‘demand’ for art is the factor ultimately responsible for its existence, just as the existence of any commodity on the market is an index of consumer demand for it.²⁴

In a similar way, the published editions of Beethoven’s quartets index a growing market of amateur performers and bourgeois consumers. The post-enlightenment values that still motivate consumers of art today were in ascendance following the Napoleonic Wars. The newly-won cultural agency of the bourgeoisie in the early nineteenth century is

²³ Gell, *Art and Agency*, p. 34.

²⁴ Gell, *Art and Agency*, p. 34.

constructed by these printed editions, with commercial information such as the price and location of the seller making it clear that the aristocratic tastes indexed by the dedications was theirs to buy and consume.

The specific presence of these consumers is illuminated by a significant material innovation in the publication of Op. 133, the *Grosse Fuge*; the very first work to be published with rehearsal letters.²⁵ This suggestion was also made by Artaria: Holz told Beethoven in a conversation book that ‘he [Artaria] would be pleased if you would indicate particular sections in the fugue with letters, for amateurs at rehearsal. A B C D.’²⁶ These letters, ‘every six lines or so’, would provide visual ‘landmarks’ to which performers could return if something went wrong in performance. In the words of Holz, ‘When they fall apart, or when it goes wrong, they can start again from the letter.’²⁷ The sight of rehearsal letters must have encouraged these amateur consumers: their presence was textually inscribed in the parts, contrary to the indication of the title page that Beethoven did not compose this piece *for* anyone. Nonetheless, the typography of title pages offers other clues about social and musical ontologies. In several instances Beethoven’s name is ‘elevated’ from the page above that of his dedicatee: 3-D graphic effects such as shadowing behind letters conjures a sense of spectatorship (see Figure 4-3), while also subtly reminding the consumer of their creative position ‘below’ or ‘under’ the authority of the composer.

Figure 4-3: Front cover of Schlesinger’s first edition parts of Op. 135 (Paris, 1827)
(Bonn, Beethoven-Haus, HCB C Md 79, 13)

²⁵ See Cooper, ‘Rehearsal Letters, Rhythmic Modes and Structural Issues in Beethoven’s *Grosse Fuge*’, p. 178.

²⁶ ‘Es wäre ihm lieb, wenn Sie gewisse Abschnitte in der Fuge mit Buchstaben bezeichnen möchten, für die Dilettanten zum Einstudieren. *A B C D*’, *BKh*, 10, p. 104.

²⁷ ‘Wenn sie auseinander kómen, oder wenn es schlecht geht, zum wiederholen von dem Buchstaben angefangen’, *BKh*, 10, p. 104.

Material Narratives

Gell also proposes that art objects exhibit agency by ‘constructing connections to both prior and future or prospective works’, producing what Born describes as ‘the “outer time” of cultural history.’²⁸ For example, the publisher Schlesinger was quick to produce a ‘complete’ edition of all of Beethoven’s string quartet following the composer’s death, and this ‘outer time’ of history is indicated by his retrospective numbering of all of the quartets: the title page of Op. 130 notes that it is the ‘treizième’ quartet, thereby collecting his quartet output as a single material entity. Schlesinger’s score edition of Op. 135 also boldly states on the title page: ‘oeuvre posthume: propriété des éditeurs.’²⁹ That score editions of a composer’s complete output were primarily designed for posterity, spinning connections into a speculative future, is made clear in notes by the publisher Leduc at the beginning of the first instalment of his score series for Haydn’s symphonies:

The score of the Haydn symphonies that we offer to the public presently is something that should rouse the interest of all music lovers. These marvellous compositions have been Europe’s delight for many years already and they offer composers in all genres material for the most serious studies . . . Finally, the course will hasten to enrich their libraries with this interesting collection, and need not fear that time will diminish its value. These works are not among those that enthrall only for a short time because of caprice of fashion. As a man of genius and as superior author, Haydn has placed on record his language, and whatever may happen, he will always be an example to those who will come after him.³⁰

²⁸ Born, ‘On Musical Mediation’, p. 23.

²⁹ This issue of musical ‘property’ was topical in the context of 1820s Vienna. For an overview of the historical and geographic circumstances of musical copyright during this time – including Hummel’s irritation with the blatant, but tolerated piracy arrangement between Adolf Schlesinger in Berlin and his son Maurice in Paris, and his petition to amend copyright laws which – see Joel Sachs, ‘Hummel and the Pirates: The Struggle for Musical Copyright’, *The Music Quarterly*, 59 (1973), pp. 31–60. Beethoven himself signed this petition and wrote a letter to the relevant authorities in support of it. See Brandenburg, *Briefe* 6, pp. 371–372 and Anderson, *Letters of Beethoven*, 3, p. 1452. In Beethoven’s Vienna, copyright law did not yet refer to an *abstract* authored work to which all uses could be related, whether publication, engraving or reprinting. See Martin Kretschmer and Friedemann Kawohl, ‘The History and Philosophy of Copyright’, in Simon Frith and Lee Marshall (eds.), *Music and Copyright* (Edinburgh, 2004), pp. 21–53.

³⁰ Rudolf Rasch (ed.), *Music Publishing in Europe 1600–1900: Concepts and Issues, Bibliography* (Berlin, 2005), pp. 236–237.

The rhetoric of this introduction – which might equally describe the publication of Beethoven’s late string quartets as scores – demonstrates the hallmarks of ‘work’-based ontology: these objects index the ‘outer time’ of cultural history in that they will not ‘diminish’ in value and will endure beyond the ‘caprice of fashion’, as a ‘record’ of the language of a ‘genius’ composer to be stored in a library as a collection and studied seriously.

As art objects, scores have complex relations with temporality; they ‘pretend’ forwards in time towards relationships with future scores, as well as indexing a series of past creative acts. They also assert their longevity outside their immediate social function. The rise of lithographic techniques of printing further promoted the notions of cultural and historical longevity that were so crucial to the formation of the musical canon. Rupert Ridgewell has argued that the music publisher was a ‘central figure in the process of transformation in the perception and social function of music around the turn of the nineteenth century’, suggesting that it is ‘no coincidence that the [burgeoning print culture of] the same period marks the transition from a utilitarian view of music as a commodity to be performed, enjoyed and forgotten, to the historical construct of a canon of musical works.’³¹ Until the early nineteenth-century, musical publishing was largely produced using engraving techniques, and Beethoven’s earliest string quartets were published using this method (see Figure 4-4).³² Although it now seems extraordinary to suggest it of Beethoven’s Op. 18, they were not yet the great ‘works’ that they would become: as Ridgewell suggests, the title page of Figure 4-4 speaks to the utilitarian function of these parts, signalling that they were to be used and forgotten. Indeed, the printing process made this a likely reality for many quartet composers of the time who have long since disappeared from the musical canon. A significant downside of engraving was the wear-and-tear to the plates during the printing process. The pressure exercised by the rollers on

³¹ See Rupert Ridgewell, ‘Economic Aspects: The Artaria Case’, in Rasch (ed.), *Music Publishing in Europe 1600 – 1900*, p. 83.

³² Artaria was an important Viennese publishing house that began producing engraved editions of music in the 1770s. As noted in Chapter 1, they were originally art dealers and engravers. The music side of the Artaria family business was established in 1776 and they are credited with the lively activity and rapid growth of the Viennese sheet music trade in the late eighteenth century. See Rupert Ridgewell, ‘Music Printing in Mozart’s Vienna: the Artaria Press’, *Fontes Artis Musicae*, 48 (2001), p. 217.

*Figure 4-4: Front cover of Mollo’s first edition of Op. 18 (Vienna, 1801)
(Bonn, Beethoven-Haus, C 18 / 37)*

the plates meant that the printed image gradually degraded, thereby limiting the number of possible print runs.

Lithography developed as a printing method in the early nineteenth century as a response to the rapidly-growing market for sheet music. As no rolling pressure was needed, a single stone could be used for an unlimited number of prints: these were prints designed to last into the future. The front covers of the parts and scores of several of Beethoven’s late string quartets (excluding Artaria’s edition of Op. 130) were printed using lithographic printing methods. Although the notated texts themselves were still usually printed by

Figure 4-5: Front cover of Schott's first edition score of Op. 131 (Mainz, 1827)
(Bonn, Beethoven-Haus, C 131 / 13)

engraving, the first edition scores of Op. 127 and Op. 131, both produced in Mainz by Schott, were printed using lithography throughout (see Figure 4-5).³³

In contrast to the human craftsmanship evident in the copper-plate engravings – which were likely to feature discrepancies and display individual characteristics unique to each print run – the visual appearance of lithographic prints augments the impression of hylomorphism described in Chapter 1: that created objects materialise through the

³³ Kurt Dorf Müller, Norbert Gertsch and Julia Ronge (eds.), *Ludwig van Beethoven: Thematisch-bibliographisches Werkverzeichnis*, Band 1 (Munich, 2014), p. 870.

imposition of fully-fledged form on blank matter. Not even the textured indent of the imprinted plate is apparent in lithographic editions. These printed objects seem to negate the material processes involved in their own construction, thereby enhancing, and even reifying, the status of the music contained within their covers.

That the material covering of musical scores was used as a means of indexing value is clear from the later bindings of several of Beethoven’s autograph scores. As the ‘value’ of Beethoven’s music increased to an almost mythical status throughout the course of the nineteenth century, so too did the material bindings of some of his autograph scores become more lavish to reflect this shift in status. For example, the front cover of the autograph score for the *Alla Danza Tedesca* features a lavish front cover (see Figure 4-6).

*Figure 4-6: Binding of the autograph score of the fourth movement of Op. 130.
(Brno, Moravian State Museum, Department of Music History, A 23.545)*

The object is lent an air of almost religious fervour, and it is surely not coincidental that nineteenth-century religious books were often richly bound and decorated with gold, silver, ivory, and jewels.³⁴ The use of velvet, blue enamel, red beads and gilded metal signals that this is a precious, unique and rare object, almost like a sacred relic.³⁵ This materiality imbues the object with an aura quite separate from its origins: as Gell noted, art objects have *careers* that have the potential to transform both social relations and the objects themselves.

³⁴ See P. J. Marks, *The British Library Guide to Bookbinding: History and Techniques* (London, 1988), p. 56.

³⁵ See Edith Diehl, *Bookbinding: Its Background and Technique* (London, 1980), pp. 73–74 for detailed information about this binding process.

This material binding also spins another invisible web of relationships, linking this particular source to several other, now-dispersed, autograph sources that were once housed in the collection of Dr Heinrich Steger of Vienna at the beginning of the twentieth century.³⁶ Other sources connected by this material binding include the autograph score of the third Razumovsky Quartet, Op. 59, No. 3 (see Figure 4-7), Beethoven's piano sonata, Op. 28, his Bagatelles, Op. 33, the Coriolan Overture, Op. 62, his Sonata for Violoncello and Piano, Op. 69, No. 1, and the song cycle 'An die ferne Geliebte', Op. 98. Although the scores are now housed in separate museums and archives from Brno to Bonn, their distinctive velvet covers and gold-plated corners – as well as their new lives as digital objects – keep this connection alive.

*Figure 4-7: Binding of the front cover of the autograph score for Op. 59, No. 3.
(Bonn, Beethoven-Haus, BH62)*

The binding of these autographs was probably undertaken in the late nineteenth century by Hermann Scheibe, a Viennese bookbinder who owned a large and successful company and was appointed as court bookbinder in 1899.³⁷ Given the technological development of mechanised methods of book binding since the beginning of the nineteenth century, the hand binding is significant. Edith Diehl notes a revival of hand binding at the end of

³⁶ See Dorfmueller, Gertsch and Ronge (eds.), *Ludwig van Beethoven: Thematisch-bibliographisches Werkverzeichnis*, p. 857.

³⁷ According to the library indexing of BH 62, Scheibe has been identified as the likely bookbinder only anecdotally by the head of the Beethoven-Haus, Michael Ladenburger. See https://da.beethoven.de/sixcms/detail.php?id=&template=library_catalogue&_opac=hans_en.pl&_dokid=wm138 (accessed 15/11/2016).

the nineteenth century as a return to the ‘mediaeval spirit’ of craftsmen.³⁸ As Diehl puts it, ‘the “casing” of the commercial binder serves as a temporary protection to the text of a book, whereas the “binding” of the extra and job binder is so constructed that it performs the function of protecting a text with a degree of permanency.’³⁹ Steger’s binding of the autograph scores demonstrates reverence for the object: Beethoven’s writing must be protected and preserved from the outside world.⁴⁰

The ‘Alloy’ of Printed Editions

Steger’s attitude towards the composer’s handwriting was matched by his famous colleague, the theorist Heinrich Schenker, with whom he exchanged correspondence concerning his possession of the autograph score of Op. 53 in 1920.⁴¹ Schenker was convinced of the value of studying Beethoven’s own handwriting, not just as a theorist but also as a performer. For Schenker, ‘a Beethoven autograph was tantamount to a sacred text embodying revealed truth.’⁴² As part of his first project to edit Beethoven’s last five piano sonatas – which later expanded to a complete edition of the piano sonatas⁴³ – Schenker invested much time and effort in locating and consulting manuscript sources. As noted in diary entries in April 1927, he even revised his earlier edition of Op. 57 in light of the publication of an early facsimile of the composer’s autograph score of Op. 57, printed and prepared by Mr H. Piazza of L’Edition d’Art in 1927. This facsimile edition was innovative in its recognition of the valuable information that physical objects could

³⁸ Diehl, *Bookbinding*, p. 77.

³⁹ Diehl, *Bookbinding*, p. 68.

⁴⁰ Mark Everist has described the singer Pauline Viardot’s ‘enshrining’ of Mozart’s *Don Giovanni* autograph score in an object akin to a reliquary in the late nineteenth century. See Mark Everist, ‘Enshrining Mozart: *Don Giovanni* and the Viardot Circle’, *19th-Century Music*, 25 (2001), pp. 165–189.

⁴¹ Schenker refers to these exchanges with Steger in a series of diary entries between 3rd and 17th April 1920. See <http://www.schenkerdocumentsonline.org/profiles/person/entity-000848.html> (accessed 17/09/2019).

⁴² Nicholas Marston, ‘Schenker’s Concept of a Beethoven Sonata Edition’, in L. Poundie Burstein, Lynne Rogers and Karen M. Bottge (eds.), *Essays from the Fourth International Schenker Symposium*, 2 (New York, 2013), p. 91.

⁴³ The project regarding the last five piano sonatas was conceived around 1910 and inaugurated with Op. 109 in 1913. See Marston, *Beethoven’s Piano Sonata in E, Op. 109*, p. 5. Schenker’s complete edition of Beethoven’s piano sonatas was published by Universal Edition between 1921 and 1923. See <http://www.schenkerdocumentsonline.org/profiles/work/entity-001753.html> (accessed 17/09/2019).

impart. It recreated the binding, size, condition, marginalia and other features of the autograph, which is now housed in the Bibliothèque Nationale de France. Schenker was anxious that Universal Edition should update his own edition quickly ‘since the facsimile is being widely distributed’.⁴⁴ Far from being fixed and immortalised in print, the career of his own art object was changing in light of the circulation of another. Marston’s account of Schenker’s correspondence with publishers Universal and Peters for his definitive edition of Beethoven’s piano sonatas reveals what Schenker considered to be the revelatory experience of encountering Beethoven’s autograph handwriting. In Schenker’s eyes, early editions of Beethoven’s works were marred by the presence of what he describes as ‘alloy.’ For Schenker, this ‘alloy’ not only tainted, but obliterated the composer’s conception of the music altogether.⁴⁵

The sorts of ‘alloy’ that Schenker perhaps detected arose not only in the masking of the swooping curves and lines of Beethoven’s handwriting behind the tidy, standardised blocks of print, but also in the distortion or introduction of new notational symbols. One editorial tendency has already been noted in this dissertation: although Beethoven never notated double bar lines at changes of key and time signature, these were almost invariably introduced in printed editions. Such barlines generate the graphic illusion of conceptually discrete, fragmented sections of music – a visually confusing experience, as described by Rochlitz on encountering the first edition parts of Op. 131, that masked the logic that was evident from the autograph. On the other hand, supposedly ‘clean’ modern Urtext editions have often introduced other sorts of ‘alloy’ that are not present in early editions. For example, in his autograph scores and sketches, Beethoven almost invariably notated joined-up hairpins (see Figure 4-8).

⁴⁴ See WLSB 375, <http://www.schenkerdocumentsonline.org/documents/correspondence/WLSB-375.html> (accessed 17/09/2019).

⁴⁵ This is ironic in light of Schenker’s misunderstanding of Beethoven’s use of a ‘provisional’ double barline at the end of the first movement in the autograph score of the first movement of Op. 109. See Marston, *Beethoven’s Piano Sonata in E, Op. 109*, pp. 9–14.

*Figure 4-8: Autograph score of the second movement of Beethoven’s Op. 130, p. 1, bb. 9–12.
(Washington, D.C. Library of Congress, The Gertrude Clarke Whittall Foundation Collection, Music
1163)*

The Henle Verlag Urtext scores invariably separate this marking into two discrete signs. Although this edition preserves many of Beethoven’s idiosyncratic beamings and slurrings in their own notation (see, for example, bb. 38–40 of the first movement of Op. 130, as noted in Chapter 1), the graphic profile of these hairpins is never observed. In contrast, although hairpins were not treated with any degree of consistency in early editions or between editors, Artaria’s first edition does seem to attempt to preserve the connection between the hairpins (see Figure 4-9). The difference has implications in performance: a joined-up hairpin invites one gesture with the bow, while separating them into discrete units invites two.

*Figure 4-9: First violin part of the second movement of the first edition of Beethoven’s Op. 130, p. 6,
bb. 1–4 & 9–13 (1827, Vienna).
(Bonn, Beethoven-Haus, C 130 / 7)*

Moreover, some of the ‘alloy’ in early editions is perhaps simply evidence of the career and material life of one object in relation to another: for example, there are instances in which Beethoven may have altered a marking in his autograph score only after having experienced a performance or observed an idiosyncrasy in a printed edition. As noted in

Chapter 1, Beethoven frequently made alterations to his supposedly ‘finished’ works. His letter to Breitkopf and Härtel on the 4th March 1809 illustrates one such example in which a performance caused him to make alterations to his notation:

Tomorrow you will receive a notice about some small corrections which I made during the performance of the symphonies – When I gave these works to you, I had not yet heard either of them performed – and one should not want to be so like a god as not to have to correct something here and there in one’s created works.⁴⁶

This comment suggests that, contrary to what the illusory stasis of the printed page might imply about its status as the product of a ‘god-like’ creator, Beethoven viewed his creative process as ongoing and subject to change. A curious example of a discrepancy between autograph sources and printed editions suggesting a later amendment to the autograph also occurs in the second movement of Op. 130. Artaria’s 1827 first edition score and parts of Op. 130 feature the erroneous marking ‘l’istesso Tempo’ at bar 54 – a marking that persisted in editions throughout the nineteenth and twentieth centuries. This discrepancy can be explained with reference to the autograph score, although the timeline is not entirely clear; at this moment Beethoven had originally notated ‘l’istesso tempo’ before scribbling it out in pencil to write ‘primo tempo’ (see Figure 4-10)

Figure 4-10: Autograph score of the second movement of Op. 130, p. 1, bb. 9–12.

(Washington, D.C. Library of Congress, The Gertrude Clarke Whittall Foundation Collection, Music 1163)

⁴⁶ ‘Sie erhalten morgen eine anzeige von kleinen Verbesserungen, welche ich während der Aufführung der *Sinfonien* machte; – als ich sie ihnen gab, hatte ich noch keine davon gehört – und man muß nicht so göttlich seyn wollen, etwas hier oder da in seinen Schöpfungen zu verbessern.’ See Brandenburg, *Briefe* 2, p. 45; Anderson, *Letters of Beethoven* 1, p. 217; Thayer-Forbes, p. 460.

That this change was a later amendment is supported by evidence from the professionally-copied parts of the quartet that were sent to Prince Galitzin. The first violin part reveals that ‘L’istesso Tempo’ was originally notated, before being erased and changed to ‘primo Tempo’ (see Figure 4-11).

*Figure 4-11: First violin part of Wenzel Rampel’s copied parts for the second movement of Op. 130, p. 5, bb. 43–45 & 50–54.
(Bonn, Beethoven-Haus, BH 90)*

The two notations have very different implications for the tempo of the passage: ‘L’istesso tempo’ implies that the slower tempo reached after the ‘ritardando’ of the previous bars should be maintained, whereas ‘primo tempo’ directs a return to the opening, faster tempo. In this way, Schenker was correct: the transmission of Beethoven’s notation into print did distort the meaning of several of his notation markings. However, this transmission was not simply unilateral and does not prevent the possibility that his autographs were not, in turn, reciprocally mediated by printed notation.

Agencies of Notated Tradition

The final section of this chapter briefly explores the material circulation of notations, parts and scores in 1820s Vienna and the ways in which this circulation *in itself* may have influenced Beethoven’s approaches to notation. For example, what prompted him to use the terms ‘lusinghiero’, or ‘beklemmt’ or ‘piacevole’? Where did he encounter these words and markings, and why did they infiltrate his own practice? Chapter 2 demonstrated the ways in which Beethoven’s notational lexicon evolved, shifted and coalesced on different habits of writing throughout the course of his career. While the use of graphs provided a useful medium of analysis, they unhelpfully encouraged a view of Beethoven’s notation in isolation, with changes in style and the use of new terms appearing as individual acts of agency and creativity. However, this top-down approach did open a door to another sort of agency: the agency of the artist’s entire output as a spatio-temporally distributed object. Using the term ‘patient’ to designate the way in

which the artwork-as-agent positions the artist, Gell argues that ‘artists are not just patients with respect to the ‘work’ they are producing now. They may also be in the patient position *vis-à-vis* all the work they have ever produced.’⁴⁷ For example, notational choices that Beethoven made in earlier works undoubtedly impinged upon his later decisions. The individual histories and genealogies of these works as they circulated in print, performance and ideas in written and verbal discourse wove different webs of influence that, like rhizomes, opened up new interpretative paths and possibilities. In practical terms, Beethoven certainly used the Schuppanzigh Quartet as a sort of laboratory to find out what ‘worked’ and what did not. To attribute the shifts in Beethoven’s notational style to either the faceless force of ‘culture’ or, at the other end of the spectrum, to individual acts of creativity in isolation is to miss the dynamics of this accumulated agency.

However, Gell goes further: in the context of Marquesan art objects, he proposes that individual artworks, through their aesthetic and stylistic links, are ‘portions of a *distributed object* corresponding to all of the artworks in the Marquesan system, distributed in time and space.’⁴⁸ Inspired by Gell’s thinking, archaeologist John Robb has argued that material traditions possess an emergent quality that, like the directional wheeling and diving of a flock of starlings, demonstrates an agency that is both greater than the sum of its parts and not reducible to its constituent parts. As Robb puts it:

I argue that there are questions we cannot answer simply by looking at the archaeological record solely in terms of creative, fluid action. Humans are made of molecules, yet humans can do things which cannot be understood by viewing them only as an assemblage of their component molecules. Why then should we deny that societies, or social relations, or traditions, have emergent qualities which cannot be understood as those of their component people.⁴⁹

Robb’s use of Gell as a means of studying the material agency of archaeological tradition opens up an intriguing theoretical space that can be used as a model for a survey of

⁴⁷ Gell, *Art and Agency*, p. 46.

⁴⁸ Gell, *Art and Agency*, p. 220.

⁴⁹ John Robb, ‘Tradition and Agency: Human Body Representations in Later Prehistoric Europe’, in *World Archaeology*, 40 (2008), pp. 333–334.

musical material culture – one not limited to the output of a single composer. For example, what would it mean to consider the *total* output of string quartets published in Beethoven’s Vienna as a distributed corpus in this way? How might the material qualities, styles and traditions of writing, and the social transactions inherent to the sphere of string-quartet compositions *themselves* structure material processes?

At stake for Robb is the issue of ‘traditionhood’ as a theoretical category: ‘what makes a tradition a tradition and not simply a collection of individual acts of expression, and why traditions have the historical trajectories they do.’⁵⁰ As explored in Chapter 1, Beethoven’s music has been hailed for ushering in new traditions of musical consumption – whether a new culture of silent listening, or studying complex musical structures from the score – almost entirely on the basis of his own innovation. However, it was also argued that it was precisely the textual and material nature of this reception – the circulation of objects such as scores, published journalistic discourse, and later his own conversation books and sketches – that was so instrumental in establishing these traditions. I now look to ‘outside’ material perspectives, to consider how the circulation of notation by other composers within Beethoven’s sphere in Vienna as an emergent source of agency might offer a means of reassessing these legacies, highlighting different perspectives on the Beethovenian trajectory of trailblazing innovation with which we are so familiar.

A brief survey of the quartets published by Beethoven’s colleagues and friends suggests that the composer might very well have been influenced by some of their uses of notation. Franz Weiss, viola player of the Schuppanzigh Quartet and a serious composer in his own right also composed string quartets in a ‘serious’ style – in contrast to the *Quatuors Brillants* that were also in circulation at the time and tended not to feature expressive notation at all, focused as they were on pyrotechnical extravagance from the first violinist. These quartets display not only similar notation to Beethoven, but, perhaps surprisingly, augur some of the hallmarks of his later style. For example, the second movement of Weiss’ Op. 8, No. 2 of 1814, features the sorts of metrical transitions that became typical of the Scherzo-like movements of the late quartets, including bar 70 in the third movement of Op. 127 and bar 218 in the second movement of Op. 132. As Figure 4-12 shows, the opening two bars begin in a \mathbb{C} metre, before shifting to a 12/8 time signature that is interspersed with interjections in \square that continue throughout the movement.

⁵⁰ Robb, ‘Tradition and Agency’, p. 334.

*Figure 4-12: First violin part of the first movement of Weiss' Op. 8, No. 2, p. 18, bb. 1–32
(Vienna, 1814).*

Joseph Drechsler – a Viennese composer and theorist who was known to Beethoven⁵¹ – dedicated his first string quartet, Op. 60, to Ferdinand Piringer, who hosted the rehearsals for the Schuppanzigh Quartet, and, according to Holz, beat time for them during rehearsals of Op. 127.⁵² According to the digital archives at the University of Rochester, it was first published by Artaria in 1800, although this seems unlikely given the composer's birth date of 1782.⁵³ If 1800 were the true date of publication, then the use of notation foreshadows many of Beethoven's notational tendencies in Op. 59 and beyond. As well as typical notational features, such as the use of *fz*, *sf*, 'ten', the quartet also features expression markings such as 'con fuoco', *mancando*, *cantabile*, *dim e morendo*, 'maggiore sempre legato' 'mezzo', and even the striking notation 'a piacere' in the second movement. Although not the same, this is remarkably similar to Beethoven's use of the term 'piacevole' in the fifth movement of Op. 131 to indicate the naïve character of the

⁵¹ Beethoven recommended Dreschsler for the position of second court organist to Archduke Rudolph. Thayer-Forbes, pp. 864–865.

⁵² See *BKh* 10, p. 104.

⁵³ See University of Rochester, UR Research, Eastman school of Music, Sibley Music Library, M452.D771.

folky melody in octaves between the first and second violinist; however Beethoven did indicate that performers could repeat the final movement of Op. 135 ‘al suo piacere’. In Drechsler’s context, ‘a piacere’ seems to be equated with the term ‘ad libitum’, indicating that the first violinist should play the improvisational passage as they please. Furthermore, the opening movement – which curiously only features the tempo marking ‘moderato’, but no indication of Allegro or otherwise – features an opening introduction in E minor that reappears three times within the movement, signalled by a notational shift to E major. The first movement of Ferdinand Ries’ Op. 150, composed in 1826 and published two years after Beethoven’s death, also features surprising shifts in metre and character between a 4/4 Allegro con spirito and a 6/8 Andantino, which appears a further three times throughout the movement. Ries frequently employs the unusual term ‘slentando’ to indicate fluctuations in tempo throughout the movement.

Compositions by Beethoven’s colleagues in the state orchestra in Bonn, including the Rombergs (cellist Bernhard and violinist Andreas) and Anton Reicha also suggest notational trends that Beethoven engaged with in his Op. 18 and Op. 59. Anton Reicha’s Viennese string quartets from 1801–1806 feature several notational markings that also appear in Beethoven’s notational lexicon for Op. 59, including the frequent use of the terms *calando*, *mezza voce*, *tenuto* (usually written out over the note as ‘tenut.’). Andreas Romberg’s own Op. 59, No. 3, published in 1820, also features the use of *morendo*, *calando*, *espressivo* and *smorzando*, and specific instructions about the length of a

par
FERD. RIES.
Op. 150, N^o 1. Bonn, chez N. Simrock.

Violino 1^{mo}

Figure 4-13: First violin part of the first movement of Ferdinand Ries’ Op. 150, No. 1, p. 2, bb. 1–24, (Bonn, 1826).

crescendo (‘*crescendo poco a poco sine al forte*’), the distinctive title ‘Marcia lugubre’ for the Adagio second movement, as well as the curious marking ‘alla Gamba’ in the

second violin part in the final movement. The sign ‘m.v.’ four bars from the end of the Adagio in the first violin part presumably signifies ‘mezza voce.’ Perhaps Beethoven’s attention to dynamic nuances arose from his time in Bonn. As his teacher Christian Gottlob Neefe reported in 1783, the Kappellmesiter Mattioli in Bonn ‘was the first to introduce accentuation, instrumental declamation, careful attention to forte and piano, all the degrees of light and shade in the orchestra of this place’.⁵⁴

Table 4-1 attempts to map patterns of notational emergence by comparing notational markings in quartets of Beethoven’s contemporaries with his own Op. 18 and Op. 59. The circulation of string quartet parts in itself imbues a sort of agency to notational markings as graphic entities that cannot simply be understood in relation to local, individual acts of exchange and innovation. The table suggests that many of the terms that were used by Beethoven in Op. 59, characteristic of what I described in Chapter 2 as his expansion towards a more ‘poetic’ use of notational language, noted also by several other scholars, were first used by several composers before him.

Mozart and Haydn are perhaps the least surprising sources of influence according to traditional narratives of compositional lineage – although it is notable that Beethoven only began to use markings that were part of Hadyn’s expressive terminology, such as *mancando*, *mezza voce* and *sotto voce*, in Op. 59 – but lesser-known quartet composers such as Steibelt, Dussek and Hummel engaged in a rich range of notational expressions that often outstripped Beethoven’s own lexicon. For example, Dussek’s Op. 60 also employs phrases such as *con dolore*, *con amore* and *con gusto*. Composers in the table with asterisks after their name employed their own unique expression markings. For example, Onslow’s Op. 10 of 1812 features the terms *impetuosamente*, *con un accent soave* and *con energia*. This table illustrates a very different picture of notational tradition, and casts doubt on Treitler’s claim, outlined in Chapter 2, that it was Beethoven’s use of words alongside signs that marked a ‘pivotal moment’ in the history of musical notation.⁵⁵

⁵⁴ As cited in Brown, *Classical and Romantic Performance Practice*, p. 81.

⁵⁵ Treitler, ‘Beethoven’s “Expressive” Markings’, p. 100.

Composer	Opus	Date	Staccato	Dolce	Espressivo	Smorzando	Marcato	Sotto Voce	Mezza Voce	Mancando	Tenuto	Morendo	Legato	Cantabile	Perdendosi	Calando	Con Espressione	Con Grazia	Risoluto
Haydn	(all quartets)																		
Mozart	(all quartets)																		
Wranitzky	Op.32	1790																	
Steibelt	Op.17	1796																	
Jadin	Op.4	1798																	
Beethoven	Op.18	1798																	
Steibelt	Op.34	1800																	
Woelfl	Op.51	1800																	
Krommer	Op.34	1803																	
Rode	Op.13	1804-06																	
Hummel	Op.30	1804-08																	
Spohr	Op.1	1807																	
Dussek*	Op.60	1806																	
Beethoven	Op.59	1806																	
Reicha		c.1806																	
Onslow	Op.1	1807																	
Kraft	Op. 6	1808																	
Pleyel	Op.34	1811-12																	
Onslow*	Op.10	1812																	
Spohr	Op.27	1812																	
Haensel	Op.27	1813																	
Ries	Op.126	1813-14																	
Fesca	Op.4	1815																	
Krommer	Op.92	1816																	
Baillot	Op.34	1823																	
Schlosser*		1823																	
Spohr	Op.61	1823																	
Ries	Op.150	1826																	
Onslow*	Op.32	1826																	
Schaffner*	Op.23	c.1830																	
Reissiger*	Op.111	1836																	

- Appears before Beethoven Op. 18
- Appears in Beethoven Op. 18
- Appears after Beethoven Op. 18
- Appears before Beethoven Op. 59
- Appears in Beethoven Op. 59
- Appears after Beethoven Op. 59

Not used by Beethoven in Op. 18 or 59

Table 4-1: Notation markings in contemporary Viennese string quartet composers

Nonetheless, the table does suggest that Beethoven was unusual for his application of such a broad range of existing expression markings in Op. 59. The notation of composers Reissiger and Schaffner seems to have been influenced in turn by Beethoven's late quartets: Schaffner's Op. 23 comprises five movements, whereas Reissiger employs the term 'lusingando' – perhaps a reference to Beethoven's 'lusinghiero' of Op. 131 – as well as his own phrases such as *con bravura*, *con tutta forza* and *patetico*. As demonstrated in figure Figure 2-17 in Chapter 2, the new terms that Beethoven engaged with in the late quartets that do not feature in earlier quartets include the Italian terms *sostenuto*, *teneramente*, *semplice* and *ritente*. Other composers such as Baillot and Schlosser used markings such as *semplice* and *ritenuto* and it is clear that there was a broader experimentation with different Italian words and phrases to indicate forms of expression that were unique to certain passages, and perhaps even the composer's conception. However, strikingly, none of the quartets that were searched featured any phrases or terms in German. It is to another material tradition that we must look for precedence of this particular notational tendency in Beethoven's late quartets.

Operatic Contexts

An intriguing web of material relationships comes from an unlikely source: contemporary string quartet arrangements of operas. In contrast with the attention devoted to 'serious' chamber music in the musicological literature, Marie Sumner Lott has described the 'surprise' that modern-day scholars may feel when confronted with evidence of the overwhelming popularity and pervasiveness of arrangements of European operas, stage works and even symphonies and folk song collections for string quartet in the nineteenth-century.⁵⁶ Lott notes that the Berlin-based publisher Schlesinger, who published Beethoven's Op. 132 and 135, were particularly prolific in their publication of opera transcriptions of French- and Italian-language works – translated into German. As Lott writes, 'like any artefact associated with the everyday lives of a previous era, the main value of these works for modern scholars lies in the subtle ways they transmit the musical and cultural values of the musicians who produced and consumed them.'⁵⁷ These

⁵⁶ Marie Sumner Lott, *The Social Worlds of Nineteenth-Century Chamber Music: Composers, Consumers, Communities* (Illinois, 2015), p. 46.

⁵⁷ Lott, *The Social Worlds of Nineteenth-Century Chamber Music*, p. 46.

arrangements brought the opera house into the parlour, and juxtaposed genres and styles in seemingly unlikely ways.

Lott cites Friedrich Starke’s transcription of the François-Adrien Boieldieu’s 1812 opera *Jean der Paris* into the German version *Johann von Paris*, published in Vienna shortly after the Parisian première.⁵⁸ Starke was known to Beethoven: he had taught Beethoven’s nephew the piano, and became a horn player in the Viennese court opera through the composer’s recommendation. He was invited to meals with Beethoven and performed Beethoven’s Horn Sonata, Op. 17 with the composer in 1812: Beethoven apparently enjoyed the experience ‘because he had never heard the sonata performed with shading; he found the *pp* especially fine.’⁵⁹ In February 1823, Starke even asked Beethoven in a conversation book when he himself was going to please the musical public with an opera.⁶⁰ Lott’s primary interest in the arrangement concerns the numerous ways in which Starke ‘Germanized’ the plot and adapted the operatic style to the demands of the amateur string quartet consumers. However, there are also striking material features to note from the published edition. Each of the eight movements are numbered individually – ‘No. 1’, ‘No. 2’. etc – and the genre of each movement appears in a title, whether a ‘Duetto’ or a ‘Romance’ (see Figure 4-14).

Figure 4-14: First violin part of the Friederich Starke’s arrangement of François-Adrien Boieldieu’s ‘Jean der Paris’, No. 7, bb 1 – 45 (Vienna, 1812). (Duke University Libraries Digital Repository, David M. Rubenstein Rare Book and Manuscript Library, csqsm01034).

⁵⁸ Lott, *The Social Worlds of Nineteenth-Century Chamber Music*, p. 49.

⁵⁹ Thayer-Forbes, pp. 525–526.

⁶⁰ ‘Werden Sie denn daß Musikalische Publikum auch mit unter *Oper* beglücken?’ *BKh* 3, p. 74.

Notation markings such as *dolce*, *morendo*, *staccato* and a pervasive use of *fz* and other accent markings are not remarkable in themselves. However, the appearance of German titles indicating the content of the plot ('Duetto: Den Ruhm über alles zu lieben') are rather more striking, including the appearances of words and phrases ('O das ist Prächtigt') associated with specific musical phrases in the middle of movements.

Is it possible that such operatic arrangements for string quartets influenced Beethoven's uses of notation in the late quartets?⁶¹ Baillot noted the transfer of complex notation from theatrical music, with 'the tendency towards the dramatic style' prompting the need to increase the number of notational signs.⁶² Operatic arrangements brought forms and styles from the theatrical and vocal world into the material orbit of the string quartet, including romances, cavatinas, hymns, overtures, dances, marches and even sections of recitative. As November argues, 'opera and other theatrical genres were significant sources of initial inspiration, musical materials and musical procedures for Viennese quartets of Beethoven's time.'⁶³ Botstein has highlighted the 'extramusical narrative impulses' of the late quartets, proposing that 'Beethoven's use of single instruments as leading voices (*eg.*, Op. 132), the recitatives, interrogatives and dialogic conventions (*eg.*, Op. 135), all harken back to models from the stage'.⁶⁴ Kerman has described how the sets of octaves at the end of No. 5 'have a real operatic flavour, like the orchestral accompaniment to some decisive pronouncement in recitative' and notes explicit references to Recitative in Nos. 3 and 6.⁶⁵ However, beyond the use of musical models from opera, the sheer visual appearance of the notation in the late quartets materialises many of these allusions.

For example, Beethoven makes operatic references explicit in his choice of movements titles, including the Cavatina of Op. 130 and the Alla Marcia of Op. 132. References to the vocal delivery style of recitatives are clearly made in the first violin part in the fifth

⁶¹ November has described the overt influence of theatricality in Beethoven's middle-period quartets. See, for example, November, *Beethoven's Theatrical Quartets*, pp. 5–7 and 19–24.

⁶² 'ce changement dans la notation s'est opéré par suite des progress de la musique dramatique . . . cette tendance au style dramatique devait naître la nécessité de multiplier les signes.' See Baillot, *L'Art du Violon*, pp. 161–162.

⁶³ November, *Beethoven's Theatrical Quartets*, p. 19.

⁶⁴ Botstein, 'The Patrons and Publics of the Quartets', in Winter and Martin (eds.), *The Beethoven Quartet Companion*, p. 100.

⁶⁵ Kerman, *The Beethoven Quartets*, pp. 327–328.

movement of Op. 132 and the third movement of Op. 131, and the German titles in the third movement of Op. 132 – such as ‘Neu Kraft fühlend’ at the arrival of the faster section in bar 31 – seem to support a narrative function. The vocality and lyricism of Beethoven’s late style has been explored in length in the literature: moreover, Lockwood has argued that the Cavatina is ‘the only case in which a specifically operatic title appears in a Beethoven quartet’, and that the location of the Cavatina in Op. 130 ‘implies that the larger movement-plan of the whole work in some way reflects the shape of an operatic structure.’⁶⁶ The distinctive numbering system of the movements of Op. 131, described by Marston as a ‘curious detail reminiscent of an operatic score’,⁶⁷ does not just reflect the shape, but physically indexes the numbering of operatic arrangements for string quartet. Is it possible that early consumers also recognised these material cues in the late quartets not simply as symptoms of Beethoven’s radical merging of genres, but as an extension of a fusion that had already taken place in another medium?

Last Words

The most vocal of all intrusions in the late quartets, the ‘Muss es sein?’ inscription, also has an unexpected material precedent: Haydn’s unfinished string quartet, published in its fragmented form as Op. 103 in 1806. Notably, it features several graphically-dense key signatures – a hallmark of the late quartets – including six flats, four sharps and two flats, on the first page alone.

Figure 4-15: First violin part of Pleyel’s complete edition of Haydn’s String Quartets, Op. 103, p. 340, bb. 47–75, (Paris, 1820)

⁶⁶ Lockwood, *Studies in the Creative Process*, p. 210.

⁶⁷ Nicholas Marston, ‘“The sense of an ending”: goal-directedness in Beethoven’s music’, in Glen Stanley (ed.), *The Cambridge Companion to Beethoven* (Cambridge, 2011), p. 94.

However, more intriguingly, Haydn included a small textual canon at the bottom of the manuscript sent to the publisher and on his calling card. This canon bears the words ‘Gone is all my strength: I am old and weak’, and is printed in the first edition.

Figure 4-16: First violin part of Pleyel’s complete edition of Haydn’s String Quartets, Op. 103, p. 341, (Paris, 1820)

Is this small textual inscription a harbinger to Beethoven’s the final movement of Op. 135 – his own last string quartet? Furthermore, the tempo marking for this canon – ‘Molto Adagio’ – is also the tempo marking that Beethoven chooses for his own musical comment on failing health and strength in third movement of Op. 132. It is presumed that Haydn’s canon acts as a direct apology for the unfinished status of the quartet; Beethoven’s has similarly been read as a justification for the four-movement structure of Op. 135 in contrast with the formal expansions of previous quartets. Was Beethoven inspired by this material joke of his former teacher? Whether or not Beethoven intended these intertextual links is ultimately cause for speculation: yet, as Gell would argue, the notated parts assert a form of material agency by spinning connections and weaving relationships quite separate from the ‘intentions’ of the author.

Conclusion

Material processes colluded not only in augmenting of the textual status of Beethoven’s late quartets (as described in Chapter 1), but also the very process of canon formation: the validation of which music *should* be studied. Gell’s theory of art and agency provides an explanatory framework within which to understand these effects. For example, notated objects motivate indexical associations with authority and value in the form of textual dedications and lavish material bindings. Latour’s ‘Actor Network Theory’ goes one step further. Latour contends that social asymmetries are held not in place by social ties – which, he argues, are treated all too often as a sort of ‘substance’ by sociologists, a ‘sort of material like straw’ – but by a durable arrangement of objects.⁶⁸ According to ANT,

⁶⁸ Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford, 2005), p. 64.

social groups are not a domain or a reality, but are constantly in formation, ceaselessly renegotiated: the social is therefore the name of ‘a movement, a displacement, a transformation, a translation, an enrolment.’⁶⁹ In contrast to this dynamic view of social formation, Latour proposes that it is a stable assemblage of concrete phenomena and objects that supplant social force to become, quite literally, the architecture of society. Rather than determining action in a causal, unilateral direction, these ‘happenings’ are implicated in reciprocal relationships: ‘things might authorise, allow, afford, encourage, permit, suggest, influence, block, render possible, forbid and so on.’⁷⁰

In this light, Goehr’s ‘imaginary museum of musical works’ was perhaps not so much imaginary as *material* – an assemblage of visually-stable (and by proxy, musically-stable) scores that could ‘authorise’ or ‘supervise’ performance. These objects rendered the omniscient position of the author visible in a material trace that, paradoxically, could surpass its immediate milieu. As James Parakilas has argued ‘a work becomes canonical when it is no longer found or heard spoken of most often in the company of other works from the same time and place, but in the company of its fellow canonic works, whatever times and places.’⁷¹ Indeed, it was striking that a systematic survey of the notation of now-unknown string quartet composers in early-nineteenth-century Vienna was frustrated by the material forms of these string quartets: neither the string quartet operatic arrangements nor the quartets of Beethoven’s contemporaries were published as scores. Without the ‘top-down’ perspective of the score, they are very difficult to study for details beyond the surface parameters of notation. Their musical secrets can only be discovered in performance, mediated from the perspective of four different players. Moreover, the simple lack of bar numbers makes it difficult to describe and locate musical examples. The fact that none of these parts was published in score is a salutary reminder of the ways in which material objects afford forms of cultural power. The publication of Beethoven’s late quartets as scores gave them a timeless quality: these were works to be studied, preserved in libraries and museums, works to survive the present moment. Without scores, works by Weiss, Drechsler and Ries were doomed to remain ephemeral, unstudied, and vanished from the musical canon. It is only their new lives as digital objects that is bringing their music to light two hundred years later.

⁶⁹ Latour, *Reassembling the Social*, pp. 64–65.

⁷⁰ Latour, *Reassembling the Social*, p. 72.

⁷¹ As cited in Lott, *The Social Worlds of Nineteenth-Century Chamber Music*, p. 77.

Nonetheless, the digital life of string quartets has, in Gell's terms, given them a new 'career' as art objects in the twenty-first century, bringing the mysteries and secrets of the archives back into creative practice. Taking full advantage of these new digital possibilities, the Borromeo Quartet have even started playing directly from Beethoven's autograph sources themselves from laptops placed on special music stands. According to the first violinist Nicholas Kitchen, these autographs reveal intricate layers of meaning in Beethoven's dynamics that printed parts do not take into account. For example, Kitchen has spotted that Beethoven employed a variety of shorthand notations for his *piano* and *forte* dynamics (eg. 'pianiss', 'po', 'po:' 'po//', etc.), and believes that they indicate systematically different degrees of emotional intensity.⁷² While his contentions have been met with some scepticism by Beethoven scholars and many of his assertions seem like wishful thinking,⁷³ it is significant that these sorts of highly personal insights are invited by the autograph scores, whereas similarly personal interpretations are not elicited by the austere print of an Urtext edition. Similarly, stored as a collection of lavishly bound manuscripts on the shelves of Dr Steger's library, Beethoven's autograph scores were treasured as 'works', to be revered rather than used; in contrast, in their fluid, disembodied state as digital sources, their status is fundamentally altered. As Latour contends, different notational objects afford different sorts of social behaviour.

Yet in Ingold's eyes, both Latour and Gell fall short in accounting for the ways in which art objects are entangled in practice: for Ingold, both Gell and Latour's conception of discrete, already-finished objects is to render them inert, to miss the material and embodied presence of human skill in action; how material agency is experienced in the forward-looking process of activity. Rather than an anthropology *of* art, he calls for an anthropology *with* art, grounded in the context of practical activity. As Ingold cautions:

⁷² See Nicholas Kitchen, 'Manuscript Markings in Beethoven's Op. 131', paper presented to Symposium on Beethoven: String Quartet in C-Sharp Minor, Op. 131, Boston University Center for Beethoven Research, 5 April 2017, pp. 1–92. See www.bu.edu/beethovencenter/files/2017/09/Beethoven-Op.-131-manuscript-markings.pdf (accessed 16/09/19).

⁷³ For example, Levy refuted many of these observations with autograph examples in a written response to Kitchen's paper. See David B. Levy, 'Response to Nicholas Kitchen', paper presented to Symposium on Beethoven: String Quartet in C-Sharp Minor, Op. 131, Boston University Center for Beethoven Research, 5 April 2017, pp. 1–8. See www.bu.edu/beethovencenter/files/2017/10/Response-to-Nicholas-Kitchen.pdf (accessed 16/09/19).

In the study of material culture, the overwhelming focus has been on finished objects and what happens as they become caught up in life histories and the social interactions of the people who use, treasure and consume them. What is lost [. . .] is the creativity of the products that bring the artefacts into being: on the one hand, in the generative currents of the materials of which they are made; on the other, *in the sensory awareness of practitioners*.⁷⁴

While for the purposes of this dissertation Gell and Latour’s theoretical frameworks serve as thought-provoking explanatory tools, Ingold is correct to note the gap that their approach opens up between discourse and practice. Similarly, as noted in the introduction, the ‘sensory awareness’ of practitioners has been conspicuously lacking in studies of Beethoven’s notation in the late quartets. Material evidence has already been presented in Chapters 1 and 3 that highlight the ways in which Beethoven’s new type of part writing influenced the practice of early performers. This historical perspective will now be put in dialogue with performers from the present day.

⁷⁴ Ingold, *Making*, p. 7. Emphasis added.

5. Performing Notations: An Ethnographic Approach to Beethoven's Late String Quartets

Introduction

It is to practitioners that this chapter now turns, away from 'finished objects' and towards materials and their inextricable entanglement with practice: it considers Beethoven's notation in the hands of a twenty-first century string quartet. While Beethoven scholars have typically been preoccupied with getting 'inside', 'behind' or 'into' the cognitive core of the composer's mind, from this perspective the epistemological flow is reversed: how does the material life of Beethoven's notation project meaning outwards into the domain of practice, in the process of activity? Ingold describes a 'dance of animacy', whereby 'bodily kinaesthesia interweaves contrapuntally with the flux of materials within an encompassing, morphogenetic field of forces.'¹ How is notation animated, and how does it reciprocally animate, string quartet performance? These questions will be explored through an *ethnography of performing notations*. This ethnographic investigation aims to offer perspectives on Beethoven's new type of part writing through an exploration of the relationships between performers and performing materials related to the quartets. It is my contention that different notational sources relating to the quartets (from historical editions to autograph sources deriving from Beethoven and his contemporaries) afford their own unique sources of meaning in performance and can therefore be understood as participants themselves. Musician colleagues have often observed anecdotally the ways in which their approach to performance is influenced by the use of facsimile sources in contrast with printed editions, yet such experiences have never been systematically investigated. In the words of Cook, 'There has also been little work on how scores actually function – on what they signify to who[m] and how – in the act of performance.'²

¹ Ingold, *Making*, p. 101.

² Cook, *Beyond the Score*, p. 333.

Methodology

Four very different notational sources were selected for the musicians to explore during the course of three days of rehearsal, on the premise that varying degrees of familiarity, alienation and even discomfort would shed light on the subtly different affordances of each material. Latour argues that ‘silent implements stop being taken for granted when they are approached by users rendered ignorant or clumsy by *distance*’, and describes the ‘irruption in to the normal course of action of strange, exotic, archaic or mysterious implements.’³ A strategy of material disruption was therefore employed to allow the materials to *emerge*. The use of anthropological theoretical paradigms in the design of the ethnography took its cue from Derek Layder’s ‘Adaptive Theory’, which advocates an adaptive, recursive and emergent approach to fieldwork whereby material, theory, and practice reciprocally inform each other at every stage.⁴

Although the methodology depended to an extent on a framework of sight-reading, this was not a study of sight-reading *per se*. Beethoven’s late quartets are among the most iconic pieces in the Western Canon, and as the players were all thoroughly immersed in this musical culture there was no possibility of guaranteeing a *prima vista* approach. While the materials had been selected to ‘distance’ the performers from their usual patterns of habit when reading notation, it was inevitable that different players had varying degrees of familiarity of playing and listening to the late quartets. Andreas Lehmann and Victoria McArthur have reminded us that ‘when musicians speak of sight-reading, not all of them have the same activity in mind’, suggesting that it is more helpful to think of a ‘continuum of rehearsal.’⁵ The role of the different notational sources in mediating this ‘continuum of rehearsal’, as experienced by the whole quartet, was therefore of primary interest. Furthermore, studies of sightreading within the field of Performance Studies have almost exclusively concerned solo pianists, with experiments tending to conceive of the score as a structuring device: notational information to ‘parse’, ‘encode’ or ‘reconstruct.’ In contrast, this study took a relational approach by drawing on ethnographic rather than experimental methods. This approach allowed consideration of

³ Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford, 2005), p. 80.

⁴ Derek Layder, *Sociological Practice* (London, 2011).

⁵ Andreas C. Lehmann and Victoria McArthur, ‘Sight-Reading’ in Richard Parncutt and Gary McPherson (eds.), *The Science and Psychology of Music Performance: Creative Strategies for Teaching and Learning*, (Oxford, 2002), p. 135.

the sorts of reciprocity generated by reading from four separate parts in a group context, the different affordances of the notational sources, as well as the role of social interplay in the reading process – whether in the mediation of expectations via auditory feedback, or in the suggestions of forms of musical expression to other players. It opened up the possibility of exploring Beethoven's new type of part writing in practice.

Mixed ethnographic methods were used to conduct the ethnography itself. Audio recordings were made using an iPhone during the course of three-hour sessions – described as 'Case Studies' – in which the musicians engaged with different notational sources. These audio recordings captured rehearsal dialogue, conversations, and performances of sections of music, and extensive fieldnotes were made. The participant musicians comprised a string quartet made up of myself and three other friends and professional colleagues, making me a participant-observer with a particularly privileged insight into the workings of the group.

Kay Shelemay and Laudan Nooshin have advocated the advantages of ethnographic work in one's own musical culture,⁶ and Cook has argued that, in any case, 'stable distinctions of insider and outsider, self and Other, emic and etic, are no longer embedded in either musicological or ethnomusicological practice.'⁷ Furthermore, Ingold has proposed that anthropological 'participant-observation' is simply a way of 'knowing from the inside'. As he contends, 'only because we are already *of* the world, only because we are fellow travellers along with the beings and things that command our attention, can we observe them. There is no contradiction, then, between participation and observation; rather, the one depends on the other.'⁸ Despite the value that such 'inside knowledge' brought to the investigation, our relationship as a quartet was, nonetheless, strained at times as my identity shifted between the dual roles of second violinist and ethnographer. Stephen Cottrell has warned of this 'professional schizophrenia' when simultaneously fulfilling the roles of performer and anthropologist, as well as 'the unintended yet inevitable hierarchical relationship that arises between researcher and those being researched, even

⁶ See Laudan Nooshin (ed.), *The Ethnomusicology of Western Art Music*, (Abingdon, 2014) and Kay Kaufman Shelemay, 'Towards an Ethnomusicology of the Early Music Movement: Thoughts on Bridging Disciplines and Musical Worlds', *Ethnomusicology*, 45 (2001), pp. 1–29.

⁷ Nicholas Cook, 'We Are All (Ethno)musicologists Now' in Henry Stobart (ed.), *The New (Ethno)musicologies* (Lanham, 2008), p. 63.

⁸ Ingold, *Making*, p. 5.

when they are immediate colleagues.’⁹ Indeed, despite the fact that we had shared many intellectual discussions over the years and even attended and played at conferences together, my explicit positioning as ‘the researcher’ at the beginning of the project was surprisingly uncomfortable.

Tensions became clear almost immediately during a pilot session that took place in July 2016 in King’s College, Cambridge. The project was first conceived as a collaborative venture with the whole quartet, but sadly our ideals were impeded by the banal realities of busy touring schedules and the typically precarious economic circumstances of musicians. Due to lack of funding it was necessary to pay the musicians for their time out of my own personal funds, topped up by a small grant from the Faculty. This shift in our economic relationship fundamentally altered the stakes of the project. My aims were forced to become more modest, and the scope was drastically curtailed from several weeks in Cambridge to only three days in London (see Table 5-1).

Date	Time	Case Study
18 th January	10am – 1pm	Case Study 1
19 th January	10am – 1pm	Case Study 2
20 th January	10am – 1pm	Case Study 3
	2pm – 5pm	Case Study 4

Table 5-1: Modified timetable of events

The pilot session also prompted a further amendment to the methodology: the musicians did not want to be filmed. The cellist in particular felt that the critical lens of the camera would frame our activities ‘in the wrong tense’, obscuring and even inhibiting the unfolding nature of our relations with the different parts. The looming presence of a camera seemed to frame my position as an ‘outsider’ within the group – an untenable situation for a string quartet. Its removal thus had the advantage of enabling me to resume my role as second violinist without further tension.

⁹ Stephen Cottrell, *Professional Music-Making in London. Ethnography and Experience* (Aldershot, 2004), p. 14. As cited in Bayley, ‘Ethnographic Research into Contemporary String Quartet Rehearsal’, p. 388.

After our sessions in London, the audio recordings of each were transcribed and annotated. As the iPhone had been kept in a discrete place during the sessions, the sound quality of the recordings was unfortunately limited and not all aspects of the conversations (especially when there was playing and speaking at the same time) were clearly audible. Where possible, musical examples were transcribed detailing instances when the quartet communicated to each other by singing, playing or intoning, and it was possible to relate such moments – whether of private practice or shared descriptions of where to begin playing from – to the visual appearance of the notation in front of them. A detailed timeline of events was made for each recording, and this was organised into categories of speech and interaction based on Amanda Bayley's adaptation of Jane Davidson and James Good's work the social dynamics of string quartet rehearsal.¹⁰ The categories included:

1. Private practice
2. Tuning
3. Notation
4. Co-ordination
5. Reflective Discussion
6. Musicking
7. Objects
8. Context
9. Playing
10. Miscellaneous.

Produced in Microsoft Excel, this timeline enabled the production of visual aids that offered a more global perspective on the different profiles of conversation topics and types of action during each session (see Figure 5-1).

¹⁰ Jane Davidson and James Good, 'Social and Musical Co-ordination Between Members of a String Quartet: An Exploratory Study', *Psychology of Music*, 30 (2002), pp. 186–201. As cited in Amanda Bayley, 'Ethnographic Research into Contemporary String Quartet Rehearsal', *Ethnomusicology Forum*, 20 (2011), pp. 394–395.

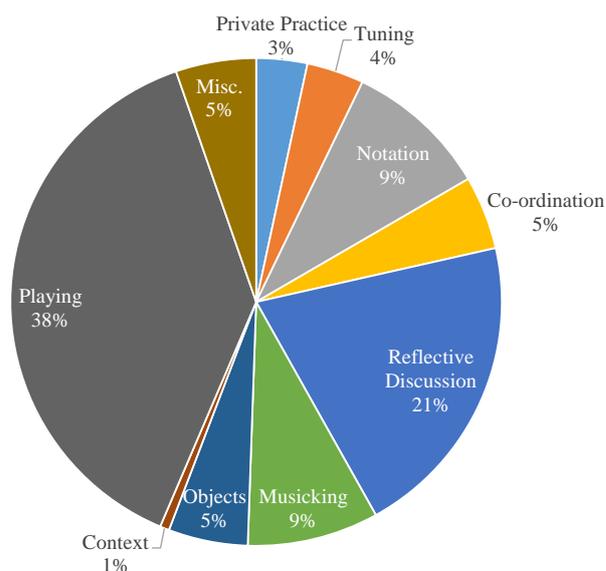


Figure 5-1: Pie chart representing the proportion of time per category in the first session.

The detailed fieldnotes and reflections that were made after each session also played a significant role in the analysis of the material. These notes became multi-layered as I continued to return to them during the process, and the very act of writing and thinking on paper opened up new interpretative possibilities. Barz has written eloquently on this subject, proposing that ‘once the fieldnote is written (in whatever form), we enter a new process of interpretation – calling into question the very notion of ‘original’ experience.’¹¹ It seemed strangely apt that I should experience this graphic mediation of past and present, product and process. Barz’s description of the role of fieldnotes might equally describe a Beethoven sketch, his own way of documenting his personal experiences and private reflections on the world around him:

Fieldnotes stimulate reactions and remain an abstracted site for personal reflection and for the formation of original ideas, differing from other forms of reflection in that notes involve the observer in a physical process of organising thoughts, ideas and reactions to events in a uniquely visual way.¹²

Fieldnotes, like Beethoven’s sketches, resist the logic of ‘hylomorphism’ and illustrate particularly clearly the fundamentally forward-looking, contingent, and materially-mediated nature of all creative acts.

¹¹ Gregory F. Barz and Timothy J. Cooley, *Shadows in the Field: New Perspectives for Fieldwork in Ethnomusicology* (Oxford, 2008), p. 47.

¹² Barz and Cooley, *Shadows in the Field*, p. 52.

Participant Musicians

The members of the quartet were all young, professional musicians who freelance with the leading period orchestras in England, including Orchestra of the Age of Enlightenment, Academy of Ancient Music, and English Baroque Soloists. I completed a degree in Music at Cambridge University, before studying Historical Performance at the Royal Conservatory of The Hague. The first violinist studied modern violin with David Takeno at the Guildhall School of Music and Drama before completing a Masters in Historical Performance at the Royal Academy of Music. The cellist read Music at Oxford University, before completing a Masters in Historical Performance at the Royal Academy of Music. The violist studied modern viola at the Royal Northern College of Music before switching to baroque viola for a Masters in Historical Performance, also at the Royal Academy of Music. We all identify ourselves with 'Historically-Informed Performance' (HIP) – a movement that is characterised by a spirit of critical questioning and self-reflexivity about cultures and histories of notation and performance. Members of the quartet have actively researched aspects of nineteenth-century performance practice, and many of my own ideas have been reciprocally informed by these encounters. In this way, a whole series of aesthetic and cultural values were tacitly assumed before rehearsals began, and we were familiar with each other's playing from a variety of performance contexts even if we had never played as a string quartet before. Nonetheless, it was inevitable that we all had varying degrees of familiarity with the late quartets (although I explicitly requested that no one listen to any recordings prior to our sessions). For example, the cellist and I had studied them from an academic perspective as undergraduates at University, and I had rehearsed (but not performed in public) the first movement of Op. 132 while in The Hague. The first violinist was also reasonably familiar with the quartets, and had sight-read certain movements at Takeno's famous 'sight reading parties' at the Guildhall, but had never performed any of them formally. On the other hand, although familiar with Beethoven's earlier quartets, the viola player hardly knew the late quartets. Despite this disparity in our knowledge of the repertoire, our shared histories of playing together and working with prominent performers from the HIP movement meant that our frames of reference in terms of 'reading' notational signs in the context of early-nineteenth-century performance practice were very similar. We had also all had experience of playing from autograph sources and early editions, although not necessarily Beethoven's.

Participant Materials

The material sources were also considered ‘participants’ in the ethnography. As Gell persuasively argued, ‘the immediate ‘other’ in a social relationship does not have to be another ‘human being’ . . . Social agency can be exercised relative to ‘things’ and social agency can be exercised by ‘things.’¹³ Gell’s concept of social agency was taken seriously in the framework of this study, and thus a biography of each of the participant materials will be presented. Four different sources were selected:

1. Karl Holz and Joseph Linke’s handwritten parts for Op. 132.
2. Maurice Schlesinger’s 1828 first edition parts for Op. 130, as featured in a volume of first and early editions of Beethoven’s quartets.
3. A new set of parts for Op. 127, published by Henle Verlag in 2003.
4. Beethoven’s autograph parts for Op. 135.

Source 1

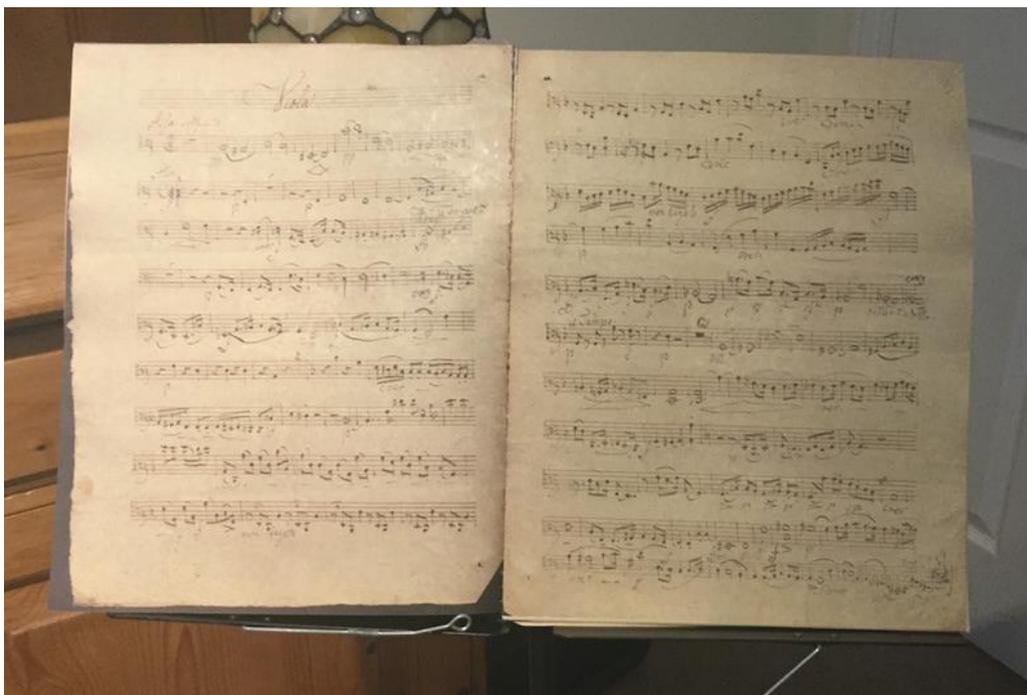


Figure 5-2: Viola part of the author’s facsimile of Karl Holz and Joseph Linke’s handwritten parts for Op. 132, pp. 2–3.

(Bonn, Beethoven-Haus, NE 275). Photograph by Rachel Stroud.

¹³ Gell, *Art and Agency*, p. 18.

Holz and Linke, the second violinist and cellist of the Schuppanzigh Quartet, copied out a set of parts for Op. 132 from Beethoven's autograph score. These parts were used for the first private performances of the quartet for publisher Maurice Schlesinger in September 1825, and were later used as an engraving model for the publication of Schlesinger's first edition in August 1827.¹⁴ Beethoven reviewed the parts, and penned a letter to Holz with a list of detailed corrections, particularly regarding articulation and slurs which he claimed were 'horribly neglected.'¹⁵ The parts feature amendments in Beethoven's hand – including performance indications that were not originally in his own autograph score – as well as several Italian translations in his nephew's hand.

Source 2

For the purposes of the ethnography Margaret Faultless loaned us her set of volumes of first and early editions of all of Beethoven's string quartets and quintets. The volumes are large and heavy, measuring 33 x 25cms. The compilation of the volumes is complex and full of errors. The volumes were clearly compiled retrospectively (the precise date is unknown), with the paper of each edition cut down crudely and approximately in order to fit the volume (see Figure 5-3).



Figure 5-3: Binding of volume of first violin parts of first and early edition parts of Beethoven's complete string quartets. Photograph by Rachel Stroud.

¹⁴ The first edition retains many notational quirks from the hand copied parts, such as the inclusion of a short score in the Recitative section before the final movement. See Bonn, Beethoven-Haus, HCB C Md 79, 11, p. 10.

¹⁵ 'schrecklich vernachlässigt.' See Brandenburg, *Briefe* 6, p. 137; Anderson, *Letters of Beethoven* 3, pp. 1241–1242.

The paper is thick, and the texture retains the ridged imprint of the original engraving plates on each page. However, the lack of care taken in the binding process is also revealed in mistakes: in the case of both Op. 131 and 132, the viola and second violin parts have been mixed up and are bound in the wrong volume. Both viola parts for the string quintet are also bound together in the back of the same volume, making it impossible to perform this particular piece from the collection. These volumes were intended primarily for archival purposes. Furthermore, not all of the quartets contained within the volume are first edition parts. Schlesinger produced an unsanctioned edition of Beethoven’s complete works for string quartet and quintet immediately after the composer’s death. The volumes comprise a mixture of sanctioned first editions and individual quartets extracted from Schlesinger’s complete edition.

Source 3

The Henle Verlag edition of Op. 127 was published as part of a larger scholarly project: the production and edition of a new *Gesamtausgabe* of Beethoven’s works by the Beethoven Archive in Bonn, published by Henle in Munich. Edited by Emil Platen in 2003, the format of the edition is typical of a cosmopolitan Urtext edition: it elegantly incorporates a short foreword and editorial notes in three different languages, and notes clearly in the body of the music where editorial decisions have been made.¹⁶ The notes only appear in the first violin part, and all four parts are held together by a blue cover (see Figure 5-4).



Figure 5-4: Front cover of Henle Verlag Urtext edition of Op. 127 (Munich, 2003).

Photograph by Rachel Stroud.

¹⁶ The full critical commentary is included in the *Beethoven Werke* series. See Emil Platen and Rainer Cadenbach (eds.), *Beethoven: Streichquartette III*, Vol. 6, Band 5 (Munich, 2015).

Source 4

Beethoven's handwritten parts for Op. 135 are the only extant set of parts in his hand, and thus represent a unique opportunity for performers to play from an autograph source. Although these parts were not intended to be used in performance, and are in fact barely legible in places, the handwriting and mistakes lend a dynamic, processual quality to the writing, as though we are witnessing Beethoven's thoughts unfolding in real time (see Chapter 1). The parts contain various shorthand notations, such as the notation of clefs and key signatures only at the beginning of movements. There are often discrepancies between the parts, as Beethoven apparently continued to make changes and amendments as he copied out each individual voice away from the vertical alignment of the score.¹⁷

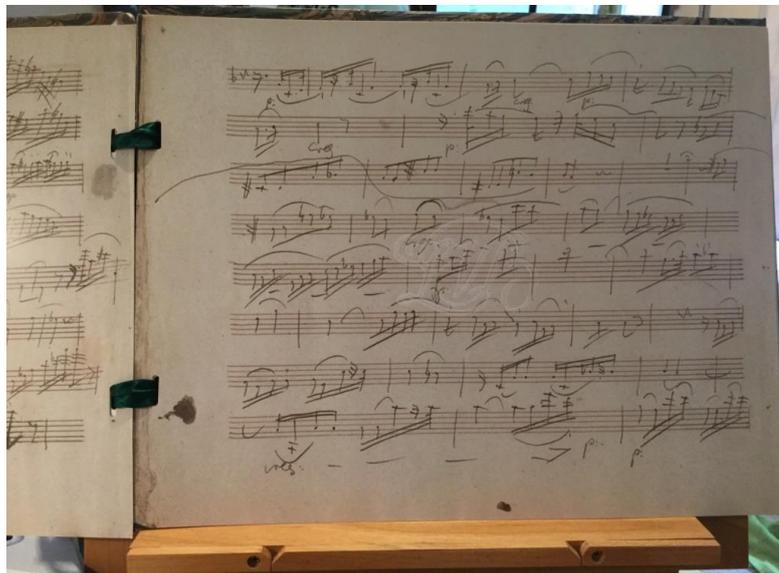


Figure 5-5: First violin part of the author's facsimile of Beethoven's autograph parts for Op. 135, p. 4, bb. 103–135.

(Bonn, Beethoven-Haus, HCB BMh 6/46). Photograph by Rachel Stroud.

¹⁷ Jonathan Del Mar has noted that, although these sources are more up-to-date than the autograph score, including significant changes and amendments, they are still treated as secondary by editors. See <https://www.classicfm.com/composers/beethoven/guides/case-beethoven-missing-notes/> (accessed 06/09/17). This is clear even in the Henle Verlag edition. For example, Beethoven added a connecting slur between bb. 117–118 in these parts (see Figure 5-5), but the Henle Verlag score features two separate slurs. This is an ambiguous moment in the autograph score, as Beethoven crossed out and rewrote bb. 113–118 on another page. In this instance, the whole of bar 116 is beamed together as four quavers with a slur over the whole bar, making Henle's choice of paired quavers particularly curious. See Bonn, Beethoven-Haus, HCB BMh 7/47, p. 7.

Making the Materials: Op. 132 and 135

Sources 1 and 2 are my own facsimiles of the autograph handwritten sources, created by printing out images from the Beethoven-Haus Digital Archive and binding them together. I attempted to preserve many characteristics of both original sources in these facsimiles, including their dimensions. These are as follows:

- **Source 1**, Handwritten parts for Op. 132 by Holz and Linke: 320 x 255mm
- **Source 2**, Beethoven’s autograph parts for Op. 135: 250–254 x 321 mm

In order to obtain permission to use the images it was necessary to retain the museum’s watermark that appears in the centre of the page (see Figure 5-6). Each image of each page of the sources was downloaded individually. The black edges were also cropped off each image in turn, although as each page was positioned slightly differently in the frame of the photograph this was an imperfect process. The dimensions of each of the new images was then standardised and positioned in a document so that they could be printed off, double sided, on A3 paper (see Figure 5-6).

An inherent problem with facsimile editions is their irreconcilable disjunction between sight and touch. The visual semblance of age is clear from the appearance of crumbling edges, worn paper and layers of handwriting. However, this tactile dimension was, of course, impossible to replicate. Instead, I printed both sources on non-standard card and paper: a parchment-style paper to print Op. 132 and linen-textured card to print Op. 135. Similarly, although the clean-cut edges of the guillotined pages clearly signalled the intervention of twenty-first-century technology, I aimed to retain something of the human quality in the production of the sources by sewing all of the parts of Op. 132 together by hand (see Figure 5-7).

Green ribbon was used to tie together the parts for Op. 135 in order to match the autograph source.¹⁸ The parts were also covered with hand-marbled wrapping paper (see Figure 5-8) as an indexical gesture towards the material culture of the early nineteenth century, which commonly featured marbled patterning on the spine or inside pages of book covers. Although Beethoven’s parts were never to be published themselves, this strategy

¹⁸ See http://www.beethoven-haus-bonn.de/sixcms/detail.php?id=&template=opac_bibliothek_en&_opac=hans_en.pl&_dokid=wm172 (accessed 22/09/17).

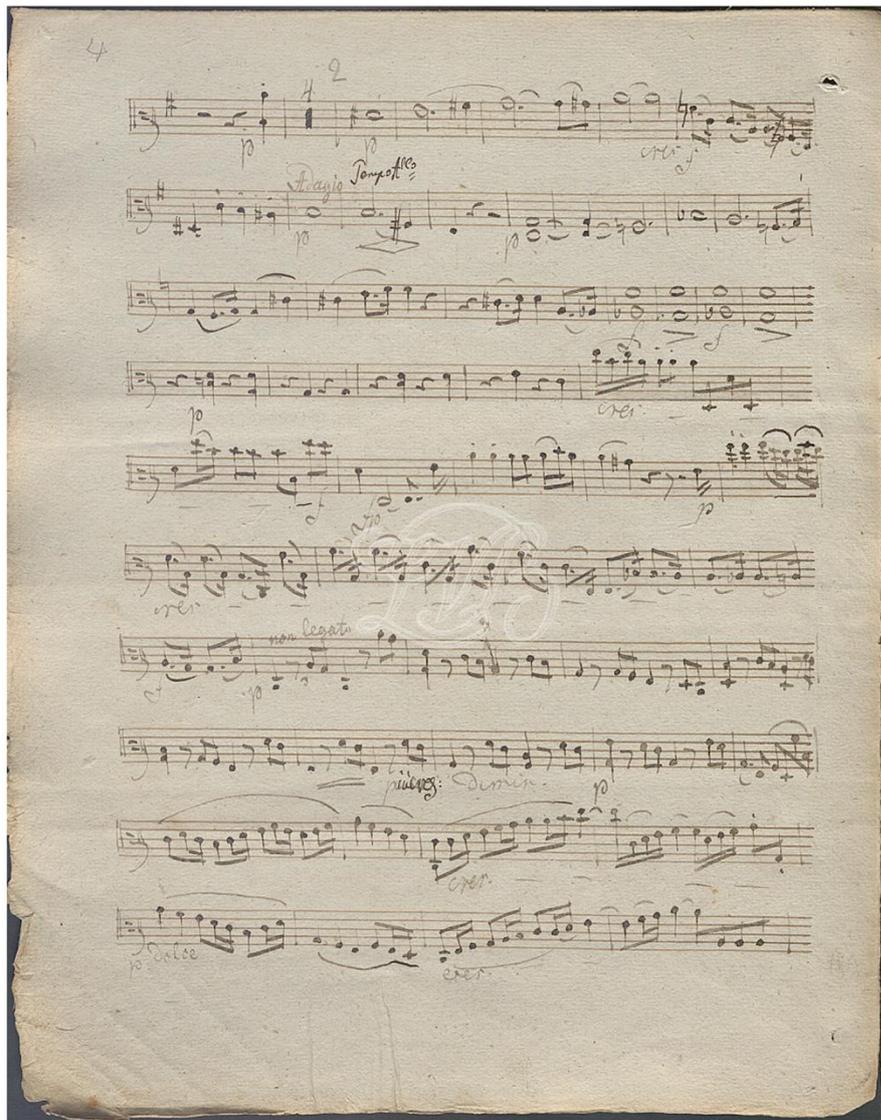


Figure 5-6: Scaled-down image, ready to print. Viola part from the author's facsimile of Karl Holz and Joseph Linke's handwritten parts for Op. 132, p. 4, bb. 120–175.

(Bonn, Beethoven-Haus, NE 275).

distinguished the parts from Op. 132, and highlighted their different sorts of historicity: the parts of Beethoven’s players are significantly less valuable than those in his own handwriting. As demonstrated in Chapter 4, Beethoven’s autographs were often retrospectively enshrined with luxurious material to indicate this status.



Figure 5-7: Hand stitched seam of the first violin part from the author’s facsimile of Karl Holz and Joseph Linke’s handwritten parts for Op. 132 (Bonn, Beethoven-Haus, NE 275).

Photograph by Rachel Stroud.



Figure 5-8: Marbled front cover of the first violin part from the author’s facsimile of Beethoven’s autograph parts for Op. 135.

(Bonn, Beethoven-Haus, HCB BMh 6/46). Photograph by Rachel Stroud.

Case Study 1: Emerging Relationality

The first set of parts that the quartet encountered was the handwritten copies of Op. 132 by Holz and Linke. The musicians initially struggled with the parts, finding their lack of graphic standardisation and the personal quality of the handwriting uncomfortable to play from. Riddled with errors of their own, and with Beethoven's corrections inked in boldly over the top of his performers' notation, the parts amplified the risk of mistakes and made sight-reading particularly difficult. They highlighted the disjunction between modern standards of legibility, emphasising the gap between our own expectations of notation and the temporalities of reading and rehearsing in comparison with those of our nineteenth-century counterparts. However, there was a gradual shift from this anti-social relationship between performers and parts towards an emergent reciprocity that employed initially agonistic tendencies to creative effect. A pivotal moment saw the introduction of another object into the rehearsal space: the Henle Verlag Urtext edition score. This additional object acted as a mediator, providing a comfortable standard of 'correctness' and legibility on which the musicians could depend, while also highlighting the benefits of playing from notation liberated from the strictures of print.

Aesthetic Imperfection

Although I was surprised by the quartet's initial negative responses to the parts, Latour would have seen it coming: according to Latour, failure of skill – the breakdown of communication between human and object – is one of the ways in which an object's performative action is rendered visible. Failure is a crucial part of the make-up of Linke and Holz's hand copied parts. Holz and Linke found themselves ill-equipped with the skills to make adequate copy parts. Holz was forced to take over from Linke after the third movement, who had developed a headache from the effort of copying,¹⁹ and remarked: 'I'm not used to copying, otherwise I would be able to guarantee correctness'²⁰ The failure of Holz and Linke to adequately complete the task entrusted to them by Beethoven is made clear not only in Holz's apologetic acknowledgement of his lack of skill to Beethoven in the above example, but also in the sources themselves. The parts are full of Beethoven's corrections over the top of neatly copied-out notes and dynamics. For

¹⁹ '... von der ungewohnten Anstrengung beym Copiren Kopfweh bekommen.' *BKh* 8, p. 39.

²⁰ 'Ich bin nicht gewohnt, zu copiren, sonst könnte ich beynahe für die Correctheit garantiren.' *BKh* 8, p. 55.

example, on page 4 of the first violin part, Beethoven’s untidy erasure, correction and attempt to repair the lines of the stave is clear (see the last bar of Figure 5-9).

*Figure 5-9: First violin part of Karl Holz and Joseph Linke’s handcopied parts for Op. 132, p. 4, bb. 117–119.
(Bonn, Beethoven-Haus, NE275)*

Beethoven’s correction of the slurring in the fifth bar of the first line in the example below similarly stands out on the page, as does the inked-in *forte* of the final bar of the penultimate line (see Figure 5-10).

*Figure 5-10: First violin part of Karl Holz and Joseph Linke’s handcopied parts for Op. 132, p. 1, bb. 29–44.
(Bonn, Beethoven-Haus, NE275)*

A famous letter regarding these parts appears to attest to Beethoven’s attitude towards notational accuracy. It concludes: ‘Pay attention to what those who know better are telling you – Why, I have spent no less than the whole of this morning and the whole afternoon

of the day before yesterday correcting these two movements and I am quite hoarse from cursing and stamping my feet.'²¹

Perhaps this antagonism was picked up on by the quartet. Such diligent corrections scribbled into the source seemed to instil a sense of unease and distrust of the parts. The all-too human quality and capacity for error made the experience of playing the corrected parts uneasy, particularly for the first violinist. One particular difficulty was that of reading ledger lines above the stave, due to a lack of standardization of the graphic height of pitches. As can be seen in the first bar of Figure 5-11, the C and B ♭ appear on the same graphic plane, whereas the A looks correspondingly lower (see Figure 5-11).

Figure 5-11: First violin part of Karl Holz and Joseph Linke's hand copied parts for Op. 132, p. 3, bb. 60–62.

(Bonn, Beethoven-Haus, NE275)

After the first play through of the movement, I also made a similar observation: 'the way it's written, the space between the intervals is not [. . .] normal – it's halfway across the page!' In the first set of highlighted bars in Figure 5-12, I was initially tempted to play a C for the second note rather than an A, as the notation seems to suggest an upward rather than a downward step. Similarly, the set of second highlighted bars generate a visual impression of downward movement between the two Bs, when in fact the pitch remains the same. Such initial misreadings demonstrate violinists' ingrained kinaesthetic response to the appearance of intervallic motion on the page in relation to fingering. In this way the notation performatively intervened in, and even thwarted, our bodily instincts (see Chapter 6).

²¹ 'Merchts euch von höhern Ortes – ich habe nicht weniger als heut den ganzen vormittag u. vorgestern den ganzen Nachmittag mit der *Correctur* der 2 Stücke zugebracht u. bin ganz heiser von Fluchen u. Stampfen.' See Brandenburg, *Briefe* 6, p. 137; Anderson, *Letters of Beethoven* 3, p. 1242.

Figure 5-12: Second violin part of Karl Holz and Joseph Linke’s hand copied parts for Op. 132, p. 2,
bb. 1–18.
(Bonn, Beethoven-Haus, NE275)

As members of the quartet struggled to engage with these parts, an atmosphere of tension and discomfort initially permeated the quartet. The first violinist had arrived late and had forgotten a music stand: the absence of this object from the rehearsal framework was disruptive in itself, and compounded the difficulties that the violinist had when deciphering the handwriting. After trying to defuse the situation by proposing to read something less challenging to start with – ‘we’ve got the modern edition parts if you want to ease in?’ – the first violinist appeared to agree reluctantly: ‘we can just try it . . . yeah, um, I can *try* . . . *if* I can read it.’ The issue of failure was brought up almost instantly: ‘if I fail . . . there’s handwriting for really high stuff . . . it’s just . . . [very difficult!].’ The first violinist saw failure in the parts: the potential of a personal failure to read and realise what was on the page, but also the failure of the parts themselves to project a clear and accurate text. The violinist later objects: ‘I can’t read the handwriting, but I think there is supposed to be a *rit, poco ritardando*, before the *tempo primo* . . . there are some words, but I can’t read them’. Halfway through the session, the violinist’s relationship with the part broke down altogether and the authority of another object was sought: ‘just for reference, I’m going to get the modern thing – just so I can check’.

Score as Mediator

The introduction of the score changed the way we communicated as a group, as well as the experience of Beethoven’s new type of part writing. From the purview of our individual parts it was notable that we struggled to communicate with each other about basic information such as where to start. There were instances when it took several minutes and false starts to work out where to begin from. Particularly problematic was

the lack of bar numbers and certainty that we all had the same distinguishing dynamic markings in the same place. The following exchange illustrates this:²²

Cellist: shall we go three before?

First violinist: you mean four?

Cellist: three before <sings second violin rhythm from bar 223>

First violinist: where the crescendo starts?

Cellist: <sings rhythm of bar 220>

Second violinist: so that's four before?

Cellist: is it four?

Viola: I've got no idea!

Cellist: no it's not . . . oh!

Second violinist: where this starts <sings triplet accompaniment>

Viola: <plays 'Viennese' theme>

Cellist: so three before that?

 <First violinist looks at the score>

First violinist: no four, because we start first

Cellist: do you? . . . oh cool, let's go from there

 <We begin playing and it is clear that the cellist is in the wrong place.>

Cellist: we are together there?

First violinist: no

Cellist: let's go . . . shall we try from there?

First violinist: where?

Cellist: shall we try again?

First violinist: no because I have the score

Cellist: oh, do you?

First violinist: you come in at . . . should I just . . .

 <The first violinist cuts short the discussion by showing the cellist the score>

²² < > indicates instances in which players are demonstrating, singing or moving. [] indicates hardly audible moments of speech in the recordings when I have substituted words for clarity.

Although it was a frustrating experience, in this way the parts highlighted their own cultural context: these were not parts designed for rehearsals involving stopping and starting! They implied a fundamentally different sort of temporality. As explored in Chapter 1, Beethoven’s late string quartets were pivotal in the advent of a score-based musical culture, with the notion that a musical work should be rehearsed and properly studied only just beginning to emerge. Two hundred years later these cultural values – which ultimately entail a different mode of temporal and social engagement in rehearsal – are deeply entrenched, and proved difficult for some of the musicians in the quartet to escape from. The introduction of the score in the rehearsal space solved the short-term issue of logistical communication, but it also cut short the sorts of dialogue and exchange, as well as musical understanding, that the parts elicited on their own terms. Without bar numbers, we were forced to communicate with each other in musical terms by singing and playing to each other: they forced a different kind of listening. The score also elicited a different sort of power dynamic within the group and gave the first violinist greater authority over the rehearsals. Players began to defer to the first violinist’s privileged knowledge of the structure rather than listening to each other: as the viola player asked, ‘do we all have them in the same place? What does the score say?’. The use of the score also changed approaches to the rehearsal. The first violinist began to think more structurally. After a particularly analytical comment made after perusing the score, I commented humorously ‘you’ve got the master knowledge!’, to which they agreed ‘yeah, I’ve got the score!’ However, as the rehearsal progressed, performers developed strategies for engaging with the visual properties of the handwritten parts. In fact, their dynamism and forward-looking quality even became a source of creative exploration.

Secret Lives of Notation?

With increased musical and visual familiarity, positive responses to the graphic profile of the parts began to emerge. Indeed, the idiosyncrasy of certain inscriptions seemed to offer new insights into Beethoven’s notation. There were two particular instances when this tantalising possibility even led to misunderstandings about the notation. For example, the cellist pointed out a strange marking in bar 48 (see Figure 5-13).

Since, as discussed in Chapter 3, Beethoven’s marking ‘non ligato’ for this passage raises many questions about the articulation that the composer envisaged, the cellist leapt on the promise of extra signs or symbols to shed light on the ambiguity. Unfortunately, the

marking in question merely turned out to be a hastily written '3', indicating a triplet rhythm.

Figure 5-13: Cello part of Karl Holz and Joseph Linke's hand copied parts for Op. 132, p. 2, bb. 48–49.

(Bonn, Beethoven-Haus, NE275)

Similarly, the viola player was excited to discover what appeared to be a fingering in their part at the beginning of bar 125 (see Figure 5-14). This was the only fingering in the entire part, and it seemed to reveal information concerning the first performers and how they felt about this particular section of the music. The viola player thought that the fingering was 'actually quite nice, but it, sort of, says a lot about . . . intensity'.

Figure 5-14: Viola part of Karl Holz and Joseph Linke's hand copied parts for Op. 132, p. 4, bb. 120–137.

(Bonn, Beethoven-Haus, NE275)

However, we later discovered that this notation was in fact a red herring. It emerged that the symbols were later markings and had nothing to do with the Schuppanzigh Quartet. They represent not musical notation, but an editorial symbol indicating where page turns should occur in the Schlesinger first edition of this quartet. This trace of the design template of the first edition parts covertly revealed an aspect of the objects' many lives, layers and material incarnations: from performing part, to engraving proof, to museum exhibit in the Beethoven-Haus to digital archive, to the facsimile parts that I had personally created. Once again, Gell's model of the corpus as a spatio-temporally

distributed object serves as an apt reminder of the limitations of thinking in terms of discrete physical entities with concrete boundaries and behaviours. However, the wishful thinking of the musicians showed their willingness to engage with the handwritten notation as a source of meaning in itself – rather than an inadequate representation of the ‘Work’ as embodied, and fixed, more accurately in the Urtext score.

Musicking about Music

Once the first violinist felt comfortable with the notes, they were able to relinquish their anxiety about defining or validating aspects of the music through corroboration with the score. For example, in the latter part of the session the violinist suggested a new strategy:

- First violinist: maybe we should play it, and stop, and do something more
 “official”. . . But maybe like, we could decide what, and try and
 do it through playing?
- Second violinist: through playing rather than speaking?
- First violinist: so we don’t decide on things like ‘oh we’re gonna slow down
 here’ – that defeats that purpose.

Even later in the rehearsal, after being relatively directive about the opening passage that we were working on the first violinist asked sheepishly: ‘I feel like . . . is it cheating that I’m looking at the score?!’.

The increasing success of our relationships with the parts after the initial strain of the session became increasingly apparent in our resort to what Bayley has dubbed ‘musicking about music.’²³ Bayley proes that ‘musicking’ is a method of communication that ‘conveys a specific understanding [. . .] it might be used to prompt a response, to check or demonstrate a sound of technique, or to amplify a point. In any of these instances, musicking is expressive in ways that words cannot be.’²⁴ Our musicking about music – the ways in which we shared ideas through our voices and instruments rather than speech – became a mediating thread that transformed our antisocial struggles into reciprocal and mutual engagements. We conveyed our understanding of the notation and the music to

²³ Bayley, ‘Ethnographic Research into Contemporary String Quartet Rehearsal’, p. 395.

²⁴ Bayley, ‘Ethnographic Research into Contemporary String Quartet Rehearsal’, p. 397.

each other through *doing*. This was evident in a tangible shift in the ratio of speech to music during the latter part of the rehearsal. While at the beginning of the session individual players had privately practiced their own parts in isolation, by the end of the rehearsal playing took the form of demonstrating and communicating ideas. In fact, we began to sing more than describe our ideas verbally. This was a strategy afforded by the parts: the lack of bar numbers meant that we had to find musical ways to describe where to begin playing certain sections from.

Players began to accompany and join each other in the singing or playing of musical ideas, engaging with each other socially as well as musically. For example, in a discussion about the tempo of the opening introduction the first violinist asked 'do you think it's that slow?'. The cellist responded by playing the opening motive slightly faster as a sort of question. I responded that 'we could think in a half bar tactus', to which the first violinist agreed 'because it's cut time'. The cellist then, taking our suggestions on board, demonstrated the introduction slightly faster again, asking 'maybe?' over the top. At this, everyone joined in together spontaneously to demonstrate our acceptance of the cellist's musical idea by collectively playing through the opening introduction at their suggested tempo. Shortly after this, the first violinist suggested that 'maybe the Adagio should be more prepared', to which I respond by singing a possible example, swiftly joined by the cellist who played a bass line underneath. Again, when the first violinist suggested that we were emphasising the down beat of a particular bar too strongly, the cellist and I both responded unanimously – and without discussion – by attempting to capture the suggested alternative through playing. By encouraging this sort of 'musicking', the parts seemed to gradually stage a social 'coming together' of the string quartet (see Chapter 6).

A very personal response, perhaps stimulated by the sweeping and non-standardised appearance of the notation which featured an array of colours and shapes, came from the viola player:

- Viola: do any of you have [...] synaesthesia?
- Second violinist: oh yeah, where you see colours? like Messiaen?
- Viola: yeah! I get it a lot.
- Second violinist: do you?!
- Viola: maybe not in terms of, not so much on the colour side, but on, sort of shapes.

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- Second violinist: really, what do you see?
- Viola: just loads of different sort of . . .
- <here the player mimes and struggles to describe what they mean>
- Second violinist: there’s so much [information].
- Viola: it’s bizarre, absolutely bizarre. I can almost taste it. I have this thing where if I’m trying to pitch something, I can almost feel it . . . and taste it as well. Not sort of, in terms of flavor, but in term of . . . <the player touches their throat> . . . it’s really strange.
- Second violinist: it’s really cool!
- Viola: It’s really strange. And, em, maybe it’s because I play lots of harmonic notes.
- Second violinist: maybe . . .
- First violinist: . . . but that’s good!
- Viola: but yeah shape wise, I always see, I mean not physically but sort of mentally, loads of different colours.
- Second violinist: yeah, it’s almost [. . .] too much [in this movement]!
- First violinist: and yeah, within this exposition there’s so much, there [are] already like 5 things, 5 thematic [things]

This sharing of intimately embodied experience, of the deluge of shapes, colours and tastes relating to motivic and harmonic ideas that floated past the viola player while they played, seemed to open up new possibilities. In particular, it highlighted the rigidity of our approaches to tempo and rhythm. Now rather than the non-standard aspects of the notation acting as a handicap, they became a kind of liberation: the graphic profile of each thematic grouping, iconically distinguished in notation with different written gestures, led to the first violinist’s suggestion that it was ‘good evidence that shows that . . . I know that Beethoven has written that there’s not such a thing as a set tempo throughout the piece. And I feel like we could really take that . . . you know, like the different motives that come in kind of want[] a different tempo even’. The suggestion that a fixed, top-down approach to tempo throughout the movement did not fit the music illustrated an increasing willingness to engage in reciprocal engagements with the source’s offerings, rather than fighting against its seeming limitations. The vertical axis of meaning mediated by the score gradually seemed to give way to a more processual style of thinking. Rather

than taming the inaccuracies of Holz and Linke's parts, we learned from them. Experiencing Beethoven's new type of part writing from our own parts offered social and temporal possibilities that were obscured by the score.

Case Study 2: Playful Performances

On the second day of the ethnography we played from a set of original first edition parts, loaned to us by Margaret Faultless. The parts comprise Beethoven's complete works for string quartet and string quintet, bound together in a large volume covered in green leather. We first explored Beethoven's eccentric use of dynamic markings in the *Alla Danza Tedesca*, Op. 130, before playing the *Cavatina*, and the second *Finale*. Overall, the atmosphere was much more positive. There were occasional comments about how the physical arrangement of the material differed from modern editions ('everything is just so squashed up on this page, it's hard to see!'), and how the individual qualities of the material – its lived experience in a variety of different social situations and the accumulated material traces of these experiences – impinged upon performance. For example, I became frustrated at an incorrect accidental that had been pencilled in at bar 49 and kept causing me to play the wrong notes: 'sorry, my fault! Someone's written a G # and a B ♮ somewhere they shouldn't have!'; and later 'I keep accidentally doing that B ♮ (ugh!)'. However, in contrast with the previous day there was a striking absence of comment on the parts. Overall, it seemed that the experience of the printed page fitted more with our cultural expectations, giving us a more comfortable space within which to exercise our creativity in contrast with the source of the previous day.

Disruptive Behaviour

The materiality of the first edition parts came to the fore when they presented themselves as an obstruction to the usual proceedings of a rehearsal. They were far too big for our music stands and weighed significantly more than modern edition parts. The flimsy, lightweight stands that have been adapted for travelling musicians to carry around with ease were barely able to support the volumes. The first violinist asked the viola player '[is it] fine, your stand?! I feel like my stand is going to collapse!'. These were parts primarily intended for the archive rather than the rehearsal room. Our rehearsal was also noticeably disrupted by the confusing numbering system in the volumes. It took two false starts at the beginning of the rehearsal for everyone to simply establish the correct movement as there was significant confusion about where Op. 130 began in the volumes.

The viola player in particular found this frustrating, and our initial exchange was very confused:

Viola: what are we playing? Wh[ich] number?
Second violinist: Op. 130. I think it’s . . .
First violinist: that’s like se-ven . . .
Cellist: 13.
First violinist: oh . . .
Viola: opus?
Second violinist: it’s Op. 130, but it might be number 13, in this [volume].
First violinist: ok, coz [Op.] 127 is 15 . . .
Second violinist: these might be in weird numbers because this was bound [later].
Viola: I’ve got number 13 for like 3 pages!

I was eventually forced to find the correct place for the viola player. This confusion can only be explained by looking at the parts directly, which are full of inconsistencies and errors. The most significant confusion arises from the inclusion of Maurice Schlesinger’s editions of the late quartets, which are not first editions but taken from his ‘complete’ edition of all of Beethoven’s quartets. This complete edition was printed with its own retrospective numbering system. The result is that several of the quartets within the volume are numbered according to a different system. For example, Op. 130 is labelled in this volume as No. 13, but is preceded by the (unlabelled) Berlin Schlesinger edition of Op. 132. Confusingly, Op. 132 is preceded by Op. 95 (thereby omitting Op. 127 from the correct position in the chronology), which features a stencilled number ‘11’ at the top of all of its pages and begs the question as to why no number ‘12’ was stencilled in for Op. 132. Furthermore, the person who compiled the volume of editions accidentally mixed up the viola and cello parts for Op. 133 and Op. 127, so that two ‘violoncello’ parts appear in the viola volume. The edition of Op. 130 is preceded by a title page, but it appears only in the first violin part. (see Figure 5-15). Moreover, it is a title page from a different edition.

The lack of title page in the second violin, viola and cello parts mean that the only graphic indication of the beginning of the quartet is a blank page with a stencilled number ‘13’ at the top of the page, with no information about opus number. Furthermore, as the engraved ‘No. 13’ appears on every page of the quartet, the beginning of the quartet is difficult to locate. The only indication of the beginning of the quartet is the word ‘QUATUOR’ engraved in a relatively small font on the same graphic plane as the first stave – and not at the top of the page, where a title might more commonly be expected to be found (see Figure 5-16).

This lack of clarity about the numbering system (with a mixture of Opus numbers and Schlesinger’s number system littering the volume) led to a number of problems during the rehearsal, suggesting that the framing of a ‘work’ in print as a discrete unit is an important part of a musician’s understanding of what they are interacting with. This conceptual confusion is compounded in the case of Op. 130 by the fact that there are six (rather than the typical four) movements – a fact that not all of the players were aware of. When I suggest moving onto the fifth movement, the Cavatina, the cellist asked, ‘so what, the finale?’ There was also difficulty locating the first movement: the viola player asked ‘is it Andante? Which number are we on?’, and the first violinist then promptly played the third-movement Andante instead of the opening Adagio. We all started playing in different places, and the first violinist did not understand why the effect was so strange:

First violinist: I have the downbeat.
Second violinist: yeah . . . What?! <gets up to look>
Cellist: oh, we have an upbeat?
Second violinist: oh sorry, you’re playing um . . . <turns page for first violinist>
<laughter>
First violinist: sorry, it’s happened again!
First violinist: which one was I doing?!
Second violinist: third movement!
<silence>
Viola: is this quartet, just, like, massive?
Second violinist: yeah it’s got [six movements].
Viola: so two flats then?

Second violinist: yeah, that's the one <laughs>

First violinist: <laughs> oh it's adagio then? Cos you said <to viola player>
Andante Con moto, and I was like?!

Viola: yeah

First violinist: I was convinced!

This encounter reminded me of the experience of Rochlitz, outlined in the first chapter, who desperately tried to make sense of Op. 131 by laying all four parts out in front of him. With our so-called 'modern' perspective of global legibility removed from under our feet, we perhaps glimpsed something of the chaos and confusion experienced by the quartets' first consumers (see Chapter 1). The unprecedented frequency of notated changes of key and time signatures (see Chapter 2), nearly always appearing alongside double barlines in printed editions, also undoubtedly contributed to our confusion. Even the simple issue of 'labelling' the structure and movements of the late quartets – which were a radical departure from the norms of the genre – contributed to our experience of the music as complex and strange. Upon first glance at the *Alla Danza*, the cellist exclaimed 'wow! Weird, weird!'. After the first play through, the first violinist commented 'strange', to which the viola player agreed 'so strange' before asking 'is that what it's meant to sound like?'. After the second play through of the movement, the viola player commented again 'really strange, so strange.' The structure of this particular volume compounded our disorientation, and threw into sharp relief parameters that we take for granted and even depend upon: the notion that we are playing a discrete entity, a 'work' with firm boundaries reified in print and paper.

Creative Misalignment

Nonetheless, despite these teething problems with communication and co-ordination, this was not at the expense of the social relations between the quartet; the quartet still remained in a good mood and dialogue flowed easily. The errors in the handwritten parts of Op. 132 had been a source of distress for the first violinist: in contrast, the editorial inaccuracies in the first edition parts became a source of fun. The textual instability of early editions is widely acknowledged in the HIP community. Consequently, the first violinist soon observed that 'I think these first editions might have a lot of [. . .] different dynamics.' Throughout the editions, it was clear that dynamics were often misplaced, or simply not aligned, between parts. However, these discrepancies were not a source of

anxiety. On the contrary, the tendency of modern editors to normalize the placement of dynamics seemed comparatively restrictive.

One musical example illustrated this particularly clearly. In playing the final bars of the *Alla Danza Tedesca* it became clear that we did not all have the same markings notated in the same place. The first violinist asked ‘[do] you know, how they interpret this in modern editions, have you seen?’ A consultation with the Henle Verlag Urtext score suggested that the dynamics ought to be aligned in every part. The first violinist commented with disappointment: ‘so basically, in the score, in the last phrase they made it “normal.”’ I mentioned that ‘I kind of enjoy [] that they’re not all the same’, to which the first violinist agreed ‘yeah me too, that’s my point, that’s why I want to check, I think they made it the same as before [. . .] in the Henle score they just copy the first [phrase]’. For us, the union of the quartet as a single voice subject to the same dynamic scheme did not seem very creative. We found the idea of messy, un-unified markings more appealing. Just as the parts revealed cultural ambitions beyond the notion of fidelity to the ‘work’ – Schlesinger capitalised on Beethoven’s death by producing his unsanctioned ‘complete’ edition as quickly, and not necessarily as accurately, as possible – they liberated us from the restrictions of textual accuracy.

This became clear in a discussion about the sorts of violinist that Beethoven wrote his music for. The first violinist commented that: ‘I just . . . find it really fascinating how [Beethoven] . . . how it’s known that he doesn’t really write things for people – except but then for the violin he does!’ We discussed the fact that Beethoven wrote his last violin sonata, Op. 96, for Pierre Rode. As the first violinist explained: ‘so [in] the last movement, [Beethoven] didn’t go for a crazy end, which he usually does. And then, you know that he wrote a concerto for Clements, who was a completely different player who he also loved . . . so they’re really quite opposite styles, so it shows that he could [adapt] . . . because I don’t like this idea that like ‘oh, there is a way to play Beethoven.’ This final comment suggests that, just like the misalignment of dynamics, the parts projected a sense of freedom from received ideologies: they could make space, just like Beethoven had, for different personal playing styles. The specificity of the human presence in the notation of Holz and Linke’s parts seemed to obscure this possibility in the first session. In contrast, the first edition parts invited us to imaginatively populate their conceptual landscape – a seemingly blank canvas – with other actors. They represented a kind of map or script for performance but with a signifying absence: us, the performers.

Case Study 3: Singing with One Voice

The third material that the quartet interacted with was the Henle Verlag set of parts, edited in 2003 by Emil Platen. This is a material in a format that all of the musicians had used before. The Henle branding with its ubiquitous charcoal blue front cover can be found on the shelves of musicians all over the world. However, the fact that this particular object was new made it particularly appealing. Musicians are very used to playing from old orchestral and string quartet parts, featuring layers of pencil markings and tatty page edges, and stained with years of thumb- and finger-prints. There is often a feeling of great responsibility involved in making a marking on a clean part: an awareness that these markings may survive for generations. I commented that 'I LOVE playing from new parts', and the viola agreed with pleasure: 'yeah, it's like a fresh, clean part'. As these parts seemed to suggest, we were at the beginning of a new musical journey, full of possibilities. On the other hand, the blank canvas was also daunting. The viola player commented 'it looks scary as well though!' This particular player felt the need to qualify, at this particular moment on the third day, that they did not 'really know the Beethoven quartets at all(!)'. Whereas this had not seemed like a problem in the experimentations of the previous days, it was almost as though the stakes were different in the face of the impassive professionalism of the Henle parts. Previous sources had put us in the position of the first performers: these parts had the legacy of the musical canon behind them.

Intellectual knowledge is intrinsic to this Urtext edition. As the preface to the edition outlines:

The editorial work was governed by the guiding precept of that edition, namely to create a text that "reflects Beethoven's intentions as accurately as possible." [. . .] Performing musicians hope that a "reliable" edition of this sort will give them definitive answers to all questions relevant to the text; they want an edition that offers all the information they need to present the composition in performance, and that does so authentically, without contradictions, and with a flawless appearance on the printed page. But in our case authenticity does not mean that there are no ambiguities or errors or that the musical notation is technically perfect. Not even his most fastidious manuscripts are free of passages that we consider inconsistent or flawed. It thus transpires that close adherence to original manuscripts and its sometimes unconventional style of notation, while it may harbor hidden suggestions for an authentic performance, will also reveal one or another imperfection in the manuscript. In such cases we have judiciously tried to standardize the text without doing a disservice to the information it contains...It seems more honest to

alert our readers to questionable issues than to lull them into a false sense of security...Rather than merely “translating” the notes into sounds, they can “explicate” passages in need of interpretation.

The edition thus explicitly aims to project specific cultural and artistic ambitions: to act as a ‘flawless’ text that will enable musicians to interpret the work with as much critical information as possible. The edition demands intellectual labour on the part of the performers; the performers must bring their questions to the text, and must seek information in order ‘to present the composition in performance’. The problematic terms ‘authentic’ and ‘intentions’ are also raised. This may explain why the viola player found the blank page ‘scary’. However, the edition did also purport to be collaborative, electing not to offer the performers definitive answers to all questions, and choosing to leave certain discrepancies up to the personal taste of the musicians. This conceptual space for creative collaboration is indexed by the blank page, the ‘fresh, clean’ look of the parts.

During this session we began to work on interpretative details almost immediately rather than playing through large sections of music, and the pace of conversation was fast and intense, intermingling singing, speech and playing. We frequently finished each other’s sentences and were in our element as a quartet: there was a tangible thrill to working ‘properly’ from a set of objects with which we were all familiar. This was clear from the first violinist’s comments that ‘this would be a fun one to play’, and ‘we can really just enjoy working’. In contrast to the previous sources, these parts invited a different kind of temporal approach to our rehearsal, one more in line with twenty-first-century views of how a quartet ‘should’ interact: they encouraged us to ponder our interpretative decisions and take time to discuss our musical views and opinions. For example, after playing until bar 120, we discussed the success of our performance of the *Maestoso* section. I commented that ‘we’re still not really doing a tempo for the *Maestoso* are we?’ to which the cellist disagreed, saying that ‘I felt like it had, a something . . .’, although conceding that ‘I think there’s a lot of ambiguity’. To make sense of this ambiguity, the first violinist commented: ‘yeah, maybe we should take those syncopations . . . we kind of sit on it too long really’, to which I countered ‘yeah, but the double stops kind of make you do that a bit’. The first violinist then proposed taking the downbeat of bar 76 ‘more like an upbeat really’, and demonstrated to us. Then, reflecting on this demonstration, adds ‘maybe not before the beat?’ The cellist and I countered: ‘why not? . . . because the minim notation is on the top, right? . . . I think it sounds great actually, the spread’.

In contrast with the playful experimentation of the previous day, this style of rehearsal was efficient and almost business-like, as though we were preparing for a concert. Nonetheless, no one finalised decisions by writing markings in their parts: the performative behaviours of previous sources had started to infiltrate our interactions. The Henle Verlag edition is fully equipped with modern day rehearsing essentials such as bar and page numbers, but instead we continued to use distinctive musical or notational features to co-ordinate our rehearsals. For example, after the viola player queried a specific note, the first violinist answered by describing and demonstrating rather than offering a bar number. This forced the viola player to form a different relationship with their colleague's part, to engage with the music itself rather than via a retrospectively imposed grid of bar numbers. Around halfway into the rehearsal we become self-conscious of our shift in behaviour:

First violinist:	oh! we have bar numbers!
Second violinist:	yeah we have bar numbers!! Oh, did you notice, that we weren't using them?
First violinist:	oh! We've gone all, sort of, nineteenth century now!

In this moment, the performativity of the materials suddenly came back to the fore, as well as the structuring frame of the ethnography itself. The first violinist's comment about our 'nineteenth-century' frame of thinking briefly turned the ethnographic frame back on itself in a moment of reflexivity. The historicity of the other sources had forced us to become self-consciously aware of the ways in which bar numbers structure our interactions and musical experiences, thereby throwing the artificial nature of the ethnographic frame into sharp relief.

Metaphorical Height and Depth

Our language during this rehearsal was far less playful than that of the previous day and took on a more serious quality. For example, the first violinist argued that 'one has to approach it in a post-Haydn language'. Just as the preface to the edition states the need for intellectual labour on the part of the performers, we seemed to feel the need engage with musical meaning at a deeper analytical level than in previous case studies. The first violinist suggested that if you played the music as it looks from your own part, then 'no-

one will know what you’re talking about’, because although ‘it could easily be within very classical [parameters] I kind of feel like there’s something more that you need?’. This was a significant comment: suddenly, the musical surface of the individual parts on their own was not enough. Robert Fink has described how musical analysis has promoted the notion that music has a metaphorical ‘depth’. He argues that ‘surface detail is explained as a projection of hidden structural levels, motivically or through voice-leading; the complexity or incoherence of the surface is often noted, and the promise of analysis is that it will be made to disappear.’²⁵ While more recent scholars such as Emily Dolan, Elisabeth LeGuin and Nancy November have powerfully inverted this analytical approach,²⁶ Fink’s diagnosis served a rhetorical purpose in the context of the so-called ‘New Musicology’ and its reaction against the text-based preoccupation of the discipline. Indeed, venerated Beethoven scholars such as Dahlhaus have historically privileged the ‘sub-thematic’ levels of Beethoven’s late style, and searched for complex webs of motivic relationships to account for apparent surface incoherence. The social implications of Beethoven’s new type of part writing and its mediation of both the horizontal and vertical axis of music-making lies at the very crux of this matter.

During the rehearsal we frequently alluded to the complexity of the music, and members of the group often referred to ‘not getting’ certain sections (‘I still don’t get the Maestoso’; ‘oh, I just can’t work out what all these [dynamics mean]’). Our reflections were then directed beyond the surface of the object, towards understanding the music at a deeper, reflective level. The insufficiency of the single parts to capture this metaphorical depth is clear from our observations about the rapidly-changing function of each instrument in the contrapuntal texture of the movement, which often changes from melody to accompaniment to middle voice within a single bar.²⁷ I commented that ‘you really have to work it out, in a kind of slow [way]’, to which the viola player replied: ‘sometimes if you just look at the page, you can’t see the function’. The vertical quality of contrapuntal

²⁵ Robert Fink, ‘Going Flat: Towards a Post-Hierarchical Music Theory’, in Nicholas Cook and Mark Everist (eds.), *Rethinking Music* (Oxford, 1999), p. 104.

²⁶ See Emily Dolan, *The Orchestral Revolution: Haydn and the Technologies of Timbre* (Cambridge, 2013), Elisabeth Le Guin, *Boccherini’s Body: An Essay in Carnal Musicology* (Berkeley, 2006) and Nancy November, ‘Register in Haydn’s String Quartets: Four Case Studies’, *Music Analysis*, 26 (2007), pp. 289–322.

²⁷ See Chapter 6 for a detailed discussion of the experience of playing the first movement of Op. 127.

writing epitomizes the height-depth metaphors that Fink describes. The parts only make sense in relation to the whole. As the cellist advised:

Cellist: so much of it is knowing where things are finishing.
First violinist: where the structural junctures are?
Cellist: and where something starts . . .
Second violinist: yeah. But it's so hard to sort of SEE that, isn't it?
Cellist: from your own part it's impossible!

Just like the first performers, we were encountering the social and performative repercussions of Beethoven's new type of part writing; these were parts that needed rehearsal, and ideally a score.

Distributed Objects

The Henle parts obliquely encourage this apparent need for a unified perspective on the music. Each part is connected by the editorial notes that appear *only* in the first violin part. These notes are drawn attention to in the other parts (as the viola player noted when trying to understand an editorial intervention in their own part, 'it says 'see comments'), meaning that the second violin, viola and cello parts cannot operate in isolation. There is also a further intertextual reference that links the objects with another material: the Henle Verlag Urtext score of Op. 127. The preface and notes that appear in the first violin part are exactly the same as those that appear in the preface to this score. The parts are thus a distributed singular object: the score is distributed into four separate parts by digital technology. We were reminded of this when the musical flow was disrupted at a page turn. Every member of the quartet had a page turn at the same place: as we all scrambled loudly to turn it in time, the flow of the performance was lost to the extent that a coherent sense of tempo disintegrated. The fact that our page turns are all in exactly the same place emphasizes the score-based, top-down approach of Henle edition, in contrast with the individualistic approach of each of the parts that we had previously encountered.

It was therefore significant that, during this session, the focus shifted onto us as a string quartet; our group identity, and our personal and musical inter-relationships within this united entity. It was during this session that we spent time working on our tuning together as a group for the first time. I commented that 'actually, it's the first [time] I've really felt

like we needed to tune some chords’. We played the beginning of the first movement much more slowly in order to allow us to focus on our collective sound and to explore our function as individual voices in relation to the whole quartet. For example, the viola player requested that we play bars 49–55 very slowly ‘because I’ve got like this completely sustained G over loads of chromatic notes . . . [and I] want to hear what it sounds like’. As argued in Chapter 1, the notion of the string quartet as a singular entity, a united mind and body is one of the most common tropes about the genre (see also Chapter 6). November describes this as the discourse of the ‘true’, a concept founded on the dual notions of intelligent conversation between four different people, and the perfection of four-part writing as an interplay of pure musical tones.²⁸ The first violinist’s observation that ‘it’s very equalized, [. . .] everyone comes up for a turn’ plays into this discourse, but is also supported by the evidence of the graph in Chapter 2 that demonstrated the remarkably equal distribution of notes between all parts of the quartet. The cellist proposed that ‘much of it is about making one sound in this quartet’, to which the first violinist agreed ‘it’s why you have to know exactly who has what.’ In contrast with the aesthetic of social interplay – including elements of disunity and disruption – that we had enjoyed when using the first editions, these parts simulated the aesthetic ideals of score-based performance.

Case Study 4: Failure of Skill?

The final set of parts that the quartet encountered was my facsimile of Beethoven’s handwritten parts for Op. 135. As the only surviving set of parts in Beethoven’s handwriting, they promised to offer a unique perspective: insight into Beethoven’s conception of individual instrumental voices. However, not a single note was played: the musicians simply refused to engage with the materials at all. In one sense, this might be viewed as a failure of the material: it was unable to assert its social efficacy by establishing itself within a set of coherent relations. On the other hand, these were not parts that were ever destined for performance. By disrupting the rehearsal space and resisting performance they covertly revealed a different set of ambitions. In this respect, they did not fail at all but asserted their agency in a different way. As indexes of Beethoven’s authorial presence, it could be argued that the natural state of these sources

²⁸ November, *Beethoven’s Theatrical Quartets*, p. 9.

is silence: their social capacity is thus restricted to establishing ties with only a single individual in the private act of reading, whether copyist, editor or scholar.

Exploding the Ethnographic Frame

This was a turning point in the ethnography. I had expected the musicians to be eager to play from Beethoven's own set of handwritten parts, lured in by the promise of new insights into the relationships between the composer's notation and performance. Tom Beghin has described a general fascination amongst scholars and musicians alike to 'latch onto anything that has the potential of drawing us into the "core" of [Beethoven's mind]. We study his sketches, manuscripts, notebooks, and are fascinated by his every squiggle, in pencil or ink, whether they represent note or word.'²⁹ Instead, the quartet rebelled and simply refused to play at all. In this way the objects threatened to disrupt the entire ethnographic framework. The quartet broke free from the restraints of the focus on the late quartets and requested instead to play 'something earlier'. They decided to capitalise on the make-up of another material, the complete set of historical editions, and sight-read through several different movements of quartets simply for fun and without any specific goal in mind. In this sense the musicians themselves asserted their own agency over the materials: there was something of the coloniser in the first violinist's language when they stated with relish 'it's just so good when you have the complete [set]'. Perhaps this was an attempt to rebalance some of the complex power dynamics that had unfolded during the previous days. The musicians had been made to feel uncomfortable throughout the course of an ethnography that was designed around a framework of disruption. The objects had even intervened in the players' relationships with their own instruments, causing them to question their own musical identity, literacy and aesthetic standards. It was perhaps not surprising that the viola player specifically requested to play something familiar 'that actually makes us sound like we can actually play our instruments!'

Late, Last and Least?

On an ecological level there were many factors that contributed to the disruption of the ethnography: the cumulative effects of the physical and emotional discomforts of playing from unfamiliar materials; the fact that this was our first afternoon session after lunch (as

²⁹ Tom Beghin (ed.), *Myth and Reality in Beethoven's Hammerklavier Sonata, Opus 106* (Ithaca, 2015), p. xi.

the first violinist commented ‘can we, just after lunch, start from something that I can [actually play] . . . the blood is going to my head!); that it was the final session of the day after a long and tiring morning (‘sorry, I just feel as though I’m not awake enough!’); and indeed that it was the final material of the ethnography. This is not to mention the sheer mental exhaustion of sight-reading the late quartets, which so often thwart conventional expectations and musical instinct. As shown in Chapter 2, the frequent changes of time and key signature adds to the visual complexity of the parts, and compounds the mental challenges of sight-reading. It was also perhaps significant that Op. 135 is also the last, and perhaps the least prestigious of the late quartets.

Knittel has described the problematic positioning of Op. 135 in relation to the ‘great Beethoven myth.’ Knittel comments that:

Despite its honoured position as the last ‘late’ quartet, Op. 135 has an uneasy relationship to the myth, to say the least; its cheer seems to mock its origins during the final months of the composer’s life; its normal, four-movement form appears to break the experimental trajectory of the other four ‘late’ quartets. Therefore, no matter how the critic approaches the quartet, Op. 135 has been prejudged: it is not being analysed, critiqued, or pondered so much as it is being forced to fit the preconceived plot of Beethoven’s life.³⁰

Op. 135 is the ‘late, last and least’ of the late quartets, the least well known and perhaps the least memorable. Is it possible that some of the critical associations with this quartet also affected the performers’ decision not to play it? Would the quartet would have turned down a similar opportunity to read the autograph handwriting of a much more iconic movement of the late quartet repertoire, such as the *Grosse Fuge*? Was it a coincidence that the last material chosen to play was that representing Beethoven’s last quartet?

Sublime to the Ridiculous

The graphic properties of the parts themselves almost certainly contributed to the quartet’s rejection of them (see Figure 5-17). The notation is messy, undisciplined, and antisocial in appearance.

³⁰ Knittel, ‘“Late”, Last and Least: On Being Beethoven’s Quartet in F major, op. 135’, p. 16.

*Figure 5-17: First violin part of Beethoven's autograph parts for Op. 135, p. 1, bb. 1–37.
(Bonn, Beethoven-Haus, BMh. 6/46)*

However, this messiness prompted not the sort of fascination that Beghin described. It prompted an entirely different response altogether: laughter. For Daniel Leech-Wilkinson, laughter is a sign of discomfort in the face of 'otherness': he suggests that 'we do not laugh at early recordings because they make us feel safe, but because they make us feel alienated, and alienated from something that we thought we understood, namely music we love and the manner in which people are musical with it.'³¹ On the one hand, Leech-Wilkinson's Lacanian notion of laughter in the face of the unknown or 'otherness' was fitting: it was perhaps our confrontation with the 'otherness' of the notation in different material sources and our consequent sense of alienation from Beethoven's most-loved music that triggered a hysterical outbreak of laughter from the group in the face of an insignificant typographical mistake. However, Lacan's other notions of laughter as a form of outburst or discharge of tension, as well as a means of communication, were also highly relevant: although the force of our laughter was disruptive and prevented us from continuing with our rehearsal, this laughter also allowed us to reconstitute ourselves as a social group after the disruptions and dislocations of the broken ethnographic frame.

³¹ Daniel Leech-Wilkinson, 'Listening and Responding to the Evidence of Early Twentieth-Century Performance', *Journal of the Royal Musical Association*, 135 (2010), p. 48.

An overtone of mockery, humour and irony had infiltrated the atmosphere in the afternoon following lunch. Performers even mocked Beethoven’s handwriting, an irreverence that had not been shown to any of the other notational sources – and an irreverence that might seem surprising to Beethoven scholars and other performers alike. The cellist proposed to ‘treat it like a graphic score!’, while the viola player made a joke about the untidy handwriting, asking, ‘slur or happy face?!’ The first violinist asked in disbelief ‘what, wait this is the SCORE?!’, before the cellist commented in sympathy with the editor, ‘I wouldn’t want to make an edition out of THAT!’ As the viola player summed up: ‘terrifying!’. Once the frame of the ethnography had been exploded, the performers begin to rebel against other sorts of hierarchies by denouncing the composer’s competency. As the cellist commented slyly, ‘once you see this you understand why they might [have] play[ed] some wrong notes!’ The players then mocked what appeared to them on the page. Treating the notation like a graphic score and using the iconic properties of the inscriptions as impetus, the viola player played something incomprehensible and announced proudly: ‘that was one bar!’.

However, it was a textual misprint in the first editions that provoked the most laughter. After refusing to play from the handwritten sources for Op. 135, the quartet asked to sight read the final movement from the first edition parts. However, we were side-tracked when the viola player noticed a misprint in their part: the incongruous phrase ‘ma non trappo trotto’ was printed in place of ‘ma non troppo tratto’. This player’s broad Geordie accent made this misprint sound particularly comical, and prompted the generation of increasingly surreal and bizarre imaginings about what the notation might mean: ‘it means you have to trot like a tramp’; ‘like a homeless pig!’; ‘it’s like you’ve got to have hooves or something – but in *Grave* – like a large, generous horse – a fat horse!’ This succession of bizarre animal images, which were completely inappropriate for the serious subject tone of the movement, reminded me of an experience that Michel Foucault attempted to describe at the beginning of ‘The Order of Knowledge.’ As Foucault writes, ‘this book arose out of a passage in Borges, out of the laughter that shattered, as I read the passage, all the familiar landmarks of my thought.’³² The passage in question quotes a Chinese encyclopedia in which animals are divided into ‘(a) belonging to the emperor, (b) embalmed, (c) tame, (d) sucking pigs, (e) sirens, (f) fabulous, (g) stray dogs’, and so on.

³² Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences*, (London, repr. 2002), p. xvi.

Foucault's encounter with this bizarre, disturbing list demonstrated to him the 'exotic charm of another system of thought [. . .] the limitation of our own, the stark impossibility of thinking.'³³ More crucially, though, it provoked laughter. However, just as the quartet's laughter may have arisen out of unease in the face of disrupted frames, of both myths of Beethoven and the ethnography itself, the 'otherness' of a system of notation for music that we thought we knew and loved, Foucault's laughter also had a 'certain uneasiness.'³⁴

That laughter should erupt during this particular encounter was strangely fitting given that Op. 135 features the peculiar 'Muss es sein?' inscription at the beginning of the final movement. This incongruous moment in the score is one that the musicians struggle to 'think', just as Foucault is unable to account for the wild and bizarre categorisations of Chinese animals in Borges' text. As the cellist asked, 'are we meant to play that or is it just [. . .] Riiight, so we just know it's there?!' As outlined in Chapter 3, critics have also struggled to account for this strange incipit, framing it as the composer's last cry to fate from beyond the grave, bursting through his notation in direct, written language. The fact that the phrase originates in a joke between the Schuppanzigh Quartet and Beethoven about a cheap aristocratic patron does not sit comfortably within this 'heroic' plot. Yet, in this way, ghostly traces of laughter are written into the very notation: shared laughter between Beethoven and the Schuppanzigh Quartet at an 'in joke', the quartet's laughter upon encountering this private joke in an incongruous, even outrageously public forum. It is therefore perhaps fitting that the notation elicited from the quartet the type of laughter that arises in the face of the uncanny or the strange: the notion of voices speaking from beyond the grave. Beethoven's last words.

Conclusions

Although the structure of the ethnography attempted to highlight the unique affordances of each set of materials, in reality the behaviour and identities of the materials were emergent throughout the course of the entire three days. No behaviour or action can be viewed in discrete isolation, just as social relations are only ever constantly in process. The quartet's accumulated experiences with the different materials throughout the course of the ethnography inevitably informed their later interactions and relations. For example,

³³ Foucault, *The Order of Things*, p. 14.

³⁴ Foucault, *The Order of Things*, p. xvii.

when we played from the Henle edition of Op. 127, we did not immediately use the bar numbers that were provided and continued to draw on strategies that had been developed using previous sources. Thus the reactions and behaviours that emerged must be taken in the context of the ethnographic framework, which itself elicited its own microcosm of social relations: the quartet were aware that their activity was being framed, and this inevitably impinged upon our interactions, including the decision not to participate in the final Case Study. Needless to say, the outcomes would have been very different had a different string quartet with different musical backgrounds and different aesthetic preferences engaged with the various sources. Nonetheless, one striking observation emerged from the context of this particular experience. Contrary to my expectations, the quartet demonstrated a marked preference for playing from – or rather, with – the printed sources.

In Case Study 1, the musicians initially experienced significant difficulty engaging with Holz and Linke’s handwritten parts. Human error and lack of graphic standardisation caused us to play incorrect notes, or simply prevented us from reading the notation at all. Within an aesthetic paradigm that privileges musical perfection the stakes of ‘making mistakes’ are high: in this way the parts threatened the musical and performative identities of individual players (the first violinist was particularly sensitive to this). It was only once an authoritative score had been introduced into the rehearsal space that the relationships between the players and their parts, and thus the quartet as a whole, began to function – highlighting particularly clearly the entanglement of objects within culturally and socially-regulated forms of power. We were not used to the onus that the individual parts placed upon us to make sense of their inaccuracies and ambiguities, and preferred instead to defer to a single textual authority. The stable basis of the score and its enactment of the ‘work’ acted as a comforting foil for the instabilities of the handwritten sources, banishing any of the errors that are so unacceptable in the current world of classical performance.

It was perhaps the looming weight of such aesthetic expectation that exacerbated the failures of Case Study 4. The strategies of performative disruption that had framed the ethnography self-imploded and the musicians refused to play from Beethoven’s handwritten parts at all, other than to poke fun at its illegibility. The parts’ ‘otherness’, the messy irreverence of the handwritten scribbles, made some of the quartet feel uncomfortable and perhaps even ‘not up to the task’ of playing Beethoven’s final notes. While our laughter at an incongruous typographical error in the first editions parts acted as a way of bringing the group back together after this disturbing failure of social relations

– Bayley and Cottell also note the significance of laughter in rehearsals³⁵ – it also perhaps arose from this sense of alienation. Furthermore, the disjunction between the visual and the tactile dimensions of the parts fed into wider discourses concerning the notion of ‘the fake’: the autograph sources that I had produced were not autographs at all. This in itself reflected the broader political moment of the ethnography which took place in the wake of Donald Trump's election. The cultural weariness with fakes was made explicit in another moment of surreal, but topical, humour. When the viola player questioned the meaning of the word ‘tratto’, the first violinist responded promptly with ‘I think we should invent one: MOLTO TRUMPO!!’

I had expected that the musicians in the string quartet would relish the opportunity to explore not only Beethoven's autograph parts, but also the personal parts of the musicians who had first performed the quartets. Many of my HIP colleagues have anecdotally observed that using autograph and manuscript sources for their performances leads to greater freedom, expressivity and creativity. However, the quartet had a striking preference for the printed editions. In her study of fifteenth-century partbooks, Van Orden contrasts the ‘anachronistic style of reading promoted by modern scores and the ideologies of textual control and compositional authority that stand behind them’, with the ‘collaborative, part-by-part mentality prompted by the material form of separate partbooks.’³⁶ Yet it became apparent that the part-by-part mentality of the handwritten parts did not feel more collaborative for the musicians. The sheer individuality and human presence of the parts in Case Studies 1 and 4 in fact seemed to obstruct musical and social engagements between the quartet and the materials.

The quartet found it significantly easier to engage with the volume of printed first edition parts – and not simply because they were free from textual errors. Whereas the human inaccuracies evident in the parts of Op. 132 were a source of distress to the performers, they became a source of liberation and a form of creativity born out of resistance in the first edition parts. The viola player commented on a sense of enjoyment at finding a number of misprints: ‘I love seeing things like that. It just shows that people are human [. . .] You could spend days just going through these parts and finding errors – as beautiful

³⁵ Bayley, ‘Ethnographic Research into Contemporary String Quartet Rehearsal’, p. 398, and Cottrell, *Professional Music-Making in London*, pp. 133–134.

³⁶ Kate Van Orden, *Materialities: Books, Readers, and the Chanson in Sixteenth-Century Europe* (Oxford, 2015), p. 24.

as they are!’ Although the complex structure of the volumes led to confusion during the rehearsal process, the graphic stability of the printed page meant that the musicians felt able to engage with their own imaginative and musical strategies with the notation. This playful attitude was strikingly absent when the quartet interacted with the third object, the modern Henle edition of Op. 127. These parts seemed to stage the very essence of what it meant to be a ‘serious’ or ‘true’ string quartet according to idealised tropes of the genre. Nonetheless, the clean, blank spaces of the page, noted with relish by the musicians at the start of the session, invited us to make our own musical decisions and to share in new social and musical collaborations.

Ingold laments the fact that ‘there is more movement in a single trace of handwriting than in a whole page of printed text . . . in the typed or printed text, every letter or punctuation mark is wrapped up in itself, totally detached from its neighbour.’³⁷ For Ingold, the stasis of the printed text is inherently at odds with the reciprocal flows of life, of creativity and of practice. He argues that: ‘as handwriting gave way to print, as the page lost its voice and as the task of the reader turned from wayfaring to navigation – to joining up the components of the plot – so the flow of the ductus was stilled, leaving in its place a myriad of tiny fragments. The role of punctuation then, was no longer to assist readers in modulating the flow, but rather to help them in reassembling the elements of the text.’³⁸ However, the practical experiences documented by this ethnography suggested quite the opposite: it was the handwritten sources that seemed to direct the performers towards ‘reassembling’ the elements of the text, prompting us to ‘navigate’ ledger lines, misplaced notes and incorrect pitches. Furthermore, the personal quality of Beethoven’s gestural handwriting – its sheer graphic kinaesthesia – inhibited performance altogether. Perhaps the crucial difference is that these parts placed the emphasis on *one* reader; a string quartet needs four. In the context of this shared reading space, Ingold’s distinction between print and handwriting, wayfaring and navigation might be turned on its head: whereas the handwritten parts were material traces of creative paths *already trodden* by Beethoven, Holz, Linke and the rest of the Schuppanzigh Quartet, the printed page provided a material starting point from (and with) which we could begin our own musical journeys. My own personal musical journey with Beethoven’s notation, the joys and difficulties of playing the late quartets, is the subject of the final Chapter of this dissertation.

³⁷ Tim Ingold, *Lines: A Brief History* (Abingdon, 2016), p. 96.

³⁸ Ingold, *Lines*, p. 99.

6. Performing Beethoven's Late String Quartets: from Difficulty to Sociability

Introduction

In response to the notorious failure of the première of Op. 127, Schuppanzigh claimed that 'I would be lying if I said that the passage work was too difficult for me; it is the ensemble which is difficult.'¹ Schuppanzigh had precedent for complaining about the difficulties of Beethoven's string quartet writing. Beethoven is famously reported to have rebuffed one such complaint about the high passagework in the Razumovksy Quartets with the impatient rejoinder 'What care I for your Wretched Fiddle when the spirit moves me?!'² Whether or not this anecdote, first relayed by Wilhelm von Lenz, is simply another facet of the mythologizing enterprise that took place in the aftermath of the composer's death, the first listeners and performers of Op. 59 seemed to have had no qualms in showing similarly strong feelings on the matter. The cellist Bernhard Romberg 'trampled underfoot as a contemptible mystification the bass part which he was to play',³ and Czerny reported that 'when Schuppanzigh first played the Razumovsky Quartet in F, they laughed and were convinced that Beethoven was playing a joke'.⁴ However, although the late quartets provoked similar experiences of mystification at their unprecedented difficulties, they did not provoke laughter. As Schuppanzigh suggested, the difficulties of performing the late quartets concern not just the technical demands on individual

¹ 'Ich müßte lügen, daß es für mich in *Pasagen* zu schwer sey, das *ensemble* ist schwer', *BKh* 7, p. 201. As cited and translated in Adelson, 'Beethoven's String Quartet in E Flat Op. 127', p. 229.

² 'Glaubt er, daß ich an eine elende Geige denke, wenn der Geist zu mir spricht und ich etwas aufschreibe?' See Klaus Martin Kopitz and Rainer Cadenbach (eds.), *Beethoven aus der Sicht seiner Zeitgenossen in Tagebüchern, Briefen, Gedichten und Erinnerungen 2* (Munich, 2009), p. 867

³ Thayer-Forbes, p. 409.

⁴ According to Lenz, the quartets were also met with laughter when they were first played through in the house of the Privy Councillor Lwoff in St Petersburg, and in the Appleby household in Manchester. See Thayer-Forbes, pp. 409–410. As suggested in Chapter 5, laughter in the face of cultural objects often arises in the face of the unthinkable and the unimaginable, when systems of experience or belief are disrupted; in this instance, laughter reveals the boundaries of cultural and aesthetic expectation, which the Razumovsky Quartets had breached for their first players and listeners.

performers; their difficulty is also profoundly related to the social and musical experience of playing together as a string quartet. Beethoven’s new type of part writing was not just a formal, writerly procedure; it modelled a new kind of sociability – one that took on aesthetic and even ethical qualities – in performance.

A New Type of Sociability

As Mary Hunter has demonstrated, Beethoven’s late string quartets were pivotal in distilling a shift in journalistic discourse surrounding models of quartet sociability at the turn of the nineteenth century.⁵ Goethe’s compelling notion of string quartet interaction as a simulation of polite, intelligent conversation between four friends was replaced by a ‘quasi-spiritual’ mode of serious engagement, visually crystallised in the vertical arrangement of newly-available quartet scores. As Hunter describes, ‘the seriousness of the abstract idea of four-partness [was] transferred to the four people playing this music, and directly affect[ed] the discourse about how they should relate to each other.’⁶ Adolph Bernhard Marx summed up this perspective in 1828 in a review of Beethoven’s late quartets:

No more do we have four jolly brothers-in-art who make music for their own, and our, pleasure; we have four deeply stirred creative spirits, who soar in glorious freedom and wonderful sympathy in a quadruple brotherly embrace . . . it does not suffice for each player to become technical master of his part, and to be able to play it with the required sound, strength, delicacy and lightness; a more profound sensibility is necessary to grasp it with deepest feeling in the innerness of its soul . . . true artistic knowledge is necessary, and [even] for the best trained and most gifted it takes long practice until one voice follows another freely and flexibly, seeming to give up none of its own content, [even] as it makes every effort not to disturb the free progress of the others.⁷

For Marx, it was not sufficient for the quartet to make lively and friendly dialogue as ‘jolly brothers-in-art’; instead, Beethoven’s late string quartets demand a kind of ethical sociability in which players must sacrifice their individuality to the good of the whole.

⁵ See Mary Hunter, ‘“The Most Interesting Genre of Music”: Performance, Sociability, and Meaning in the Classical String Quartet, 1800–1830’, *Nineteenth-Century Music Review*, 9 (2012), pp. 53–74.

⁶ Hunter, ‘“The Most Interesting Genre of Music”’, p. 59.

⁷ As cited in Hunter, ‘“The Most Interesting Genre of Music”’, p. 64.

Yet the players must also contribute to the music in equal measure, in a vision of democratic and spiritual union. This union was not just metaphorical but related to a performative ideal in which all members of the quartet were expected to embody and demonstrate this new kind of sociability actively in performance. The Schuppanzigh Quartet seemed to acknowledge these new demands in their humorous pledge to Beethoven, each agreeing to 'do his best, to distinguish himself, and to vie each with the other in excellence' in the first performance of Op. 127.⁸ As Marx suggests, 'true artistic knowledge' is necessary from all players.

However, despite the compelling confidence of such rhetoric, Hunter cautions that 'although the ethos of equal collaboration, complete with quasi-mystical paradoxes, was widely subscribed-to and powerful, the reality of quartet performance was often somewhat different.'⁹ Adelson's account of the failures of the Schuppanzigh Quartet's first performance of Op. 127 offers practical insight into the performative stakes of the new model of sociability.¹⁰ Firstly, it enabled Schuppanzigh, in the spirit of democracy, to lift the burden of responsibility from his own shoulders: 'I alone should not be blamed, but rather all 4 of us.'¹¹ Furthermore, issues of ensemble and its distribution in terms of the group social hierarchy were also present in performances by the two quartets who subsequently performed the work. Holz reported to Beethoven that '[Mayseder] leads the other three, while Böhm let them lead him'.¹² To alleviate these struggles, a fifth person was even employed as a time beater during Piringer's rehearsals of the piece; a practical necessity that certainly failed to live up to Marx's notion of the 'quadruple brotherly embrace.'¹³

Even the idealistic Marx alluded to the fact that the new sorts of quartet engagement demanded by Beethoven's late quartets were not easily assimilated. He asserts that 'with better artistic education the younger generation will make light of the particulars of this

⁸ Thayer-Forbes, p. 940.

⁹ Hunter, ' "The Most Interesting Genre of Music" ', p. 59.

¹⁰ See Adelson, 'Beethoven's String Quartet in E flat Op. 127.'

¹¹ ' . . . jedoch hat es nicht nur allein an mir gefehlt, sondern an uns allen.' *BKh* 7, p. 196.

¹² 'Ich glaube, daß Mayseder es am besten spielen würde. Er *dirigirt* die andern drey, während Böhm sich dirigiren läßt.' *BKh* 7, p. 208. As cited and translated in Adelson, 'Beethoven's String Quartet in E Flat Op. 127', p. 229.

¹³ See *BKh* 10, p. 104.

kind of playing, just as our contemporaries no longer find the particularities of Haydn’s style difficult.’¹⁴ The tacit implication is that the current generation were *not* making light of the new ‘particulars of this kind of playing’. However, unlike Haydn’s style, and indeed the Razumovsky Quartets – whose technical and aesthetic challenges have receded with the passing of time – despite benefiting from the accumulated traditions of ‘artistic education’, rehearsal, performance, recording, analysis, and criticism of the works, Beethoven’s late string quartets remain amongst the most difficult in the genre. Was the notion of an idealised unity, or reciprocity between equal participants who shared the common goal, ever a sustainable model for performance beyond its metaphorical representation in the score? Or are the difficulties precisely those that arise from the score, from the sorts of social relations that are elicited (as well as inhibited) by the notation during performance?

Notation as Mediator of Difficulty

This discussion brings us full circle back to the first chapter, which identified key strands in the reception of Beethoven’s late music that led to narratives idealizing the difficulty and textual status of the late quartets. It now attempts to answer some of these questions from a very personal perspective: my own, as an individual performer, player and listener. Drawing on a mixture of semiotic and sociological approaches (including autoethnography), I consider ways in which the experience of playing these pieces *feels* so very different from earlier quartets. Through two detailed case studies arising from experiences during the ethnography, I explore the ways in which aspects of the notation in the late quartets mediate social and musical relationships within the quartet. These experiences included several confusing instances in which the opacity of the notation isolated the individual players, temporarily preventing us from engaging with each other and our usual approaches to performance. In these moments, the dynamic of the quartet threatened to break down altogether. However, such experiences also sat alongside moments of heightened engagement when we were able not only to succumb to the rich sonic experience of certain passages, but to engage with and shape them collaboratively on shared terms. For example, the first violinist commented that our intimate exchanges of melodic material in the Cavatina of Op. 130 was ‘mutual’, ‘like two friends.’ The notation was then no longer a site of resistance but a resource for collective expressive

¹⁴ Hunter, ‘“The Most Interesting Genre of Music”’, p. 64.

power. In this way, the experience of playing the late quartets was transformative: it forced us to confront the very parameters that allow a string quartet to function as a musical and social entity, firstly by dislocating the component parts and normative modes of engagement, before staging poignant and fragile reconciliations.

In considering the ways in which aspects of the notation in Beethoven's late quartets invite processes of self-identification and collective engagement, this chapter takes its theoretical cue from the work of Cumming.¹⁵ Using a mixture of analytical techniques and semiotic theory, Cumming theorised her own intense experience of engagement that arose while listening the aria 'Erbarne Dich' from Bach's *St Matthew Passion*. Although the personal experiences of performers and listeners are notoriously difficult to theorise in academic discourse, Cumming positioned her own feelings within a wider hermeneutic tradition and argued that 'recognising conventions in cultural expression . . . avoid[s] the conclusion that responding to art is a purely personal matter.'¹⁶ After Cumming, I will argue in this chapter that while my own experience of playing the quartets and the feelings that it evoked are highly personal, they are not 'purely private affairs' or 'merely subjective. Rather, 'they are informed by a shared tradition that gives them shape.'¹⁷

Adorno and Late Beethoven

Before moving on to the case studies, one further theoretical influence must be acknowledged: an exploration of forms of subjectivity afforded by the experience of playing Beethoven's late string quartets cannot but acknowledge the legacy of Frankfurt-school critical theorist, Theodor Adorno.¹⁸ As the founding-father of theories of

¹⁵ Naomi Cumming, 'The Subjectivities of "Erbarne Dich"', *Music Analysis*, 16 (1997), pp. 5–44.

¹⁶ Cumming, 'The Subjectivities of "Erbarne Dich"', p. 6.

¹⁷ Cumming, 'The Subjectivities of "Erbarne Dich"', p. 6.

¹⁸ Adorno's thinking has been explicitly influential in many analytical approaches to the late quartets. See Chua, *The Galitzin Quartets of Beethoven*, Spitzer, *Music as Philosophy*, and Jeffrey Swinkin, 'The Middle Style/Late Style Dialectic: Problematizing Adorno's Theory of Beethoven', *The Journal of Musicology*, 30 (2013), pp. 287–329. Rose Rosengard Subotnik provided a seminal and comprehensive overview of Adorno's writings on Beethoven: see Rose Rosengard Subotnik, 'Adorno's Diagnosis of Beethoven's Late Style: Early Symptom of a Fatal Condition', *Journal of the American Musicological Society*, 29 (1976), pp. 242–275. For a commentary on and translation of Adorno's writings see Theodor Adorno, *Essays on Music: Selected, with Introduction, Commentary and Notes by Richard Leppert*, trans. Susan Gillespie (California, 2002).

mediation, Adorno’s work is highly relevant to the relational perspective developed in this dissertation and his thinking influenced many of my early critical perspectives on Beethoven’s late quartets. Adorno contended that artworks profoundly embody social tendencies of their time, and that ‘proper analysis can decipher the social meaning of artistic structure so as to criticize art and society simultaneously.’¹⁹ For Adorno these social structures were mediated by a dialectical interplay between subject and object, variously represented in musical form (theme and structural design), the composer’s negotiation of his own creative agency with the material forms and conventions given by history, and the position of the individual within broader socio-economic frameworks (such as market forces and regimes of power). Beethoven’s late style played a pivotal role in Adorno’s socio-musical project, exemplifying the irretrievable passing of a (quasi-Utopian) moment in history in which subject and object were briefly able to operate reciprocally (exemplified by Beethoven’s ‘middle’ period works): the late works thus expresses a tragic, yet authentic, condition of alienation.

However, in his idealistic reverence for a particular (nineteenth-century) bourgeois vision of society, and a tendency to equate both the method and content of his criticism – whereby his own formal analyses are taken as a means of ‘knowing’ about socio-historical processes – Adorno’s writings on music have been criticised from a variety of angles. His structuralist tendency to view musical form as ‘isomorphic with or reflective of larger social processes’²⁰ leads Cook to suggest that Adorno in fact sets up a binary opposition between music and the social, promoting the notion that social relations are somehow encoded into the score as a compositional and ‘technical problem’ to be decoded by the analyst.²¹ Such a view cannot account for the ways in which musical scores and texts activate, and are dependent upon, the social processes that shape them in practice. Yet in this context Cook seems to use Adorno as a convenient straw man. Other commentators have more convincingly argued that Adorno’s intuitions about music are at some level drawn from experiences of listening to performances. Robert Witkins proposes that ‘Adorno’s analyses of musical works are pre-occupied with meaning in the context of a hearing of the works’, and DeNora observes that ‘there is much, at least at an intuitive

¹⁹ Subotnik, ‘Adorno’s Diagnosis of Beethoven’s Late Style’, p. 242.

²⁰ Born, ‘On Musical Mediation’, p. 12.

²¹ Cook, *Beyond the Score*, p. 252.

level, that “rings true.”²² Indeed, Leppert argued that ‘what is clear[] is the fact that Adorno depended ultimately on his ears. He was an acute structural listener, and it is precisely the acoustical phenomenon of music that compelled him.’²³ I would similarly argue that his formal observations are intimately linked to the pragmatic and performative contexts from which they arose.

Cumming argues that the perception of subjectivity in music can be linked to the ways in which the body can be represented in sound. This embodiment ‘witnesses to the physical activity of the performer in realising a score.’²⁴ In my own experience, the late quartets often seem to thwart bodily presence. In this way, the frequent rests and silences, confusing metrical transitions, or the distorted movements of a warped dance, such as that of the second movement of Op. 132, suggest a phenomenological basis for Adorno’s sense of subjective alienation in the late style. His observations of the fissures, silences and discontinuities on the thematic surface relate to a primary difficulty in performance. As my quartet experienced, the fragmented motivic surface and sudden transitions between different rhythmical profiles in the first movement of Op. 132 made it difficult to establish a coherent flow. Similarly, the frequent metrical transition between variations in the fourth movement Op. 131 felt uncomfortable and disjointed. Rochlitz noted a similar listening experience in his lengthy review of Op. 131 in 1828, describing how ‘the Master has fragmented, hidden and varied the basic melodic ideas, which are in any case characteristic of him in being sometimes odd and not easy to grasp’, leading to his exhortation that ‘the performance must have sequence, coherence and clarity, the performers must give each idea-fragment sufficient weight and the listener must be able to follow them.’²⁵ While caution must be exercised in the face of making trans-historical claims about bodily sensation, and my own concern to generate a ‘coherent flow’ in performance is by no means a universal aesthetic preference, as Cumming has emphasised, this does not mean that these experiences are ‘merely subjective’, and lacking in critical value.

Similarly, Adorno’s critical approach to music, understood as a theory of mediation and divorced from its totalising sociological and philosophical aspirations, can be

²² As cited in Tia DeNora, *After Adorno: Rethinking Music Sociology* (Cambridge, 2003), p. 34.

²³ Adorno, *Essays on Music*, p. 105.

²⁴ DeNora, *After Adorno*, p. 7.

²⁵ Cited in Hunter, ‘“The Most Interesting Genre of Music”’, p. 63.

rehabilitated within a more pragmatic context of string quartet performance. Rather than conceiving of musical and compositional material as illustrative or reflective of socio-historical tendencies, a perspective from performance demonstrates that music mediates, and is reciprocally shaped by, social ties and relations themselves. With regard to Beethoven, Adorno was primarily concerned with the structural interaction between the composer’s agency and musical form as given by history – in Cook’s formulation, with *music as text*; yet, in as far as art’s formal properties ‘provided a simulacrum of praxis more generally’,²⁶ Adorno was also deeply concerned with art’s capacity to inculcate new forms of consciousness in its readers and listeners – with *music as process*. His thought can thus be extended beyond the heroic agent of the composer as the creator of abstract forms to consider the ways in which the composed musical material engenders, mediates and affords different processes of consciousness, creativity and collaboration – that is, forms of social activity – amongst its most engaged readers: the performers themselves.

Case Study 1: Op. 127: Adorno’s ‘Empty’ Counterpoint, and Beethoven’s *New Type of Part Writing*

The first case study explores the dialectical relationships between parts and wholes, fluctuating poles that acted as an axis for Adorno’s socio-musical criticism. Parts and wholes can be conceived of in a number of ways in the context of string quartet performance: the individual player in relation to their own notated part; the relationship of the single part to the emerging harmonic or melodic whole; and the individual player in relation to the quartet as a whole. The first movement of Op. 127 forms the basis of this case study, arising out of a comment made by the viola player during the ethnography: ‘it’s impossible to *see* what your function is from your own part!’. Through auto-ethnographic excerpts outlining the sorts of thought processes that occurred while sight reading the movement, I describe the ways in which individual notated parts inform the decisions that players constantly make during the course of a performance. From the perspective of the listener the movement generates a quality of serene lyricism; indeed, Kerman describes this movement as Beethoven’s ‘crowning monument to lyricism.’²⁷ However, this sonic simplicity arises out of highly complex, detailed contrapuntal interactions; the lyricism is afforded by an emergent sense of group cohesion that is above

²⁶ DeNora, *After Adorno*, p. 12.

²⁷ Kerman, *The Beethoven Quartets*, p. 196.

and beyond the playing of any individual player in the quartet. In fact, individual players are not at liberty to 'sing out' their own part without risking distortion of the counterpoint; each individual note shifts its function in relation to the whole, from bass line to melody to inner voice, in often surprising and unexpected ways. I discovered that, perversely, to 'sing' individually on the basis of my own part was often to rupture the surface lyricism.

A New Type of Part Reading

From the eccentric metrical arrangement and articulation markings of the opening bars, to the singing Allegro that swiftly emerges, the opening movement of Op. 127 is a radical departure from the conventions of string quartet composition. From a performance perspective, it is perhaps the contrapuntal writing that is experienced as the most significant shift in terms of expectations of the genre, demanding that the quartet reconfigure the ways in which they engage with each other and the notation. As Dusinberre notes, 'Beethoven's increasingly complex writing raised fundamental questions for players about the relationships between the four voices – at times each individual part seemed so important that it could be hard to know how to balance the whole group.'²⁸ While the use of counterpoint in string quartets was not in itself unusual – Haydn made extensive use of contrapuntal techniques such as fugue in his own quartets – as has been explored throughout the course of the dissertation, Beethoven engages in a fundamentally different type of writing for the individual voices in the late quartets. The counterpoint is no longer bound by its formal associations with fugue and canon but becomes a textural and compositional principle in its own right. It is worth citing Holz's description of Beethoven's new type of part writing again in full:

When he had finished the Quartet in B \flat , I said that I thought it was indeed the best of the three (ops. 127, 130, 132). He replied: "Each in its own way! Art does not permit us to stand still . . . You will notice a new type of part writing" (by this he meant the distribution of tasks amongst the instruments), "and there is no less imagination than ever, thank God."²⁹

²⁸ Dusinberre, *Beethoven for a Later Age*, p. 135.

²⁹ 'Als er das B Quartett beendet hatte, sagte ich, daß ich es doch für das größte von der dreien (ops. 127, 130, 132) halte. Er antwortete: "*jedes in seiner Art!* Die Kunst will es von uns, daß wir . . . nicht stehen bleiben . . . Sie werden eine neue Art der Stimmenführung bemerken" (hiemit ist die Instrumentierung, die

As explored in Chapter 1, this shift is reflected materially in Beethoven’s compositional process as he increasingly began to sketch in four parts for the late quartets. The new grid of staves created a conceptual space that allowed Beethoven to treat the resources of each part of the quartet as a writerly whole. Such score-based sketching weaves webs of voice leading relationships between parts on the page that exceeds the self-contained temporal logic of individual staves and voices. The new sorts of interaction between parts has, as many have noted, had profound effects in performance. It leads to intimate experiences of sharing harmonic resolutions and dissonances between parts in the Cavatina of Op. 130, as well as many confusing moments. William Drabkin notes the phenomenon from the perspective of the cello part in the late quartets, describing how ‘the cello changes from an inner part to a bass line and then to a melody in the space of just a measure and a half’ in the first movement of Op. 130, and how the ‘rapid changes’ in the way instrumental parts function results in a blurring of their roles.³⁰ Each voice of the quartet interrelates on the basis of contrapuntal movement that may occur elsewhere in the part, re-orientating the horizontal impulse of harmonic voice leading, and re-distributing the functional roles of different parts, along a more vertical axis of relations.

Nonetheless, this vertical axis is also realised in the horizontal flow of time in performance. Just as Beethoven stated to Holz in the same reply that ‘Art demands from us that we shall not stand still’, this contrapuntal writing demands that individual players constantly reassess their relationship with notation and performance convention, their own instrument and the group as the counterpoint unfolds. Initially, the effects of this new type of part writing felt alienating and confusing to me. It seemed to confirm Adorno’s notion that in Beethoven’s late style ‘the subject [used] the techniques of music proper to create structures inimical to the expression of subjective freedom or individuality’³¹ The increased presence of the vertical organization of counterpoint was just one way in which subjectivity staged its own departure according to Adorno. Indeed, from a player’s perspective the sonic universe of the counterpoint often ‘feels’ empty to play; the frequent use of bare octaves and lack of harmonic ‘middle’ in some instances affects the bodily

Vertheilung der Rolle gemeint) und *an Fantasie fehlt’s, Gottlob, weniger als je zuvor.*” See Kopitz and Cadenbach (eds.), *Beethoven*, p. 469.

³⁰ William Drabkin, ‘The Cello Parts in Beethoven’s Late Quartets’, *Beethoven Forum*, 7 (1999), p. 61.

³¹ Subotnik, ‘Adorno’s Diagnosis of Beethoven’s Late Style’, p. 256.

decisions made particularly by inner voices in the quartet in terms of timbre and balance. As a second violinist, playing a theme in thirds or sixths with the first violinist is a highly social, and inter-subjective experience, enabling you to, quite literally, resonate in harmony together with your colleague. In contrast, playing in octaves is a much more vulnerable experience, liable to generate tuning difficulties and frustrations between players. Yet such a shift in perspective is not simply governed by the vertical relations of counterpoint: it conversely places *increased* emphasis on the horizontal axis of musical engagement.

Indeed, this seemingly restrictive experience affords the opportunity of intensely detailed listening and interaction as a group: the function of a single note cannot be taken for granted. Although from my own perspective, a cohesive group subjectivity was not immediately experienced, it nonetheless gradually emerged as a result of a continuous flow of intense micro-social and musical interactions. Our first run through was punctuated by each one of us 'getting out' at various points due to misunderstandings about the aural and visual information we were receiving from different parts and wholes; what the counterpoint seemed to do on our individual page in contrast with what it was actually doing in sound as a whole. In fact, the very parameters that facilitate playing together were brought to the fore precisely due to the material dislocations between sight and sound and the cultural and conventional contexts of reading: the function of each individual note was revealed only in relation to the peculiarity and context of the counterpoint, rather than the generic role of harmonic voice leading, perceived from the individual part. Beethoven's new type of part writing thus also demands a new kind of listening, a new kind of reading, and ultimately a new kind of group subjectivity: one that 'never stands still'. It transforms the parameters of string quartet playing from the inside out.

Reading Notational Signs

Players in a string quartet infer a wide variety of knowledge about their harmonic and structural role within the performance from the notation of their part. Despite not having access to a full score in performance, experience of the genre enables them to anticipate likely possibilities when sight reading a part. Knowledge about functional and harmonic roles within the quartet is a crucial source of information that allows players to blend and balance their sound. If, for example, a second violinist is playing melodic accompaniment material to the first violinist’s theme, thirds will be tempered to be harmonic, and lower octaves played louder in order to support a cohesive intonation. These roles constantly shift within a quartet, but they are, nonetheless, inhabited for clearly delineated periods of time – such as the lengths of phrases. Practical experience of the style and enculturation within the genre allows the notation to be read in terms of these musical signs: for example, a series of repeating quavers on a single pitch indicates to the second violinist that they are playing an accompanimental role. As Cumming convincingly argues, ‘it is by recognising conventions in cultural expression that it is possible to avoid the conclusions that responding to art is a purely personal matter. The individuality of an interpreting subject’s experience cannot be denied, but neither is it to be dislodged from the social context of a learned tradition.’³²

I will describe this sort of reading as an auto-ethnographic account from my own perspective as a second violinist, about to sight-read Haydn’s String Quartet in G major, Op. 76, No. 1 (see Figure 6-1). As Carolyn Ellis says, auto-ethnography ‘celebrates concrete experience and intimate detail’, and ‘repositions subjects as co-participants in dialogue’; a sort of legible dialogue that Haydn’s string quartet writing seems to invite.³³ This dialogue occurs not just between the individual performer and the notation, but also through the ways in which the notation elicits ways of listening to, and engaging with, other players in the string quartet.

³² Cumming, ‘The Subjectivities of “Erbarne Dich”’, p. 6.

³³ Carolyn Ellis, ‘Heartful Autoethnography’ in *Qualitative Health Research*, 9 (1999), p. 669. Elisabeth LeGuin also engages in a form of imaginative auto-ethnography for an exploration of sociability and dialogue in her chapter ‘A Visit to the Salon de Parnasse’ in Tom Beghin and Sander Goldberg (eds.), *Haydn and the Performance of Rhetoric* (Chicago, 2007), pp. 14–38.

Figure 6-1: Second violin part of the First Edition reprint by Clementi & Co. of Haydn's String Quartet, Op. 76, No. 1, bb. 1–40 (London, 1810).

The notation of the opening bars reveals a lot of information about the likely structure, texture and function of my part. The first three chords are no doubt in rhythmic unison with the whole quartet: a theatrical 'call to attention' to interrupt the conversations of the salon-goers for the ensuing performance. The first violinist is likely to lead the impulse to bring us all in, but we will all gesture together to generate the same rhythmical impetus. The cut C metre indicates a relatively swift tempo, and the 8 bars of rest with an upbeat before my own entry – which looks like a four-bar phrase modulating from G major to D major – suggests that the opening of this movement is probably either a fugue, or that my own melody is at least an imitative response to another player in the group. I'll be listening out for this notated melody during the bars of rest. According to the rules of counterpoint which dictate the order in which different voices should enter, and given that I seem to be the third entry, it is likely that it is the cellist who begins with the theme, followed by the viola. After the final statement of the theme, I then re-join the texture harmonically, probably in either thirds or sixths with the first violin to elaborate an inverted form of the theme; the now-rising figure invites a more lyrical, expansive sound. The melodic repetitions in the next four bars will be the subject of a playful engagement with volume and articulation between the quartet (we will probably play one phrase louder and one quieter with short articulation). The daggers over the three crotchets beats in the ensuing bars alerts me to a change in texture, indicating that I should listen and am likely to be in rhythmic unison with others in the quartet. I can also make an informed guess about my harmonic function in the chords of these bars and balance my sound with the rest of the quartet accordingly (experience has taught me that it is helpful to play more if I have the fifth, and less if I have the seventh or third of the chord). This sort of 'informed' sight-reading will allow me very quickly to adjust, accommodate and negotiate my sound and material to the rest of group as we begin to play.

As this reflection suggests, sight-reading Haydn’s string quartets is particularly satisfying due to its strong social cues, and the legibility of the rules of engagement: the ‘fun’ or social pleasure lies in Haydn’s consequent playing with these parameters. We as members of the quartet are ‘in on the joke’, and either literally *see* them coming (interrupted cadences are obvious examples), or, even better, are surprised by them ourselves. Beethoven’s early and even some of the middle period quartets draw upon similar dynamics of social engagement and expectation. However, the experience of reading the first movement of Op. 127 is drastically different from that of Haydn’s Op. 76, No. 1.

I will briefly describe in detail aspects of my moment-by-moment experience of sight-reading the first movement of Op. 127 from my auto-ethnographic notes. Although I was very familiar with the quartet from an analytical and listening perspective, this was the first time that I had played the second violin part as a member of a quartet. As it turned out, this prior knowledge provided me with very little advantage, and the experience was somewhat disconcerting.

I look forward to playing this movement for the first time after the difficulties of generating coherent flow in the first movement of Op. 132. My impression from listening to performances and recordings of Op. 127 is that I should expect to participate in a lyrical, singing movement: Kerman’s ‘crowning monument to lyricism’. After the theatrical introduction, I expect to be able to weave my own part naturally into the leisurely unfolding of the counterpoint. The marking ‘sempre piano e dolce’ indicates that I should play smoothly, hiding any bow changes, in order to generate a sense of line. The first three bars of the Allegro at first seem straightforward; I am oscillating between what I assume to be the third and fifth degrees of the chords (although I quickly doubt the harmonic role that I thought I was fulfilling in the third bar) and providing a gently lilting disturbance of the hierarchy of the 3/4 metre in which the final beat of the bar should be realised as a weak beat in favour of the down beat of the next. I see the B ♯ in the fourth bar of the Allegro, and prepare to provide the necessary chromatic inflection to lead us into the second half of the phrase: I play it with a slight emphasis in order to bring it out of the middle of the texture, only to discover the crass sound of doubled octaves over the barline as the first violinist joins me an octave higher. We swiftly move apart again, but both land on the same note in the second beat of bar 12, causing me to regret the slight articulation that I had given the note to emphasise the release of the syncopation. The whole unfolding of the line did not allow me to ‘sing’ with my bow as I had wanted, but rather caused a constant reassessment of previous decisions based on the appearance of the part and what it seemed to invite. The detail of the counterpoint also caused the whole group to slow down and lose the necessary sense of line.

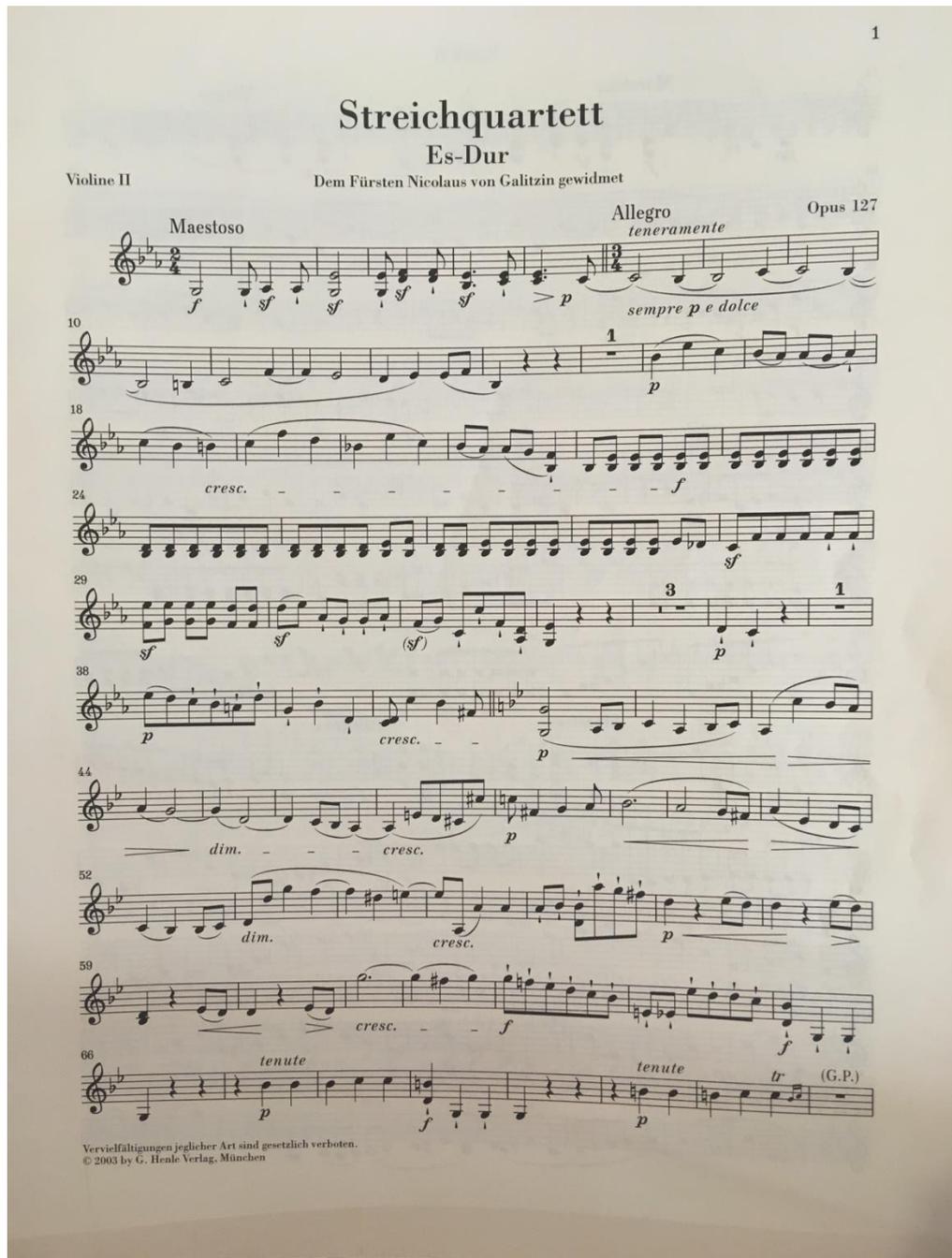


Figure 6-2: Image of the author's second violin part of the Henle Verlag Urtext edition of Op. 127 (Munich, 2003), p. 1, bb. 1–73. Photograph by Rachel Stroud.

The sense of easy lyricism projected by the movement in performance as a whole bears little relationship to the internal struggles of individuals within the group. As Spitzer perceptively notes, ‘for lyrical material, the music works extremely hard, being

imbricated within a complex network of threads crisscrossing the entire piece.’³⁴ Indeed, this sense of an ever-shifting range of possibilities is encapsulated in the feeling of never having made the correct gestural decisions:

Another embarrassing moment occurs when I appear to have a statement of the theme in bar 19. I get ready to come to the fore of the texture to state the opening melodic theme, only to realise that I am the lower part of an octave doubling of the melody. Similarly, in the phrase beginning at bar 41, I am at first playing harmonically with the viola part, before switching immediately in function and tessitura in bar 43 to join the first violinist on the second beat of the bar; the jump in register across three strings prevents me from resolving the end of my previous phrase with the viola elegantly in order to make the transition seamless. In bar 49, the material at first glance looks like another contrapuntal accompaniment, but instead I am in fact the main theme, playing in sixths with the cello, and so, caught off guard, I have to immediately modify my sound to be more strident and miss the gesture that would have begun with my bow at the beginning of the bar. In bar 57 the second violinist has two small cadential fragments that interject, which I begin to do discreetly assuming that I am a middle register voice; however, it turns out that I am surprisingly in octaves with the first violin and should, according to string quartet etiquette, be more present to support their sound floating on top. Once I’ve made this adjustment I almost immediately become the ‘upper’ voice in octaves with the viola two bars later and have to modify the way that I play the gesture again before having to make another awkward leap in register across three strings and from the tip to the heel of the bow. These embodied gestures always occur a split second too late, as I realise retrospectively how the material ought to have been shaped had I had prior knowledge of my function within the group.

There is evidence to suggest that the difficulties I encountered were not dissimilar to those experienced by early performers, despite the distance of nearly two hundred years. As shown in Chapter 1, the surviving annotations in the Schlesinger first edition parts that were used by the Baillot Quartet to prepare the Parisian première of Op. 127 offer an extraordinary insight into the sorts of strategies that the performers developed to mitigate the sorts of textural surprises that I experienced in the process of sight reading. For example, the viola player notated a series of ‘X’ markings in pencil to illustrate moments of thematic importance (such as bars 15, 143, 188, 245 and 267), or indicating that they

³⁴ Spitzer, *Music as Philosophy*, p. 138.

should come to the fore of the texture (such as in bar 36 – the very moment that I myself was surprised by).³⁵ Such strategies are necessary as the quicksilver and fleeting changes in function of the ever-unfolding contrapuntal interplay never allows the player to feel certain of what is coming next. As Morabito puts it, ‘fragmented and less characteristic roles, switching abruptly between players, mean[s] less time to step confidently into the shoes of a specific character or mode of textural interplay.’³⁶ Beethoven’s new type of part writing is thus played out in a transformation of the stakes of *reading* the music as a quartet. Once again, Spitzer elucidates this experience: ‘face to face with the music, in an envelope of the ever shifting present-tense moment, the listener is confronted with choices: What happens next? Where do I go now? Importantly, experiencing this music is not a matter of making the “right” decision – there *isn't* one to be made; Beethoven has heaped up too many signposts, each of which is valid.’³⁷

Eminent performer Dusinberre also recounts similar experiences of playing the second movement of Op. 127. He describes how:

In the first variation of the Adagio roles and allegiances changed from beat to beat. All four parts played the same rhythms and dynamics as each other before the first violin emerged with an impassioned solo reaching more than two octaves higher than the second-violin part. Seconds later the cello played the most important line, an ascent into its highest register brought into relief by the descending notes of the three parts above it. Now the first violin melody was briefly the most prominent until the viola took it over half way through the bar. The variation ended with all four parts playing two notes in the same rhythm, separated by rests that provided air and clarity after such extended lyricism. Throughout the variation Beethoven reinvented the relationship between four lines that intermingled in such an intricate manner as to feel less like a clearly articulated conversation between individuals than an interchange of interior voices.³⁸

According to this experience, the contrapuntal writing does not evacuate subjectivity from the musical surface, as Adorno imagined. It rather elicits a heightened form of subjective engagement on the part of the performer, weaving a new kind of subjectivity for the string

³⁵ See Morabito, ‘Rehearsing the Social’, pp. 377–379.

³⁶ Morabito, ‘Rehearsing the Social’, p. 376.

³⁷ Spitzer, *Music as Philosophy*, p. 139.

³⁸ Dusinberre, *Beethoven for a Later Age*, p. 164.

quartet – not four intelligent people having transactional dialogues for the sake of entertainment, but individuals whose engagement is highly empathetic, informed by the intimate experience of inhabiting and exchanging roles with each other. Drabkin notes how ‘considerations of motive, register and harmonic function compete with each other to produce irreconcilable conflicts’ in the late quartets, but I would argue that irreconcilability is a state of unresolved tension that exists only on the page: in the temporal flow of performance, it is in the constant negotiation of these conflicts between function and register in all parts that dialogue and, in some instances, reconciliation, occurs. Players take on new and shifting roles and functions that they have never before assumed in a quartet, making them better able to accommodate and understand the needs of others within the quartet from the social inside: Marx’s ‘quadruple brotherly embrace’. Fragments of such types of social interaction are woven into the counterpoint, giving it an unfolding, self-generating quality that is more fragile but yet more human than the sweeping heroic teleology of the middle period. Each individual note has its own life as a gesture with body and bow by a member of the quartet, but yet transforms its function in relation to the dynamic of the whole group, a subjective entity that, in microcosm, constantly adapts to its own environment – rather than being constrained by the objective ‘verticality’ that Adorno perceived. In this way, ‘the perspectival mobility of a self-reflecting subject, a mobility which implicates the listener’ that Adorno assumes in the middle period is equally characteristic of the sorts of subjective self-reflection that is elicited and even demanded by the notation in the first movement of Op. 127.³⁹

Case Study 2: Materialising Silence, and Reconciling Subject and Object through Notation in Op. 132, iii.

The potential of silence in music was, according to Adorno, one of the most radical ways in which it could insulate itself against the sorts of social ‘neutralisation’ that threatened to strip art of its critical power in the modern age. As Subotnik explains:

Since avoidance of direct communication (resistance to neutralisation) and protection of the musical subject from direct exposure are aspects of the same humanising artistic

³⁹ Spitzer, *Music as Philosophy*, p. 48. Swinkin observes that Beethoven’s late style is not dialectically opposed to the middle period style, but that the subject ‘might actually be more deeply embedded in the musical substance than it is in the middle style.’ Swinkin, ‘The Middle/Late Style Dialectic’, p. 316.

purpose, the diagnosis of silence as the last refuge from neutralisation essentially converges with Adorno's interpretation of the silences in Beethoven's late work as spaces left by the flight of the musical subject.⁴⁰

For Adorno, subjectivity can make its presence felt only by its very absence, manifesting itself in silences and 'cracks and fissures' on the surface of the music, forced out by externally-imposed objective structures: the subject thus 'leaves only fragments behind, communicating itself, as if in ciphers, only through the spaces it has violently vacated.'⁴¹ This case study proposes a more hopeful reading of the reconcilability of subject and object by exploring the live experience of such aporia – confusing silences on the musical surface – in the third movement of Op. 132. It proposes that it is often through the experience of such 'cracks' and 'fissures' that the quartet are forced to negotiate the stakes of their own subjective and creative engagements with the music; a process that does not 'neutralise' the music's critical edge as Adorno feared, but rather amplifies it.

During the ethnography the phenomenon of blank silence was experienced in Beethoven's curious and often confusing notation of metre changes between sections in the third movement of Op. 132. These notated metrical transitions twice wrench the players from a dance-like Andante section in 3/8 to a profound Molto Adagio in 4/4 (C). The silence on the first beat of the bar at the beginning of each subsequent return to the opening Adagio, and the hairpin (< >) that destabilises the phenomenological function of the second beat, renders the pulse temporarily ambiguous. However, these transitions are notated differently each time they occur, and this notational evolution seems to mirror the progressive transformation and social integration of the material as the movement unfolds. Paradoxically, the more complex the material and notation becomes at each iteration of the Adagio hymn, the more we as a quartet felt able to engage with it on our own creative terms.

A Holy Song of Thanksgiving

Perhaps the paradigmatic movement of all of the late quartets, the 'Heiliger Dankgesang eines Genesenen an die Gottheit' purports to offer a biographical account of Beethoven's convalescence and recovery following a near-fatal illness that had impeded work on Op.

⁴⁰ Subtonik, 'Adorno's Diagnosis of Beethoven's Late Style', p. 266.

⁴¹ Adorno, *Essays on Music*, p. 566.

132.⁴² The ‘song of thanksgiving’ is set out as a fragile chorale-like theme in the Lydian mode, interspersed by sections entitled ‘Neue Kraft fühlend’ (feeling new strength) in D major. The transparent homophony of the hymn is also transformed into a shimmering, pointillist texture, imaginatively distributed between the whole quartet in the ‘Neue Kraft’ sections. The contrast in notation itself offers an iconic distinction between the different types of ‘strength’ represented by the music: the heavenly voices of the hymn are represented in the empty minims of the first section, whereas the demi-semiquavers and varied rhythmical values of the second represent a more embodied quality of activity. The movement is framed by three statements of the opening hymn (hereafter referred to as A1, A2 and A3 respectively) with two statements of the ‘Neue Kraft’ music in between.

The formal design of A1 centres around five four-bar chorale phrases, played in homophony by the whole quartet. Each phrase of this hymn is preceded by two bars of imitative counterpoint, although if these bars were omitted then the whole chorale could still stand alone coherently.⁴³ Each iteration of A becomes progressively more elaborate rhythmically and texturally as the movement unfolds. In A2 the chorale and the counterpoint begin to merge: the first violin plays the upper part of chorale theme alone and an octave higher than in A1 at the same structural junctures, whereas the homophony of the lower voices is transformed to become a textural extension of the opening in a different species of counterpoint (involving not just crotchets but also quavers and dotted crotchets). This contrapuntal extension grows out of a rhythmical extension of the second beat of the opening gesture (see Figure 6-3).



Figure 6-3 Diagram illustrating the rhythmical extension of the opening theme in A2 of the third movement of Op. 132, bb. 1–3 and bb. 84–86.

⁴² See Thayer-Forbes, pp. 944–947.

⁴³ The chorale tune is linked to a humorous canon that Beethoven wrote to his doctor during his illness. See Thayer-Forbes, p. 946.

In A2 the rhythmic elaboration of the opening material provides textural and contrapuntal variety, but the formal and harmonic structure of the section is an exact replication of that of A1. The cello line traces the pitches of the bass line in A1, but with octave and rhythmic displacement. In A3 this formal stasis is superseded by an emergent dynamism, motivated by further rhythmic elaboration and extension of the opening gesture into the fabric of the structure: in this instance the object of imitation extends to include all eight notes of the first violinist's opening phrase (see Figure 6-4).

Figure 6-4: Diagram illustrating the contrapuntal elaboration of the first violin's opening theme in A3 of the third movement of Op. 132, bb. 1–3 and bb. 168–173.

Here, the chorale tune no longer acts as an external scaffolding but is interspersed between all voices in A3 in various guises as melody, accompaniment and bassline.

Social Cohesion?

Read in structuralist or purely compositional terms, it could be argued that that the quartet are being pulled further apart from each other in each iteration of A, away from the communal homophony of the opening section. Kerman observes that throughout the

movement ‘the various musical elements begin to get a little dissociated; contrast very gradually begins to intrude.’⁴⁴ In A3, the chorale tune, a traditionally corporeal event in which all voices of the congregation or choir join together in sound, is hidden and fragmented within the texture, and attempts to realise a full phrase are often cut short. For example, in bar 172 the second violinist’s notated *crescendo* on the harmonically open E suggests a sonic yearning for resolution to the F, but this is thwarted and cut short by silence at the beginning of bar 173, followed by a drop in dynamic level to *piano*. The sense of communal singing is already beginning to disintegrate in A2: here, the first violinist is left alone to play a ghostly echo of the chorale in a high register. Whereas the quartet can communally blend their sound in the same tessitura in A1, the violinist’s sound on the E string stands piercingly alone in A2. The other players are subtly pulled rhythmically apart from each other through syncopations, tied notes over the barline and in the middle of bars (musical features that often confused the first violinist about where to enter with the chorale melody), and in the cellist’s awkward octave leaps. Just as in the first movement of Op. 127, an overall sonic cohesion is projected from an inner fragmentation within the group.

Yet the rhythmical transformation of the material has significant repercussions for the performance of the final utterance of the hymn. In its increasing rhythmical differentiation, the counterpoint takes on earthly and embodied – rather than textual and abstract – qualities. Cumming describes how ‘embodiment in melody occurs when a figuration assumes the shape of a “gesture.”’⁴⁵ Linking this work to semiotician David Lidov, Cumming outlines how the perception of bodily gesture – in which ‘a musical gesture evokes the perception of movement . . . in a way that reflects a sympathetic, proprioceptive awareness of the moving body’ – is partly responsible for imbuing melodic fragments with semantic content ‘in such a way as to yield an affective connotation.’⁴⁶ As the counterpoint becomes more gestural, more linked to the human body, its capacity for inter-subjective recognition is enhanced. Yet this quality cannot be understood in structural terms from the perspective of the score alone; the recognition of ‘gesture’ can happen only in performance. This is because, crucially, for Cumming the notion of ‘gesture’ is akin to a Peircean ‘interpretant’; it provides a ‘link between a melodic figure

⁴⁴ Kerman, *The Beethoven Quartets*, p. 258.

⁴⁵ Cumming, ‘The Subjectivities of “Erbarne Dich”’, p. 8.

⁴⁶ Cumming, ‘The Subjectivities of “Erbarne Dich”’, p. 8.

and a particularly shaped expressive movement, which is recognised during listening by an impulse toward bodily response.’⁴⁷ Thus, ‘hearing a melodic figure as “gesture” cannot occur apart from involvement in that of real or imagined performance.’⁴⁸ The increased presence of gestural qualities, such as breathless upbeats, gives the members of the quartet possible semantic and affective content to draw on in their choice of timbre and bow movement to realise the figures. By opening up a space for recognition of these qualities, the material can be shared and imitated amongst the group as a distinct, sonically intelligible gestural entity. The quartet can therefore all share in the musical and social stakes of the fragment.

Initially, the imitation of all eight notes of the second violinist's phrase (bars 84–86) occurs as a *stretto* at a distance of two beats, meaning that the viola and cello's statements of the theme are not heard distinctly as primary voices, but are interwoven into a complex contrapuntal texture. The material only behaves fully thematically in A3 when the phrase is played in its entirety by the first violinist (bars 1671–173). Each member of the quartet responds in turn to a full statement of the theme, entering at a distance of two bars rather than two notes (with the second violin entering in bar 173, the viola in 175 and the cello in 177) and foregrounded texturally. Each voice is able to respond to how the previous person has played the theme, offering social and musical recognition either by imitating their bodily movements and expressive choices, or proposing alternatives. As Dusinberre explains this idea in another way with regard to the numerous ways of playing the opening phrase of Op. 131: ‘No wonder that this opening melody provokes debate: the choices I make affect my colleagues' options when they come to play the same phrase.’⁴⁹

Notated Aporia

During our first sight reading of the movement, each moment of transition had to be clarified verbally as the information we had in our own parts (the handwritten parts of Holz and Linke) was insufficient for each player to be certain of where to come in. This uncertainty was experienced in performance through the lack of a strong sense of pulse, which is partly mediated by Beethoven's choice of notation at the metrical transitions between the sections. This transition is notated differently in the autograph score both

⁴⁷ Cumming, ‘The Subjectivities of “Erbarne Dich”’, p. 9.

⁴⁸ Cumming, ‘The Subjectivities of “Erbarne Dich”’, p. 9.

⁴⁹ Dusinberre, *Beethoven for a Later Age*, p. 2.

times it occurs. Firstly, Beethoven places the key change in the middle of the bar rather than on the first beat of the bar (see Figure 6-5).

*Figure 6-5: Autograph score of the third movement of Op. 132, p. 69, bb. 84–86.
(Berlin, Staatsbibliothek zu Berlin, Preussischer Kulturbesitz, Mendelssohn-Stiftung 11)*

This is curious given that he is consequently forced to notate a natural sign in front of the C in the first and second violin part and F in the cello part. The decision to place the key signature in the middle of the bar perhaps indicates to the player that, conceptually, the phrase begins on the third beat. However, it also causes metrical ambiguity. Once again, a view from the parts is necessary to understand the social implications of Beethoven’s new type of part writing. Figure 6-6 illustrates how the notation mediates the perspective of the viola player, whose part confusingly notates the change of key signature in the middle of the bar, followed by a quaver rest. However, the second violinist in fact begins the theme on the *third* crotchet beat of the bar, causing a mismatch between aural and visual information for the viola player who is listening out for a quaver-crotchet rhythm. The potential ambiguity of the second violin’s tie across the bar line into bar 85, requiring the viola player to enter confidently on the down beat, further compounds this metrical uncertainty.

*Figure 6-6: Viola part of Karl Holz and Joseph Linke’s hand copied parts for Op. 132, p. 12, bb. 77–88.
(Bonn, Beethoven-Haus, NE275)*

During our rehearsal of this section, it took several attempts to explain to the other members of the quartet where my own theme began ('so you've got the third and fourth beats of that bar?', 'so we'll go from your 3/4 then . . . ', 'is that into the second bar?'). Even after this explanation, the first violinist still entered incorrectly with the chorale theme in bar 86 and was obviously confused, clarifying 'do you have a different rhythm to the beginning there?!'

In light of this, it is significant that Beethoven notates the second transition from B2 to A3 differently. This time, the key and time signature are written together at the beginning of the bar. The rhythm of the opening gesture is notated to evolve conceptually out of the second beat of the bar rather than as an isolated gesture, separated by the material intrusion of the key signature. This rhythmic transformation and notational adjustment means that the rests written in the viola and cello part accurately represent the rhythmical values that the second violinist is playing (see Figure 6-7).

*Figure 6-7: Autograph score of the third movement of Op. 132, p. 81, bb. 168–169.
(Berlin, Staatsbibliothek zu Berlin, Preussischer Kulturbesitz, Mendelssohn-Stiftung 11)*

In this respect it is also significant to observe the change in Beethoven's notation for the bars preceding the change of metre changes to A1 and A2. In the first instance, the quavers are each notated separately with individual stems (see Figure 6-8):

*Figure 6-8: Autograph score of the third movement of Op. 132, p. 69, bb. 81–83.
(Berlin, Staatsbibliothek zu Berlin, Preussischer Kulturbesitz, Mendelssohn-Stiftung 11)*

However, in the second instance, Beethoven’s beaming connects the quavers together across the bar as one gesture (see Figure 6-9):

*Figure 6-9: Autograph score of the third movement of Op. 132, p. 80, bb. 165–167.
(Berlin, Staatsbibliothek zu Berlin, Preussischer Kulturbesitz, Mendelssohn-Stiftung 11)*

Beethoven, who was notoriously meticulous in his notational decisions, seems to indicate that the second time this metrical transition occurs its constituent units must be viewed as belonging together gesturally, rather than as alienated isolated fragments as the first

notated example seems to indicate. As Cumming highlights, 'one condition of the formation of gesture . . . is that it is typically a single kinaesthetic impulse rather than an aggregate of smaller motions that can be easily divided', and thus 'the 'identification of a gesture depends on a judgement that a group of notes (in real or imaginary performance) exhibits a unitary identity.'⁵⁰ The principle of visual grouping and perception in music has been outlined in detail by Fred Lerdahl and Ray Jackendoff, who argue that 'from a psychological point of view, grouping of a musical surface is an auditory analog of the partitioning of the visual field into objects, parts of objects and parts of parts of objects.' Giving several visual examples of various shapes distributed at different distances on the printed page, and making an 'auditory analogue' with groupings of notes and rests in musical notation, they conclude that 'at a very elementary level the relative intervals of time between attack points of musical events make an important contribution to grouping perception.'⁵¹

In a very practical sense, the notation indicates to the individual performers how each gesture should be shaped. For example, in both instances the second violinist is responsible for establishing the return to the previous tempo on both occasions, and so the decision about where to place the metrical emphasis in the gesture is important in order to communicate the sense of pulse to the rest of the ensemble. Beethoven composes a textural 'slowing down' into the three bars preceding each return of A (see Figure 6-10). The use of staccato markings under the slurs perhaps suggests that the performer should realise these notes 'equally',⁵² as isolated phenomenological beats divorced from any inflection of the bar hierarchy, thereby gradually unravelling the strong dance-like impetus of the 3/8 metre before the hairpin on the second crotchet beat of the new section disintegrates it altogether. The key signature in the middle of the bar also seems to invite the second violinist to place a metrical emphasis on the first note of the gesture that follows it (see Figure 6-10). The whole effect is de-stabilising, with the notation reflecting the fragmentation of the metrical framework.

⁵⁰ Cumming, 'The Subjectivities of "Erbarne Dich" ', p. 9.

⁵¹ See Fred Lerdahl and Ray Jackendoff, *A Generative Theory of Tonal Music* (Massachusetts, 1983), p. 40.

⁵² As Spohr says, the notation indicates that 'notes must be perfectly equal in both power and duration'. See Spohr, *Grand Violin School*, p. 118.

Figure 6-10: Second violin part of Karl Holz and Joseph Linke’s hand copied parts for Op. 132, p. 12, bb. 74–93.
(Bonn, Beethoven-Haus, NE275)

In contrast, the notation in the bars preceding A3, in which the quavers are grouped together by connecting beaming, renders the metrical transition more seamless; the upbeat gesture of the counterpoint simply arises out of the second beat of the bar and the pulse is generated collectively by the emphasis given to the middle of the *mezza de voce* indicated by the hairpins. The transformation in the notation stages a social coming together of both material and quartet, and this is played out in the ensuing integration of counterpoint and chorale as the rest of the movement unfolds.

Sublime Engagement

The heavenly hymn-like material of the opening Adagio demands intensely social, technical and sometimes painful engagement from the quartet. The frail, transparent texture is simultaneously human and supra-human. On the one hand, a great deal of technical control and strength is required to produce the most delicate timbre with the bow and each note is the result of highly active work by the performers. Yet, from my own perspective, the combined difficulties of an incredibly slow pulse, and the vulnerability of producing a very soft timbre with the bow (when the possibility of trembling and shaking is all too real), often made my body feel like an intrusion. Beethoven’s extraordinary choice of title (‘a holy song of thanksgiving from a convalescent to a deity’) seems to communicate deeply ethical and spiritual stakes. It is as though Beethoven’s very body, as both a physical reality and a trope of reception history, is being constructed and restored as a sonic entity in performance. Perhaps because of the looming weight of reception behind us, as well as the simple sublimity of the music, our frequent failures of ‘togetherness’ felt intensely painful to me. It took just

a slight anticipation of a change of note for me to feel that I was damaging the music, and that it might be better served in silence, in the imagination: the image projected by the perfect alignment of the score. This particular experience showed how the cultural legacy of the 'Work Concept', which is still promoted in Conservatories all over the world, is often deeply entrenched in performers' minds and bodies. The possibility that Beethoven had written the music in this way precisely to *emphasise* the limits and materiality of the human body did not occur to me.

Instead, it seemed as though we were failing to live up to Marx's 'quadruple brotherly embrace.' Our difficulties in establishing a communal sense of rhythmic direction were also heightened by Beethoven's use of a Lydian mode, and its consequent lack of directional harmonic voice leading. During this opening section the quartet played with an unsatisfactory feeling of never fully settling into a comfortable, flowing pulse. While the desire to generate 'flow' is by no means a universal aesthetic preference in performance, our experience of discomfort was not, as Cumming would argue, 'merely subjective', or simply evidence of our ineptitude as a quartet. Indeed, analysts sensitively attuned to the performative dimensions of the music such as Kerman have observed that 'the mystic aura [of the movement] is furthered by the unnaturally slow tempo and the scoring, or rather, by what seems to be an unnaturally slow tempo on account of the scoring. The image is orchestral: forty strings could sustain the hymn at this speed with comfort but four can bear it only with a sense of strain, tenuousness, and a certain *gaucherie*.'⁵³ In Chua's words, 'time is unable to press forward, except with a modicum of motion as slow as the tempo itself: the music moves myopically from *minim* to *minim*.'⁵⁴

Dusinberre's account of an episode following an unsuccessful performance of the third movement of Op. 132 with the Takács Quartet in Caen also encapsulates such anxieties:

'I don't feel a steady pulse,' Geri said, 'It's hard to think about the character if we don't know exactly where to play the next note.' [I respond]: 'If I lead too much then it gets restless . . . ' 'Maybe it would work better if we all led the pacing?' Geri suggested. 'Only if we can agree on the tempos,' said Andràs. 'Otherwise we pull in different directions like last night. For me it's too restless . . . ' 'We can make many things work but last night

⁵³ Kerman, *The Beethoven Quartets*, p. 256.

⁵⁴ Chua, *The Galitzin Quartets*, p. 141.

I didn’t like the way we slowed down before each chorale phrase,’ said Karsi. ‘Then it’s hard to go on.’⁵⁵

As noted above, it takes only one player to take too much initiative for the serenity of the musical surface to be disrupted. However, Dusinberre’s chapter concludes by recounting a particularly sublime experience of playing the final section (A3) of this movement:

[The stillness in the hall] encouraged us to linger over some of our favourite moments, stretching out the chords of the ecstatic climax that preceded the ethereal ending, waiting longer than usual after an elemental pianissimo chord . . . We are taken far out of ourselves, liberated from the confines of individual personalities as we surrender to the music.⁵⁶

For the Takács Quartet, the labour of playing together, the difficulties of negotiating the tempo of the first two sections, were liberated in this final iteration of the hymn-like material. The music itself even seemed to take on its own agency – a kind of virtual agency above and beyond the bodies of those producing it, allowing the quartet to be taken ‘far out of [themselves]’.⁵⁷ This recognition of agency ‘liberated’ the individual performers from the embodied struggle to play together: in Cumming’s words, in instances such as this ‘the structure of the music is such that it seems to “embody” movements which go beyond the capabilities of any human body.’⁵⁸ Paradoxically, this ‘surrender’ simultaneously allowed the quartet to engage with the music on their own social terms as a collective entity. The quartet could ‘stretch’ chords and ‘linger’ over their favourite phrases rather than simply trying to move in time as a group.

⁵⁵ Dusinberre, *Beethoven for a Later Age*, p. 177.

⁵⁶ Dusinberre, *Beethoven for a Later Age*, p. 199.

⁵⁷ For a semiotic account of the notion of a musical persona, or ‘subject’ emerging ‘as an integration of various ‘subjectivities in the work’, see Cumming, *The Sonic Self*, pp. 197–213. Carolyn Abbate theorises the musical emergence of supra-human agency in the context of the Queen of the Night’s aria from Mozart’s *Die Zauberflöte*. See Carolyn Abbate, *Unsung Voices: Opera and Musical Narrative in the Nineteenth Century* (Princeton, 1996), p. 11.

⁵⁸ Cumming, *The Sonic Self*, p. 162.

As I have argued, it is partly the progressive rhythmic development in each statement of the Adagio section that affords such social possibilities in the string quartet group dynamic; the abstract, heavenly counterpoint begins to take on more human, gestural qualities, related to the technologies of production (the bows and strings of the instruments) as well as the embodied means of production (variation of bow speed and pressure on the string). The introduction of syncopations, anticipatory semiquavers, suspensions and quaver upbeats transform the disembodied, serene homophony into a theme replete with gestures that index the vocal and somatic qualities of breath, such as tension and release, drooping and reaching, anticipation and resolution. The rhythmical inequalities allow more scope for the individual subjective decisions of the performers. These decisions are both physical and often highly intimate, such as deciding how much of a harmonic 'squeeze' to generate between voices in the chains of suspensions in A2. As the lattice of rhythmical order is loosened in the counterpoint, so too is a space opened up for the subjective input of each member of the quartet. The notated melodic gestures demand inflection in performance, with a variety of bow speeds and tensions that themselves index bodily experience, differentiation and relationality (as Lidov describes, 'Gesture encompasses all brief, expressive molar units of motor activity, be they of limbs, the larynx, the torso'⁵⁹), in contrast with the unitary, frail and transparent timbre of A1. These gestural transformations enable the first violinist to state the opening counterpoint as a fully-fledged melodic theme for the first time in bar 171 (see Figure 6-11). Its behaviour as a theme opens up a space for the subjective input of the player, one that is invited by the notation marking 'Con intimissimo sentimento', which is also translated

*Figure 6-11: First violin part of Karl Holz and Joseph Linke's hand copied parts for Op. 132, p. 14, bb. 171–182.
(Bonn, Beethoven-Haus, NE275)*

⁵⁹ David Lidov, 'Mind and Body in Music', *Semiotica*, 66 (1987), p. 77.

into the German ‘Mit innigster Empfindung.’ The theme is then distributed socially and imitated individually by each member of the quartet.

In bars 171–179 each part of the quartet states what began as tightly-wrought contrapuntal imitation as a melodic theme, imitating the first violinist’s entry, each individually embodying the material but equally responding to each member of the group who has played it before. Throughout the movement, the bodily and rhythmical qualities of the ‘Neue Kraft’ sections thus begin to progressively infuse the counterpoint of the hymn sections, rendering the initially failing body a member of society once again.

Such rhythmical and gestural transformations afford one of the most highly affective and affecting moments of engagement in the entire quartet, when the chorale theme, counterpoint, instrumental technology, performing bodies and the social conditions of quartet performance all come into alignment. This moment occurs in bars 189–191, when the viola and second violin play a fragment of the theme together in rhythmic unison, while the outer voices of the quartet play the chorale tune at the extremes of their registers. In contrast to the difficulties of playing together in earlier iterations of A, from bar 189 I was able to generate a confident sense of pulse together with the viola player that informed the cellist and first violinist exactly where to place the notes of their chorale tune, gesturing together on each *sf*. In this shared understanding and embodiment of the affective qualities of these musical gestures, we were able simultaneously to submit our own subjective identities to the music – whether as virtual persona or a more nameless force of agency – as it emerged in sound, while also contributing something of our own personal mode of expression to the timbral result.

Players and commentators have often anecdotally referred to the ‘sublimity’ of this movement. While the term ‘sublime’ is used to refer anecdotally to a particular musical experience, the overwhelming, expansive and all-encompassing sonic experience generated by this passage can, in loftier terms, be likened to philosophical and historical conceptions of the ‘sublime’. In Chua’s words, ‘the dialectic of the sublime involves not only the contradiction of comprehending the incomprehensible but also an interaction with the Beautiful.’⁶⁰ However, this musical moment models not a Kantian understanding of the sublime, as a violent experience of subjective self-loss in the face of overwhelming sources of power, or, in Chua’s words, ‘the masculine power of the Sublime, crushing the

⁶⁰ Chua, *The Galitzin Quartets*, p. 107.

subject into cowering admiration.’⁶¹ It is the music's capacity to generate from its own context a new, almost un-nameable but intuitively recognisable, category of human experience encompassing a unique combination of joy, yearning, sadness, loss, healing, pain, desperation, peace and reconciliation that, in Jean-François Lyotard's archetypal conception of the postmodern sublime, makes it an expression of the limitless edge of human conceptual powers. For Lyotard, the experience of the sublime 'allows us to reflect on the limits and conditions of our experience. In so doing, it shows us how those limits can be forced, effecting a kind of negative but unfettered aesthetic process, which enables us to reconceive how we orient our thought and our action in the world, and in particular, how we do so through art.'⁶² Lyotard's description of the postmodern sublime offers a curiously apt window into the implications of Beethoven's new type of part writing for us as twenty-first-century performers. Only by forcing us to go through a process that re-orientated our expectations and experiences as a quartet could we reach the experience of sublimity at this point in the music. For us, the sublime was thus poignantly experienced *in action*, as a sonic product of human creativity, both past and present.

This hard-won moment of rhythmical, musical and social engagement is perhaps more profound than the all-encompassing confidence of Adorno's heroic subject in Beethoven's middle period, precisely because it emerges, almost unexpectedly, from fragmentation, difficulty, and uncertainty. As Kerman notes, 'this is one of Beethoven's superb pages. The gradual dissociation of the hymn in its three manifestations . . . is heard as a process of increasing spiritualisation, but also as one of enrichment, a confrontation of inherent complexities.'⁶³ Kerman might very well be modelling the intersubjective experience that unfolds in this movement; the experience of *becoming* a string quartet. Despite the fact that there are a further two movements to play, from this moment it seems as though there is nowhere else to go. Following an awed silence after we finish playing the movement, the first violinist eventually tried to articulate the sensation of having reached a pinnacle of expression and human engagement: 'you . . . just want to go and die slowly after this [experience], to which the viola player agreed 'you . . . can't really do anything after, can you . . . [it's just] the end.'

⁶¹ See Chua, *The Galitzin Quartets* p. 110.

⁶² See David B. Johnson, 'The Postmodern Sublime: Presentations and its Limits', in Timothy M. Costelloe, *The Sublime: From Antiquity to the Present* (Cambridge, 2012), p. 119.

⁶³ Kerman, *The Beethoven Quartets*, p. 260.

Conclusions?

Swinkin cites the words of political philosopher Frederic Jameson regarding the experience of Beethoven’s late style:

For a *fleeting instant* we catch a glimpse of a unified world, of a universe in which discontinuous realities are nonetheless somehow implicated with each other and intertwined, no matter how remote they may at first have seemed; in which the reign of change briefly refocuses into a network of cross-relationships wherever the eye can reach, contingency temporarily transmuted into necessity.⁶⁴

Jameson’s poetic description of the nature of ever-changing relationships, the glimpses of unity that emerge from the most unlikely places seems a good starting point for the final remarks of this chapter, which has also attempted to model a similar dialectical process of transformation, discontinuity and the social effects of the contingencies of performance.

In reading and playing the late Beethoven quartets from a variety of different, often unfamiliar notational sources, I experienced constant disruptions of the tradition and styles of playing that I usually inhabited with ease. This tradition is described by Hunter as ‘the quintessentially rational/Enlightened model whereby the performer reads the legible surface of the music to the best of his ability and conveys its contents to an audience primed to understand the character, affects and topoi being communicated.’⁶⁵ Yet, the significant gaps between notational cues and sounding results (as described in the auto-ethnographic account of reading of the first movement of Op. 127), or moments when the notation itself failed to convey the necessary information for performance (such as the confusing metrical gaps in the third movement of Op. 132 which required verbal intervention for clarity), conversely gives certain moments in the late quartets an aura of illegibility or irrationality. This was starkly contrasted with moments of profound reciprocity, in which the discomfort of one musical fragment amplified the possibilities for musical enjoyment and subjective identification in others. The contrast between the *Alla Danza Tedesca* and the *Cavatina* epitomises these shifting modes of engagement.

⁶⁴ As cited in Swinkin, ‘The Middle Style/Late Style Dialectic’, p. 323.

⁶⁵ Hunter, ‘“The Most Interesting Genre of Music”’, p. 62.

Whereas the lurching quality elicited by the hairpins in the former generate a sense of unease and discomfort, the singing, lyrical cues of the latter produce a very different effect. As Cumming proposes, 'a known repertoire of kinaesthetic images for emotion, and of culturally defined conventions for their realisation, may lead to a sense of recognition . . . and recognition promotes empathy.'⁶⁶

Kerman aptly captures this transformative experience: 'principally, perhaps, it is the whole matter of musical contrast which is treated most radically, and which as a result opens up whole new unexpected areas of consciousness.'⁶⁷ The curious capacity for this music to allow insight into the 'un-nameable' is akin to Adorno's 'outside' frame of reason, in which the late quartets resist the pull of positivism, rationality and uncritical acceptance of scientific 'fact' by straining the boundaries of intelligibility, genre and style. The music transforms the listener's (or player's) experience, and in its 'unique negotiation . . . creates a knowledge of something that has been formerly unknown.'⁶⁸ Indeed, in forcing me to confront the limitations and boundaries of my own experience of playing quartets, Beethoven's late quartets modelled new modes of subjective, aesthetic and social engagement, thereby opening access to 'whole new unexpected areas of consciousness'. The experience was transformative, self-reflexive and often uncomfortable, but it was also a profoundly social process – mediated by a complex ecology of materials, objects, sounds and social relations, sets of relationships that were constantly shifting and in negotiation, and never fixing on an end point. The painter Paul Klee's philosophy regarding art and creativity, summarised by Ingold, is apt here: 'the processes of genesis and growth that give rise to forms in the world we inhabit are more important than the forms themselves. "Form is the end, death", he wrote. "Form-giving is life."⁶⁹

Contrary to the structuralist bias of studies that conceive of scores as stable proxies against which to measure interpretative decisions, the late quartets offer a particularly poignant example of how it is possible to perform together as a group without necessarily sharing the same mental representation of a work. Simon Høffding is deeply critical of what Keller describes as 'a unified concept of the idea sound' which he claims as a

⁶⁶ Cumming, 'The Subjectivities of "Erbarne Dich"', p. 17.

⁶⁷ Kerman, *The Beethoven Quartets*, p. 194.

⁶⁸ Cumming, 'The Subjectivities of "Erbarne Dich"', p. 17.

⁶⁹ Ingold, 'The Textility of Making', p. 91.

structurally necessary starting point for string quartet performance.⁷⁰ On the contrary, Andrea Schiavio and Høffding have argued that it is not even strictly necessary for performers to be closely attuned to each other’s subjective states in order to play together successfully. The cellist in the Danish String Quartet describes the active process of decision-making in relation to how a phrase unfolds:

I think I have an idea of where I’m going, and then I think . . . each tone, each and every vibrato, each and every oscillation, bowing, phrasing, everything builds towards how it is going to become and it is impossible to predict how it will play out. It depends on what you laid as ground.⁷¹

Upon being questioned further about how decisions are made in the moment, he responds ‘I can predict pretty well, but I can never know with certainty.’⁷² This need for spontaneity and flexibility was recognised in the performance tradition of nineteenth-century Vienna; indeed, the notion that performers must simply act as ciphers for the score did not gain traction until the age of recording. As Marx proposed in the 1830s, ‘the same piece of music must sometimes be played somewhat faster, somewhat slower, according to the larger or more constricted space in which it is performed, according to the stronger or weaker forces employed . . . but particularly *according to the decision of the moment*’.⁷³

Rather than imagining potential social interactions as arising purely from the vertical alignment of the score, I have attempted to argue for the value of ethnographic insight, in all its messiness, to understand the forms of social and subjective engagement that can only ever emerge in the processual unfolding of real-time performance. What I experienced with my string quartet was personally unique and contextually contingent. It was defined by own aesthetic experiences and preferences, as well as my unfolding musical and social relationships with other performers. However, as I argued earlier, this does not make it ‘merely subjective’. Cumming argues similarly for a ‘temporalised’ view of musical subjectivity, but one that ‘must, however, resist any metaphysical suggestion

⁷⁰ As cited in Simon Høffding, *A Phenomenology of Musical Absorption* (Basingstoke, 2018), p. 226.

⁷¹ Andrea Schiavio and Simon Høffding, ‘Playing together without communicating? A pre-reflective and enactive account of joint musical performance’, *Musicae Scientiae*, 19 (2015), p. 378.

⁷² Schiavio and Høffding, ‘Playing together without communicating?’, p. 378.

⁷³ As cited in Brown, *Classical and Romantic Performing Practice*, p. 283. Emphasis added.

of the subject as unified . . . and conceptually prior to the unfolding of the work.'⁷⁴ Furthermore, there need not necessarily be 'unity' in all that has been said, and 'the memory of conflicts in the process need not be suppressed by recognising the subject's utterance as complete.'⁷⁵ Cumming's description of the musical formation of a subject equally applies to Beethoven's own creative process of sketching and notating. Although the outcomes of ethnographic investigation must remain open, contingent, and resistant, like the quartets themselves, to definitive answers and solutions, this is also a source of its power. Adorno notes 'the power of dissociation', which Beethoven 'tears [] apart in time, in order, perhaps, to preserve them for the eternal.'⁷⁶

Whereas earlier analytical studies have searched for 'unity' either on the motivic surface or at a Dahlhausian 'sub-thematic' level, it is perhaps fitting that a state of negotiation, difference, disruption – which, crucially, also elicits recognition and empathy – is maintained in the twenty first century. This state has a distinctly ethical component. For Adorno, 'artworks that hold unity and difference in a state of productive tension serve to model a beneficent balance between the individual and the collective'.⁷⁷ Born cites Latour's pamphlet 'War of the Worlds' regarding an (illusory) modernist vision of unity: 'unity was never more than a future possibility to struggle for. Unity has to be the end result of a diplomatic effort; it can't be its uncontroversial starting point.'⁷⁸ According to Latour, the dangers of claims for universality come from a standpoint of an ontological settlement already reached, arguing against, like Adorno, the notion of 'false unities' that exclude just as much as they appropriate. Born thus argues that the recognition of difference, mediation itself, is 'the clue to transcending [score-based] ideologies of music',⁷⁹ in which, liberated from the strictures of the 'composer's intentions', and the need for perfection, present day performers can continue to engage with the music in improvisatory, creative, and imaginative ways. The quartets' continued difficulty and complexity is not simply evidence of an anti-social power regime in which the performers sacrifice their intelligence and bodies to the demands of a composer, but rather a chance

⁷⁴ Cumming, 'The Subjectivities of "Erbarne Dich" ', p. 13.

⁷⁵ Cumming, 'The Subjectivities of "Erbarne Dich" ', p. 14.

⁷⁶ Adorno, *Late Style in Beethoven*, p. 567.

⁷⁷ Swinkin, 'The Middle Style/Late Style Dialectic', p. 326.

⁷⁸ Born, 'On Musical Mediation', p 10.

⁷⁹ Born, 'On Musical Mediation', p. 11.

for a transformative social experience of negotiation and mediation. As Swinkin proposes, ‘the late style posits musico-social antagonisms to be sure, but [. . .] in this way, if unity arises at all, it does so in full recognition of the individuation and independence of distinct subjects – it arises despite, or, better, because of their differences.’⁸⁰

⁸⁰ Swinkin, ‘The Middle Style/Late Style Dialectic’, p. 322.

Conclusion

The end of the previous chapter has already pointed towards some general philosophical conclusions emerging from the relational perspective that this dissertation has developed. Here, I will re-trace some of the other interpretative possibilities that have been opened up, and will draw out some of the potential avenues for further work. Through an exploration of both the writerly and performative repercussions of Beethoven's new type of part writing in the late quartets, this dissertation has attempted to offer a relational account of Beethoven's creative process. In particular, it has argued for a perspective on notation in the late quartets that conceives of it not as a self-contained window into an abstract, composer-centric world, but as one part of a wider assemblage of materials and actors involved in the process of what it means to make music. In this way, the notation is not conceived simply as a negative impression or 'representation' of the composer's intentions, but rather as a mediating material that refracts and constructs Beethoven's music in social and performative encounters; whether listening, analysing or performing. This performative perspective does not shut down the possibility of the sorts of historical, biographical, or analytical enquiry that have characterised Beethoven studies. For example, it was shown in Chapter 3 how positioning the notation within a culture of sight reading or relating it to the affordances of instrumental technology could shed light on different interpretative vantage points. It has also argued for the centrality of material considerations in the mediation of meaning. Chapters 1 and 4 showed how the particular material forms that Beethoven's notation has taken throughout two centuries have played a crucial role in the reception of the late quartets. In addressing multiple perspectives, the dissertation has placed central focus on the act of interpretation itself, and its structure should be read as reflective of the theoretical concerns of the dissertation as a whole.

The structure and content of the chapters were conceived in the form of an 'assemblage', a Deleuzian concept that captures two of the salient features of the late quartets: their eclectic mixture of musical styles and modes of expression, and the insufficiency of 'traditional' models of analysis to explain their enigmatic qualities. The first movement of Op. 132 alone is a case in point. The six-movement structure of the whole quartet offers a kaleidoscopic impression of early-nineteenth-century Viennese musical culture, with references to the aristocratic, the popular, the archaic, the military and the operatic, the

spiritual, the bodily, the intellectual and the impassioned. While Chua argues that ‘the parts do not correspond to the whole but coalesce into autonomous objects, juxtaposed to stress the lacunae between them’,¹ it seems more fruitful to conceive of the movements functioning in terms of an ‘assemblage’ – a constellatory concept that encompasses simultaneous, and even contradictory, forms of existence, but never autonomy or isolation. Kerman has proposed of Op. 130 that ‘in many ways the Quartet in B flat is problematic, but the heart of the problem lies in the quite radical attitude it embodies towards the balance, confrontation, or sequence of the movements.’² Chua, after Adorno, would argue that it is precisely this sort of radical confrontation that gives the late quartets their critical edge; it is through surprising and paradoxical disjunctions between style and register that new insights emerge. In a deliberate attempt to model this feature of the late quartets, this dissertation has also attempted to mediate musical insights through contrasting styles and genres of writing in different chapters. It has offered a varied theoretical landscape featuring topical issues from within the Humanities, from concerns with big data and digital technology in Chapter 2, to posthumanism and the notion of objects with agency in Chapters 4 and 5.

In her account of a relational musicology, Born has advocated for the advantages of a mode of interdisciplinarity that she describes as ‘agonistic-antagonistic’. This practice ‘springs from a self-conscious dialogue with, criticism of, or opposition to, the intellectual, aesthetic, ethical or political limits of established disciplines . . . [it] stems from a commitment or a desire to contest or transcend the given epistemological and ontological foundations of historical disciplines.’³ Characteristic of relational accounts of art and society, this ‘agonistic-antagonistic’ mode has been employed here as a means of questioning received approaches to Beethoven’s musical legacy, particularly regarding the late style. While there may seem to be contradictions between the interpretative vantage points opened up via different critical methods in the dissertation, no attempt was made to reconcile or unify these perspectives: such contradictions are characteristic of the concept of the assemblage, and aimed to serve a critical purpose. For example, the brief survey of notational markings in parts published in Vienna by Beethoven’s contemporaries in Chapter 4 shed very different light on the results of the data collection

¹ Chua, *The Galitzin Quartets*, p. 107.

² Kerman, *The Beethoven Quartets*, p. 319.

³ Born, ‘For a Relational Musicology’, p. 211.

in Chapter 2. It highlighted how the material forms of music, for example their publication in part or score form or their binding in lavish material, have both influenced and produced narratives that have sustained historical perspectives on Beethoven's musical legacy and, by extension, the Western canon.

Just as Beethoven's new type of part writing encourages a view of his notation as it exists in the social activity of performance, the assemblage views the world in terms of movement and intersecting lines of mediation rather than definitive forms or characteristics. This is in direct opposition to the logic of 'hylomorphism', described by Ingold as the 'heroic' model of creative genius, that was identified in Chapter 1 as characteristic of approaches to the late quartets. It was shown how reception of Beethoven's deafness, crystallised by Wagner's notion of Beethoven's 'Hearing Eyes' has perpetuated the view that the genius of the late quartets lies precisely in their retreat from material and social concerns. Instead, Chapter 1 attempted to show how Beethoven's writing process itself was shaped by material concerns. For example, his increased reliance on sketching allowed him to map out complex forms and structures on paper. In contrast to the hylomorphic perspective, which encourages a retrospective purview of created objects as *already finished*, it argued that, crucially, Beethoven's act of writing should be viewed in a more forward-looking, improvisatory light, subject to contingency, spontaneity and social reciprocity. Moreover, this was not to make a special case for Beethoven's creative process. Rather, *all* creative acts should be viewed in this way: the difference between composition and improvisation, performing from notation or without, is a matter of degree rather than kind.

In stark contrast to this forward-looking model of creativity, Chapter 2 took a 'top-down' approach. While it opened up themes that would emerge in later chapters – such as the notion of different media mediating notational meanings, brought to the fore particularly acutely in the digital era – it also stands somewhat isolated in the course of the dissertation, in part, because of its overtly scientific language. The sharp disjuncture between writing styles between Chapters 1 and 2 could be likened to the jarring transition from the third to the fourth movement of Op. 132. Having shown how materials have colluded in the shaping of Beethoven's legacy, I aimed to show how an overtly 'objective' approach to Beethoven's notation offered another way of mediating notational meaning. While statistical analysis and scientific methods are by no means free from theoretical prejudice, the collection of data via a process that could be emulated and repeated by others was intended to serve as a foil to the sorts of anecdotal observations that have been

heavily influenced by legacies of reception. For example, the results were able to show that, contrary to Sheer’s claim that the late works feature a lesser use of loud dynamics (in line with narrative tropes about Beethoven’s retreat into interiority), Beethoven in fact notated on average more *forte* markings than in the middle period. The results also usefully highlighted another area that had been little commented on: that of the frequent changes of key and time signatures, both of which contribute to the sense of visual complexity exuded by the quartets. One of the most significant findings in relation to the subject of the dissertation was quantitative proof of Beethoven’s new type of part writing, demonstrable through a new equality in the distribution of notes between the different instrumental parts in the quartet. The results showed a clear shift away from a first-violin dominated texture to a textural arrangement that sees the inner voices even having *more* notes than the first violinist. As emphasised in the conclusion of this chapter, the data was not intended as an end-point in itself, but rather as a starting-point for future investigations and a way of opening up new perspectives on Beethoven’s notation in the late quartets.

Nonetheless, the methods of Chapter 2 still encouraged a view of Beethoven’s notation in isolation, with changes in his lexicon appearing in retrospect as acts of innovation according to the logic of hylomorphism. The survey of notation in string quartets of Beethoven’s contemporaries of Chapter 4 was able to offer a strikingly different perspective. However, Chapter 3 first needed to open up a ‘networked’ approach to Beethoven’s notation, by situating it within the historical context of his immediate social, technological and political *milieu*. In this chapter, the implications of Beethoven’s new type of part writing were explored from the perspective of Peirce’s notion of the ‘interpretant’ and its backdrop in Pragmatist philosophy. Pragmatism encourages a view of the world as existing not in the idealization of concepts, but as one that starts from practice. Within this view, performance is taken as a starting point and the ways in which notational signs are used and understood by performers are not conceived as secondary to the Platonic ideal of the text. The ‘interpretant’ thus accounts for this social process of ‘making sense’ within a received community of knowledge or language. The first two Case Studies showed how aspects of Beethoven’s notation might be understood through the lens of the Schuppanzigh Quartet’s concern with instrumental technology, and the ways in which these objects themselves were freighted with cultural and political associations. The cultural pre-conditions for reading and understanding notational signs was highlighted as a further source of mediation, whereby a notational marking might be read very differently in the context of a culture of sight-reading versus a culture of score-

based study. The final case study acted as a link to Chapter 4 by offering a biographical account of the ‘Muss es sein’ notation as it has appeared in different material guises, from sketch to score, throughout the course of nearly two centuries. The cultural pre-conditions for meaning were shown particularly starkly, as familiar reception narratives began to influence the ways in which its meaning was understood by scholars and performers alike.

Chapter 4 developed this theme by drawing further on Gell’s Peircean notion of the art-object-as-index, first introduced in Chapter 1. It considered the ways in which this indexical behaviour acts as a source of agency, a process in which objects are conceived as spinning connections between people and objects across time and space. In this way, art objects are not historically neutral, or even ‘fixed’; their physical attributes might change throughout the course of what Gell dubs their ‘career’ – a trajectory which might be quite separate from the ‘intentions’ of the author. This chapter showed the ways in which printing, dedications, patronage, and material binding have helped to shape cultural narratives of Beethoven’s late quartets. Developing the anthropological perspective further, it also expanded the field to consider how the circulation of other notated materials from Beethoven’s Vienna, including contemporary quartet arrangements of operas, may have influenced the composer’s notation in the late quartets.

In line with the pragmatist approach developed in Chapter 3, and following the call of Ingold to attend to ‘the generative currents of the materials’ and the ‘sensory awareness of practitioners’ in the study of material culture, Chapter 5 attempted to situate Gell’s theoretical assertions in practice. By drawing on ethnographic methods and introducing the perspectives of twenty-first-century musicians, including myself, I aimed to satisfy Ingold’s proposal for an anthropology *with* art, rather than one *of* art. Several interesting conclusions emerged from the ethnography itself. One reflection concerned the process of notating and writing itself. By pursuing ethnographic methods and putting myself in both the position of an ethnographic subject and the ethnographer, the investigation became a proxy for the tensions between practice-led research and performance, and the nature of writing and recording experience in general that anthropologists and ethnographers have long acknowledged. The need for clear explanatory frameworks in academic writing means that ethnographic accounts are often described as ‘fictions’, filtered through the lens of narrative strategies that often entail sacrifices to the portrayal of the lived, messy reality of the events described. Yet these heuristic strategies are essential if knowledge is to be gained from the experience or communicated at all. While Ingold’s argument for a view of the world as a constant process of becoming is utterly

convincing from the perspective of performance, it risks leading to a frustrating *impasse* between discourse and practice.

In this way, work within the field of Performance Studies has often struggled to account for the sorts of sociable, self-conscious experiences that are central to string quartet performance. Chapter 6 attempted to address this gap by offering a highly subjective account of my own experience of playing the late quartets, mediated by Adorno’s insights into the late quartets. After Cumming, I argued that, rooted within a shared community of knowledge and practice, these personal perspectives were not ‘merely subjective’, but could also shed critical light on historical and current perspectives on Beethoven’s notation. Through a mixture of auto-ethnographic accounts and performative analyses, I documented the ways in which I experienced the new type of part writing through an ongoing interaction between notation and performance, and drew out ways in which it elicited a fundamental transformation in the social dynamics of string quartet playing. I argued that, ultimately, Beethoven’s new type of part writing models new forms of consciousness.

Further Work

Spanning several interdisciplinary fields, the scope of each chapter was necessarily limited and there are thus multiple possibilities for further work arising from each theoretical perspective developed. Arising from the historical perspectives opened up in Chapters 1 and 3 is the possibility of a larger scale study of the history of rehearsal in the early nineteenth century, and the role of scores and musical notation in changing temporal expectations within this process. Little critical attention has been paid to the ways in which performers make sense of notation from the perspective of individual instrumental parts, although Morabito’s recent 2019 study of the Baillot Quartet parts has highlighted the value of this approach. The Adornian perspective explored in Chapter 6 was heavily influenced by the work of Naomi Cumming, which due to her untimely death, has never gained the critical traction that I believe it deserves. My conclusion that the experience of Beethoven’s new type of part writing models a new form of consciousness in string quartet sociability is one that I wish to pursue further.

The brief survey of notational information from Beethoven’s little-known contemporary string quartet composers presented in Chapter 4 showed a glimpse of the possibilities for a re-evaluation of novelty in relation to Beethoven’s uses of notation and expressive practice. Now that many lesser-known sources are being brought to light through

digitisation projects, it may be that the corpus can be greatly expanded beyond what was offered in Chapter 4 in order to provide a much richer picture of early-nineteenth-century notational practice more broadly. The methodology outlined in Chapter 2, in combination with the written code presented in the appendix, also offers exciting possibilities for much broader studies of composers' entire outputs. This will be enhanced by the improvement of digital sources available, and the development of Optical Musical Recognition technology (of which there are many ongoing studies) to allow the possibility of searching autograph sources. One possible practical outcome that I envisage could be the creation of a website interface that allows performers to search for notation markings within a composer's output, and generate graphs that give them a snapshot overview of information that could not be reliably counted by hand.

The ethnographic methods explored in Chapter 5 also require further refinement, and I have since completed another ethnography with colleagues in the Netherlands that built upon the outcomes of the present study. We spent four days rehearsing in The Hague, before presenting a workshop on Media and the Late Quartets at Utrecht University as part of their 'Co. Laborations' series. I collaborated on this ethnography with Dr Floris Schuiling, who was present during the sessions as an observer, and also led several group discussions. While the Case Study basis of the current ethnography took an atomized approach to the different objects, for the Netherlands ethnography I laid out all of the objects on a table and invited the musicians to decide what they wanted to play from. The objects were then all explicitly implicated in a relational network from the outset. Throughout the ensuing days, the boundaries between the objects remained blurred: they were all constantly in circulation, and we played the same music from different sources for comparison. The outcomes of this research are currently being written up in collaboration with Dr Schuiling for publication.

'The Sense of an Ending'⁴

Beethoven's new type of part writing in the late quartets, as understood through the ongoing interaction between notation and performance, was the starting point of this dissertation. It was argued that starting from this perspective opens up an approach that

⁴ This final section takes its cue from Solomon, 'Beethoven's Ninth Symphony: The Sense of an Ending', and Marston's exploration of 'goal-directedness' in Beethoven's music. See Marston, "'The sense of an ending'", pp. 84–101.

has only recently begun to emerge in recent Beethoven scholarship: one that conceives of his written outputs (whether scores, parts or sketches) not as static objects impervious to their own cultural contexts, but as thoroughly relational sites that are imbricated in an ongoing network of social ties, relationships and processes. In this way, to define an ending point is problematic. If Beethoven’s own creative process should be read as forward-looking and subject to change, then conclusions should remain similarly provisional and open to evolution – as suggested by the concept of the rhizome.

This open-ended strategy aptly captures the social experience of playing Beethoven’s new type of part writing in the late quartets. Yet it is in drastic contrast to the form and structure of Beethoven’s so-called ‘heroic-style’ works. As Burnham has argued, these endings seem to narrate in microcosm the experience of the whole ‘in such a way that one leaves the experience convinced that “The End” is more than some arbitrary cut off point: it is actually present in potential from bar 1.’⁵ The typically Beethovenian locus of resolution in the coda and his ‘end-weighted’ Sonata forms positively encourage a hylomorphic perspective that invites the analyst to retrace the steps of causation from the back to the beginning: to conceive of the creative product in retrospect from the perspective of completion. However, Burnham, like Ingold, cautions us against the dangers of this sense of closure:

In this story a demigod granted us the power of closure. We have enjoyed that power, fashioning the musical world (and, with it, the Western musical canon) as a closed world, an enchanted island . . . We must look away from the Work as a world towards the World in the work. Only then may we acknowledge that we interact with music in ways that speak of so much more than the singular experience of the heroic style, however appealing its solipsistic culmination and completion of self, ways that speak of human identities as broadly conceived as the world is wide.⁶

Despite the appeal of ‘solipsistic culmination and completion of self’, it was proposed at the end of Chapter 6 that the late quartets instead leave us in a state of negotiation; a sense of disruption and multiplicity rather than completion. Marston has shown how even the issue of formal compositional closures takes on a contradictory stance in these works. For

⁵ Burnham, *Beethoven Hero*, p. 142.

⁶ Burnham, *Beethoven Hero*, p. 168.

Conclusion

example, while the explicit thematic links between the first and last movements of Op. 131 suggest an integrated, end-orientated approach to the seven-movement structure, the tonal closure of the coda is rather more provisional: the C# major ending picks up on the ambiguous pivot between tonic and subdominant that was introduced in the first movement. Moreover, as outlined in Chapter 3, the lack of double barline at the very end of the autograph score suggests that even at this late stage Beethoven was considering a different kind of conclusion.

That Beethoven's ambiguous relationship with closure in the late quartets has been troubling to critics is clear from the debate that has raged over Artaria's request to replace the *Grosse Fuge* with a new movement at the end of Op. 130. There has been much discussion about which version of the quartet should be considered the definitive one, with critics falling on either side of the argument. The approach outlined in this dissertation, in which Beethoven's new type of part writing represents the processual quality of paths trodden and unfolding, perhaps offers the best solution to this conundrum. In the words of Marston, 'musical material is fluid, possessing multiple tendencies and possibilities that are not directed towards a single inevitable *telos*.'⁷ Perhaps fittingly, the issues thrown up by Beethoven's last ever composition can never be definitively resolved. Ultimately, Beethoven's notation in the late quartets – in all its complexity, eccentricity and opacity – is an endless spur to creative and social activity, resistant to attempts to shut down definitive sources of 'meaning.' The case of Op. 130 shows how endings transform meanings. Like the autograph score of Op. 131, this dissertation ends without a firm double barline.

⁷ Marston, 'Goal directedness in Beethoven's music', p. 101.

APPENDIX A. PYTHON SCRIPTS FOR DATA COLLECTION IN MUSIC21

A.1 Script for creating a new database, parsing files

rachelsetup.py

```

1. # This script sets up test functions for performing analysis on Beethoven string quartets using music21
2. # The script will set Python up by importing relevant files and functions, parse the music
3. # files into music21 and then run the accounting functions used in the analysis.
4. # Once complete, the user can re-run accounting functions on the parsed music files, slist.
5. #
6. # This script assumes that music21 has already been installed
7. # Music21 installation instructions for macOS:
8. # http://web.mit.edu/music21/doc/installing/installMac.html#installmac
9. # Music21 installation instructions for windows:
10. # http://web.mit.edu/music21/doc/installing/installWindows.html#installwindows
11. # Music21 installation instructions for linux:
12. # http://web.mit.edu/music21/doc/installing/installLinux.html#installlinux
13. #
14. # Rachel Stroud, June 2019
15.
16. #####
17. ## IMPORTING FUNCTIONS INTO PYTHON ##
18. #####
19.
20. # First add the location of this script to the system directory
21. # This tells Python where these scripts and other files are
22. # Get the location of this file (and print it):
23. print('Adding location of scripts to Python directory:')
24. import os
25. thislocation = os.path.dirname(os.path.abspath(__file__))
26. # Scripts are located in sub-folder "Scripts"
27. scriptlocation = thislocation + '\Scripts'
28. print(scriptlocation)
29. # Music is located in sub-folder "Music xml Files"
30. musiclocation = thislocation + '\Music xml Files\'
31. # Import system directory ("sys")
32. import sys
33. # Add Script folder into system directory
34. sys.path.append(scriptlocation)
35. print('Added scripts location to python directory!')
36.
37. # Import music21 into current session
38. print('Importing music21...')
39. from music21 import *
40.
41. # Import reload function (not strictly necessary, but useful if editing racheltest
42. print('Importing reload function...')
43. from importlib import reload
44.
45. # Import functions in racheltest into current session
46. print('Importing racheltest scripts...')
47. from racheltest import *
48. print('Importing complete!')
49.
50. #####
51. ## PARSING MUSIC FILES INTO MUSIC21 ##

```

```

52. #####
53.
54. # Now must parse music xml files into music21
55. # Want to produce list of the music files
56. # Here, this is a list of Beethoven String Quartet movements, in order
57. # These files are in the sub-folder "Music xml Files"
58. # They can be viewed using e.g. Finale notepad
59. # Each file contains the score (4 parts) of each string quartet movement
60. # These files were obtained by dividing up open source xml scores from the Gut
    tenberg project
61. # Where only parts were available rather than scores, these were combined into
    scores
62. # This was done using Finale notepad, which can import and export xml files.
63. # If you want to analyse another list of music, add these to the music files f
    older
64. # and edit this list "musicfilenames"
65. musicfilenames = ['018N1M1', '018N1M2', '018N1M3', '018N1M4', '018N2M1', '018N2M2',
    '018N2M3', '018N2M4',
66.                   '018N3M1', '018N3M2', '018N3M3', '018N3M4', '018N4M1', '018N4M2',
    '018N4M3', '018N4M4',
67.                   '018N5M1', '018N5M2', '018N5M3', '018N5M4', '018N6M1', '018N6M2',
    '018N6M3', '018N6M4',
68.                   '059N1M1', '059N1M2', '059N1M3', '059N1M4', '059N2M1', '059N2M2',
    '059N2M3', '059N2M4',
69.                   '059N3M1', '059N3M2', '059N3M3', '059N3M4',
70.                   '074M1', '074M2', '074M3', '074M4', '095M1', '095M2', '095M3', '095
    M4',
71.                   '0127M1', '0127M2', '0127M3', '0127M4', '0132M1', '0132M2', '0132M
    3', '0132M4', '0132M5',
72.                   '0130M1', '0130M2', '0130M3', '0130M4', '0130M5', '0130M6',
73.                   '0131M1', '0131M2', '0131M3', '0131M4', '0131M5', '0131M6', '0131M
    7',
74.                   '0133M1', '0135M1', '0135M2', '0135M3', '0135M4']
75.
76. # Parse music files into music21
77. # Initialize "slist" as list (bqs is list of music21 streams, one list item fo
    r each music file)
78. slist = []
79.
80. # Parse each movement into "slist"
81. print('Parsing xml files into music21 (may take a while)...')
82. # Loop through each entry in musicfilenames
83. for i in musicfilenames:
84.     # thismusicfile location is the musiclocation found earlier,
85.     # plus the music file name, plus the music file extension (.xml)
86.     thismusicfile = musiclocation + i + '.xml'
87.     # parse the xml file into music21 using music21 function converter.parse,
88.     # and append the resultant music21 stream to the list "slist"
89.     slist.append(converter.parse(thismusicfile))
90.     print('Parsed ', i, '!')
91.
92. print('Parsing finished!')
93.
94. #####
95. ## RUNNING ANALYSIS USING RACHELTEST FUNCTIONS ##
96. #####
97.
98. # Can now run racheltest functions on list of parsed music files, slist
99. # First check that racheltest accounting functions have successfully been impo
    rted:
100.     test1()
101.
102.     # Now can run accounting functions:
103.     # Produce list of number of measures in slist:
104.     print('Number of Measures in slist (using countByTypeInPart, 1st part,
        counttype = Measure)')

```

Appendix A - Python Scripts for Data Collection in Music21

```
105.     measurecount = countByTypeInPart(slist,0,'Measure')
106.
107.     # Produce lists of number of notes (including in chords) in each part i
n slist:
108.     print('Number of Notes (including those in chords) in each part')
109.     notecount = countNotesAndNotesInChords(slist)
110.
111.     # Produce list of number of time signatures (of each type) in slist:
112.     print('Number of Time signatures (by type) in slist')
113.     metercount = countMeterByType(slist)
114.
115.     # Produce list of number of key signatures (of each type) in slist:
116.     print('Number of Key signatures (by number of sharps/flats) in slist')
117.
118.     keycount = countKeySignatureByType(slist)
119.     # Produce list of articulation markings by type in each part in slist:
120.     print('Number of articulation markings (by type) in each part in slist'
)
121.     artcount = countArticulationByType(slist)
122.
123.     # Produce list of number of staccato markings in each part in slist:
124.     print('Number of Staccato markings in each part')
125.     staccount = countSpecificArticulation(slist,'staccato')
126.
127.     # Produce list of number of dynamic markings by type in each score in s
list:
128.     print('Number of dynamic markings in each score in slist')
129.     print('Note sometimes dynamic markings are inserted in score as text ex
pressions')
130.     print('Thus need to combine results with relevant results from text exp
ression accounting')
131.     dynallcount = countDynamicByTypeAllParts(slist)
132.
133.     # Produce list of number of dynamic markings by type in each part in sl
ist:
134.     print('Number of dynamic markings (by type) in each part in slist')
135.     dynpcount = countDynamicByType(slist)
136.
137.     # Produce list of number of text expressions by type in each score in s
list:
138.     print('Number of text expressions (by unique expression) in each score
in slist: this can take a few minutes')
139.     textallcount = countTextExpressionByTypeAllParts(slist)
140.
141.     # Produce list of number of text expressions by type in each part in sl
ist:
142.     print('Number of text expressions (by unique expression) in each part i
n slist: this can take a few minutes')
143.     textpcount = countTextExpressionByType(slist)
144.
145.     # User presser any key to finish - this stops
146.     input('Press ENTER to exit')
147.
148.     print('Complete! User can run or re-
run accounting functions on "slist".')
```

A.2 Accounting Functions written for music21

racheltest.py

```
1. # 'racheltest' module
2. # This Python module contains scripts used to perform accounting on music21 streams
3. # Throughout, the input 'slist' refers to a list of parsed music21 streams
4. # For accounting of Beethoven quartets, this should be the 71-
5. # long list of movement
6. # streams of the Beethoven quartets.
7. #
8. # Music21 must also be imported into Python for most of these functions to operate
9. # See https://web.mit.edu/music21/
10. # A working understanding of the basics of music21 is required to fully understand the
11. # scripts in 'racheltest'. The first 10 pages or so of music21's excellent tutorial
12. # should probably be sufficient.
13. #
14. # Rachel Stroud
15. # June 2019
16. #
17. # Functions available:
18. # test1() - confirms racheltest.py has been imported correctly into Python
19. # test2() - confirms slist and music21 are operating
20. # partChecker(slist) - checks whether all movement streams in slist have the same
21. # number of parts and returns max. # parts
22. # countByTypeInPart(slist,p,counttype) - counts "counttype" in part p for each
23. # item in slist
24. # countByType(slist,counttype) - counts "counttype" for each part in each item
25. # in slist
26. # countByTypeFlat(slist, counttype) - same as countByType, but uses "flatten"
27. # music21 method
28. # countNotesAndNotesInChords(slist) - counts the # of notes (inc. notes in chords)
29. # for each part in each item in slist
30. # getUniqueMeterTypeList(slist)- lists all the unique time signatures in slist
31. # countMeterByType(slist)- counts all the time signatures, by time signature type,
32. # part and item in slist
33. # countKeySignatureByType(slist) - counts all the key signatures, by # sharps/flats,
34. # part and item in slist
35. # getDynamicByType(slist) - lists all unique dynamic markings in slist
36. # countDynamicByType(slist) - counts all the dynamic markings in each part by
37. # type of marking for each item in slist
38. # countDynamicByTypeAllParts(slist)- counts all the dynamic markings summed in
39. # all parts by dynamic type for each item in slist
40. # getUniqueTextExpressionList(slist) - lists all unique text expressions in slist
41. # countTextExpressionByType(slist) - counts all the text expressions in each part
42. # by expression for each item in slist. NB takes a minute or so to run due to
43. # code inefficiencies
44. # countTextExpressionByTypeAllParts(slist) - counts all the text expressions in
45. # each score by expression for each item in slist. NB takes a minute or so to run
46. # due to code inefficiencies
47. # getUniqueArticulationList(slist) - lists all unique articulation markings in
48. # slist
49. # countArticulationByType(slist) - counts all the articulation markings in each
50. # part by type for each item in slist
51. # countSpecificArticulation(slist,articulationname) - counts all the articulation
52. # markings of "articulationname" for each part in each item in slist
53. # printList(list1D) - prints out the list "list1D" of numbers or strings vertically
54. #
55. # print2DList(list2D) - prints out a list within a list structure (list2D) as a
56. # table
```

Appendix A - Python Scripts for Data Collection in Music21

```

38.
39. def test1():
40.     # Test function - this confirms that racheltest has been imported correctl
    y into Python
41.     # Running rachel() should produce the result "success!" if racheltest has
    been imported
42.     print('success!')
43.
44. def test2(slist):
45.     # Test function - this confirms slist and music21 is operating.
46.     # Running rachel2() should cause music21 to fire up score viewer (e.g. Fin
    ale) and display
47.     # the first 5 bars of the first movement in slist.
48.     # Note Python counts start from 0 so slist[0] is the first movement stream
    in slist
49.     slist[0].measures(0,5).show()
50.
51. def partChecker(slist):
52.     # Checks whether all movement streams in slist have the same number of par
    ts in them
53.     # This is performed at the start of functions which are affected by the nu
    mber of parts
54.
55.     # Finds number of parts in the first movement of slist
56.     pmax = len(slist[0].parts)
57.
58.     # Set variable "warningflag" = 0
59.     warningflag = 0
60.
61.     # Loop through each movement stream in slist (m)
62.     for m in range(0, len(slist)):
63.         # If the number of parts in this movement m is different from pmax, th
    en set warningflag = 1
64.         # This will trigger a warning message to the user
65.         if len(slist[m].parts) != pmax:
66.             warningflag = 1
67.             # If the number of parts in the m-
    th movement is greater than pmax, set the value of pmax
68.             # to the number of parts in this m-th movement
69.             if len(slist[m].parts) > pmax:
70.                 pmax = len(slist[m].parts)
71.
72.     # If warningflag = 1, return warning message to user
73.     if warningflag == 1:
74.         print('Warning: movements in slist do not all have the same number of
    parts!')
75.
76.     # Return the maximum number of parts in the movements in slist
77.     return pmax
78.
79. def countByTypeInPart(slist,p,counttype):
80.     # Function which counts "counttype" in part p for each movement in slist
81.     # Note Python counts from 0 so first part is p = 0.
82.     # Count type used in music21 "getElementsByClass" recurse() function so ca
    n be name (e.g. 'TimeSignature')
83.     # or and example of the object in music21 (e.g. note.Note)
84.
85.     # Initialise an empty count list to store count in each movement
86.     count = []
87.
88.     # Loop through movements in slist (m)
89.     for m in range(0, len(slist)):
90.         # Append the length (len) of getElementsByClass of the count type in s
    list movement m,
91.         # part p to the count list, using the music21 recurse() function
92.         count.append(len(slist[m].parts[p].recurse().getElementsByClass(countt
    ype)))

```

```

93.
94.     # Print results so easy to copy into e.g. Excel
95.     print('countByTypeInPart results')
96.     print('v (rows) Movement in slist')
97.     printList(count) # See print functions below
98.
99.     # Return countlist
100.    return count
101.
102.    def countByType(slist,counttype):
103.        # Function which counts "counttype" for each part in each movement
    in slist
104.        # Count type used in music21 "getElementsByClass" recurse() functio
    n so can be name (e.g. 'TimeSignature')
105.        # or and example of the object in music21 (e.g. note.Note)
106.
107.        # Find maximum number of parts
108.        pmax = partChecker(slist)
109.
110.        # Set-
    up empty count list structure, pmax lists of list of length of number of movem
    ents
111.        count = [[0 for p in range(pmax)] for m in range(len(slist))]
112.
113.        # Loop through each movement in slist (m)
114.        for m in range(0, len(slist)):
115.            # Loop through each part in movement m
116.            for p in range(0, len(slist[m].parts)):
117.                # Add the number of counttype found by getElementsByClass r
    ecurse function to the count
118.                # of part p, movement m
119.                count[m][p] = count[m][p] + len(slist[m].parts[p].recurse()
    .getElementsByClass(counttype))
120.
121.        # Print results so easy to copy into e.g. Excel
122.        print('countByType results')
123.        print('--> Part')
124.        print('v (rows) Movement in slist')
125.        print2DList(count) # See print functions below
126.
127.        # Return count list
128.        return count
129.
130.    def countByTypeFlat(slist,counttype):
131.        # Function which counts "counttype" for each part in each movement
    in slist
132.        # Count type used in music21 "getElementsByClass" flat function so
    can be name (e.g. 'TimeSignature')
133.        # or and example of the object in music21 (e.g. note.Note)
134.        # This should return the same results as countByType unless somethi
    ng odd is going on in stream structure
135.
136.        # Find maximum number of parts
137.        pmax = partChecker(slist)
138.
139.        # Set-
    up empty count list structure, pmax lists of list of length of number of movem
    ents
140.        count = [[0 for p in range(pmax)] for m in range(len(slist))]
141.
142.        # Loop through each movement in slist (m)
143.        for m in range(0, len(slist)):
144.            # Loop through each part in movement m
145.            for p in range(0, len(slist[m].parts)):
146.                # Add the number of counttype found by getElementsByClass F
    LAT function to the count
147.                # of part p, movement m

```

Appendix A - Python Scripts for Data Collection in Music21

```

148.         count[m][p] = count[m][p] + len(slist[m].parts[p].flat.getElementsByClass(counttype))
149.
150.         # Print results so easy to copy into e.g. Excel
151.         print('countByTypeFlat results')
152.         print('--> Part')
153.         print('v (rows) Movement in slist')
154.         print2DList(count) # See print functions below
155.
156.         # Return count list
157.         return count
158.
159.     def countNotesAndNotesInChords(slist):
160.         # Function which counts the number of notes, including those which
161.         # comprise a chord
162.         # Function counts notes in each part and each movement in slist
163.         # Works very similarly to countByType but have to account for chords.
164.         # Chords have a .pitches property for each note inside them in music21, so count the number
165.         # of pitches in each chord found.
166.         # Find maximum number of parts
167.         pmax = partChecker(slist)
168.
169.         # Set-
170.         # up empty count list structure, pmax lists of list of length of number of movements
171.         count = [[0 for p in range(pmax)] for m in range(len(slist))]
172.
173.         # Loop through each movement in slist (m)
174.         for m in range(0, len(slist)):
175.             # Loop through each part in movement m
176.             for p in range(0, len(slist[m].parts)):
177.                 # Add the number of notes to the count at m-th movement, p-th part
178.                 # (using getElementsByClass recurse() function)
179.                 count[m][p] = count[m][p] + len(slist[m].parts[p].recurse().getElementsByClass('Note'))
180.                 # Loop through each chord in the m-th movement, p-th part (c)
181.                 for c in slist[m].parts[p].recurse().getElementsByClass('Chord'):
182.                     # Add the number of pitches in each chord c to the count for movement m, part p
183.                     count[m][p] = count[m][p] + len(c.pitches)
184.
185.         # Print results so easy to copy into e.g. Excel
186.         print('countNotesAndNotesInChords results')
187.         print('--> Part')
188.         print('v (rows) Movement in slist')
189.         print2DList(count) # See print functions below
190.
191.         # Return count list
192.         return count
193.
194.     def getUniqueMeterTypeList(slist):
195.         # Function which finds all unique time signatures in slist
196.         # Uses the first part ([0] in Python) to do this - all parts should have same time signature!
197.         p = 0 # part p = 0
198.         # Need a list of unique time signature information. The property "ratioString" of the music21
199.         # class 'TimeSignature' is used to save the meter. This simply stores, e.g. 4/4 timesignature as
200.         # the string '4/4'. Call this list of unique time signature strings
201.         "textlist"

```

```

200.         # Initialise empty textlist
201.         textlist = []
202.         # Loop through movements in slist (m)
203.         for m in range(0, len(slist)):
204.             # Loop through time signatures in movement m, part p using musi
c21 getElementsByClass recurse() function (el)
205.             for el in slist[m].parts[p].recurse().getElementsByClass('TimeS
ignature'):
206.                 # If this is the first time signature found, then textlist
will still be empty. Therefore, add this first
207.                 # el-
th time signature ratio string to the textlist using append, and move onto the
next time signature
208.                 if len(textlist) == 0:
209.                     textlist.append(el.ratioString)
210.                 # Otherwise (this isn't the first time signature) carry on
211.
212.                 else:
213.                     # Loop through the known time signatures in textlist (i
) to search for a match
214.                     for i in range(0, len(textlist)):
215.                         # If the el-
th time signature ratio string matches the i-
th time signature ratio string, then this
216.                         # time signature is already in the text list: a mat
ch has been found. Break out of the i-loop and
217.                         # move onto the next time signature
218.                         if el.ratioString == textlist[i]:
219.                             break
220.                         # If we have reached the final time signature in th
e text list (i.e. the final i value - note that
221.                         # Python counts from 0 so the final i value is the
length of the textlist minus 1), and we have reached
222.                         # this point, we haven't found a match for the el-
th time signature in our time signature textlist. Thus
223.                         # add this time signature ratio string to the textl
ist using append, and finish the i-loop (break).
224.                         elif i == (len(textlist) - 1):
225.                             textlist.append(el.ratioString)
226.                             break
227.                 # Return the completed textlist. This list will be in the order in
which meters appear in slist!
228.                 return textlist
229.
230.         def countMeterByType(slist):
231.             # Function which counts all the time signatures in slist
232.             # Function counts time signatures by type and movement
233.
234.             # Uses the first part ([0] in Python) to do this - all parts should
have same time signature!
235.             p = 0 # part p = 0
236.
237.             # First get all the unique meter types in slist using getUniqueMete
rTypeList.
238.             textlist = getUniqueMeterTypeList(slist)
239.
240.             # Initialise an empty count list structure: m movement lists of i t
ime signature types
241.             count = [[0] * len(textlist) for m in range(len(slist))]
242.
243.             # Loop through each movement in slist (m)
244.             for m in range(0, len(slist)):
245.                 # Loop through time signatures in movement m, part p using musi
c21 getElementsByClass recurse() function (el)
246.                 for el in slist[m].parts[p].recurse().getElementsByClass('TimeS
ignature'):

```

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```

247.         # Loop through the known time signatures textlist (i) to se
arch for a match for time signature el
248.         for i in range(0,len(textlist)):
249.             # If the el-
th time signature ratio string matches the i-
th time signature ratio string in text list,
250.             # then we have found the position (i) of this time sign
ature el in the textlist: add 1 to the relevant
251.             # position in the count list structure (m-
th movement, i-th type of time signature)
252.             if el.ratioString == textlist[i]:
253.                 count[m][i] = count[m][i] + 1
254.
255.         # Print results so easy to copy into e.g. Excel
256.         print('countMeterByType results: time signatures in each movement s
eparated by type')
257.         print('--> Time signature type')
258.         print('v Movement in slist')
259.         print('Time signature types:')
260.         print(textlist)
261.         print2DList(count) # See print functions below
262.
263.         # Return the textlist of unique meter types
264.         return [textlist,count]
265.
266.     def countKeySignatureByType(slist):
267.         # Function which counts all the key signatures in slist
268.         # Function counts key signatures by type and movement
269.         # Note that this function counts by the number of sharps and flats n
ot the major/minor key
270.
271.         # Uses the first part ([0] in Python) to do this - all parts should
have same time signature!
272.         p = 0 # part p = 0
273.
274.         # Possible key signatures range from -7 (7 flats: flat = -
1) to +7 (7 sharps: sharp = +1)
275.         # This scoring system of sharps = +1, flats = -
1 is the same in the music21 key signature
276.         # property .sharps
277.         # Create list of possible key values ("keylist")
278.         keylist = [-7,-6,-5,-4,-3,-2,-1,0,1,2,3,4,5,6,7]
279.
280.         # Initialise an empty count list structure: m movement lists of i k
ey signature types
281.         count = [[0] * len(keylist) for m in range(len(slist))]
282.
283.         # Loop through each movement in slist (m)
284.         for m in range(0, len(slist)):
285.             # Loop through key signatures in movement m, part p using music
21 getElementsByClass recurse() function (el)
286.             for el in slist[m].parts[p].recurse().getElementsByClass('KeySi
gnature'):
287.                 # Loop through the known key signatures keylist (i) to sear
ch for a match for key signature el
288.                 for i in range(0,len(keylist)):
289.                     # If the el-th key signature matches the i-
th key signature value in key list,
290.                     # then we have found the position (i) of this key signa
ture el in the keylist;
291.                     # add 1 to the relevant position in the count list stru
cture
292.                     # (m-th movement, i-th type of key signature)
293.                     if el.sharps == keylist[i]:
294.                         count[m][i] = count[m][i] + 1
295.
296.         # Print results so easy to copy into e.g. Excel

```

```

297.         print('countKeySignatureByType results: key signatures in each move
ment separated by type')
298.         print('--> Key signature type')
299.         print('v Movement in slist')
300.         print('Key signature sharp (+1) and flats (-1):')
301.         print(keylist)
302.         print2DList(count) # See print functions below
303.
304.         return [keylist,count]
305.
306.     def getDynamicByType(slist):
307.         # Function which find all unique dynamics in slist ("dynamiclist")
308.
309.         # Initialise empty list of dynamic value names "dynamiclist"
310.         dynamiclist = []
311.
312.         # loop through each movement in slist (m)
313.         for m in range(0, len(slist)):
314.             # loop through each part in the m-th movement (p)
315.             for p in range(0, len(slist[m].parts)):
316.                 # loop through each dynamic marking (el) in the p-
th part of the m-th movement
317.                 # uses "getElementsByClass" recurse in music21 to extract t
hese from the music21 stream
318.                 for el in slist[m].parts[p].recurse().getElementsByClass('D
ynamic'):
319.                     # If this is the first dynamic found, then dynamiclist
will still be empty.
320.                     # Therefore, add this first el-
th dynamic marking value string to dynamiclist and
321.                     # move onto the next dynamic marking
322.                     if len(dynamiclist) == 0:
323.                         dynamiclist.append(el.value)
324.                     # Otherwise (this isn't the first dynamic marking) carr
y on
325.                     else:
326.                         # loop through each of the unique dynamic values wh
ich currently exist on the growing
327.                         # list of dynamic values in "dynamiclist" (i)
328.                         for i in range(0,len(dynamiclist)):
329.                             # if the value of this el-
th dynamic marking in this m-th movement in the p-th part
330.                             # matches the i-
th value name on the existing dynamic list, this isn't a new value
331.                             # of dynamic marking, so break out of the i-
loop which is searching for a matching
332.                             # dynamic value name on the dynamic list.
333.                             if el.value == dynamiclist[i]:
334.                                 break
335.                             # if we're reached the end of the dynamic list
(note Python lists start from 0, so
336.                             # the last i = the length of the dynamic list m
inus one), we can't have found a
337.                             # match (as otherwise we would've broken out of
the i-loop as per the if condition
338.                             # above). Thus the value name of the el-
th dynamic marking in the m-th movement, p-th
339.                             # part is new and so this new dynamic value nam
e is appened to the dynamic lis and the
340.                             # i-th loop ended.
341.                             elif i == (len(dynamiclist)-1):
342.                                 dynamiclist.append(el.value)
343.                                 break
344.
345.         # Return dynamiclist. Dynamics listed in order of which used in sli
st (1st part 1st etc)!

```

Appendix A - Python Scripts for Data Collection in Music21

```

346.         return dynamiclist
347.
348.     def countDynamicByType(slist):
349.         # Function which counts all the dynamic markings in each part by ty
           pe in each movement in slist
350.         # Function performs this count for each part of each movement and e
           ach unique dynamic marking
351.         # Note that in some scores, dynamics may also be written as text ex
           pressions, so
352.         # results from this function should be combined with results from r
           elevant text
353.         # expressions.
354.
355.         # Get list of unique dynamic values using getDynamicByType
356.         # This list covers all parts in slist
357.         dynamiclist = getDynamicByType(slist)
358.
359.         # Find maximum number of parts
360.         pmax = partChecker(slist)
361.
362.         # set-
           up empty count list structure (nested list) for dynamic markings:
363.         # divide matrix into part, movement and dynamic type
364.         count = [[0] * len(dynamiclist) for m in range(len(slist))] for p
           in range(pmax)]
365.
366.         # loop through each movement in slist (m)
367.         for m in range(0, len(slist)):
368.             # loop through each part of the m-th movement (p)
369.             for p in range(0, len(slist[m].parts)):
370.                 # loop through each dynamic marking in the m-
                   th movement, p-th part (el)
371.                 # uses music21 getElementsByClass recurse() function
372.                 for el in slist[m].parts[p].recurse().getElementsByClass('D
                   ynamic'):
373.                     # loop through each dynamic marking value in dynamic li
                       st
374.                     for i in range(0, len(dynamiclist)):
375.                         # if the value of the el-th dynamic in the m-
                   th movement, p-th part
376.                         # matches that of the dynamiclist at position i, ad
                       d 1 to the p-th
377.                         # part, m-th movement count in the i-
                   th dynamic type and move onto
378.                         # next dynamic marking (break out of i-loop)
379.                         if el.value == dynamiclist[i]:
380.                             count[p][m][i] = count[p][m][i] + 1
381.                             break
382.
383.         # Print results so easy to copy into e.g. Excel
384.         print('countDynamicByType results')
385.         # Print one table for each part
386.         for p in range(0, pmax):
387.             print('PART NUMBER ', str(p+1))
388.             print('--> Dynamic Marking')
389.             print('v (rows) Movement in slist')
390.             print('Dynamic Marking names:')
391.             print(dynamiclist)
392.             print2DList(count[p]) # See print functions below
393.
394.         # Return dynamiclist and count
395.         return [dynamiclist, count]
396.
397.     def countDynamicByTypeAllParts(slist):
398.         # Function which counts all the dynamic markings summed in all part
           s

```

```

399.         # Function performs this count for each movement and each unique dy
         namic marking
400.         # Note that in some scores, dynamics may also be written as text ex
         pressions, so
401.         # results from this function should be combined with results from r
         elevant text
402.         # expressions.
403.
404.         # Get list of unique dynamic values using getDynamicByType
405.         # This list covers all parts in slist
406.         dynamiclist = getDynamicByType(slist)
407.
408.         # set-up empty count matrix (nested list) for dynamic markings:
409.         # divide matrix into movement and dynamic type
410.         count = [[0] * len(dynamiclist) for m in range(len(slist))]
411.
412.         # loop through each movement in slist (m)
413.         for m in range(0, len(slist)):
414.             # loop through each part in slist
415.             for p in range(0, len(slist[m].parts)):
416.                 # loop through each dynamic marking in the m-
                 th movement, p-th part
417.                 # uses music21 getElementsByClass recurse() function
418.                 for el in slist[m].parts[p].recurse().getElementsByClass('D
                 ynamic'):
419.                     # loop through each dynamic marking value in dynamic li
                 st
420.                     for i in range(0,len(dynamiclist)):
421.                         # if the value of the el-th dynamic in the m-
                 th movement, p-th part
422.                         # matches that of the dynamiclist at position i, ad
                 d 1 to the m-th
423.                         # movement count in the i-
                 th dynamic and move onto next dynamic
424.                         # marking (break out of i-loop)
425.                         if el.value == dynamiclist[i]:
426.                             count[m][i] = count[m][i] + 1
427.                             break
428.
429.         # Print results so easy to copy into e.g. Excel
430.         print('countDynamicByTypeAllParts results')
431.         print('--> Dynamic Marking')
432.         print('v (rows) Movement in slist')
433.         print('Dynamic Marking names:')
434.         print(dynamiclist)
435.         print2DList(count) # See print functions below
436.
437.         # Return dynamiclist and count
438.         return [dynamiclist,count]
439.
440.     def getUniqueTextExpressionList(slist):
441.         # Function produces list of all unique text expressions in slist
442.         # music21 has a class "TextExpression". The property ".content" is
         a string of the text expression.
443.         # Note definition of "unique" is by Python string comparison, so mi
         nor difference, e.g. Cresc. vs. cresc.
444.         # will count as different entries. It is recommended that the resul
         ts of the text list be processed to combine
445.         # similar items into single category.
446.
447.         # Intialise empty text list of text expressions
448.         textlist = []
449.
450.         # loop through each movement in slist (m)
451.         for m in range(0, len(slist)):
452.             # loop through each part in the m-th movement (p)
453.             for p in range(0, len(slist[m].parts)):

```

Appendix A - Python Scripts for Data Collection in Music21

```

454.
455.         ## HISTORICAL CODE FIX: ##
456.         # This script used to loop through parts first then movemen
ts.
457.         # However, this would not allow for lists with different nu
mbers of parts
458.         # To give textlist in same order, loop through movement aga
in.
459.         # This is less efficient but gives very long unique text li
st (~300 items) in same order as before
460.         # This saves having to repeat matching up of expressions in
excel
461.         for m in range(0, len(slist)):
462.             #####
463.
464.             # loop through each text expression (el) in the p-
th part of the m-th movement
465.             # uses "getElementsByClass" recurse in music21 to extra
ct these from the music21 stream
466.             for el in slist[m].parts[p].recurse().getElementsByClas
s('TextExpression'):
467.                 # If this is the first text expression found, then
textlist will still be empty.
468.                 # Therefore, add this first el-
th text expression string to textlist and
469.                 # move onto the next text expression
470.                 if len(textlist) == 0:
471.                     textlist.append(el.content)
472.                 # Otherwise (this isn't the first text expression)
carry on
473.                 else:
474.                     # loop through each of the unique text expressi
ons which currently exist on the growing
475.                     # list of text expressions in "textlist" (i)
476.                     for i in range(0,len(textlist)):
477.                         # if the value of this el-
th text expression in this m-th movement in the p-th part
478.                         # matches the i-
th text expression on the existing text list, this isn't a new text
479.                         # expression, so break out of the i-
loop which is searching for a matching text
480.                         # expression on the textlist.
481.                         if el.content == textlist[i]:
482.                             break
483.                         # if we're reached the end of the textlist
(note Python lists start from 0, so
484.                         # the last i = the length of the text list
minus one), we can't have found a
485.                         # match (as otherwise we would've broken ou
t of the i-loop as per the if condition
486.                         # above). Thus the value name of the el-
th text expression in the m-th movement, p-th
487.                         # part is new and so this new text expressi
on string is appened to the text list and
488.                         # the i-th loop ended.
489.                         elif i == (len(textlist)-1):
490.                             textlist.append(el.content)
491.                             break
492.
493.             # Return textlist. Text Expressions listed in order of which used i
n slist (1st part 1st etc)!
494.             return textlist
495.
496.         def countTextExpressionByTypeAllParts(slist):
497.             # Function which counts the text expressions in each movement in sl
ist for all parts

```

```

498.         # Function performs this count for each movement and unique text ex
           expression
499.         # Note definition of "unique" is by Python string comparison, so mi
           nor difference, e.g. Cresc. vs. cresc.
500.         # will count as different entries. It is recommended that the resul
           ts of the text list be processed to combine
501.         # similar items into single category.
502.
503.         # Find, find all the unique text expressions in slist. This include
           s all parts so the list is universal
504.         textlist = getUniqueTextExpressionList(slist)
505.
506.         # set-up empty count matrix (nested list) for text expressions:
507.         # divide matrix into part, movement and text expression
508.         count = [[0] * len(slist) for i in range(len(textlist))]
509.
510.         # loop through each movement in slist (m)
511.         for m in range(0, len(slist)):
512.             for p in range(0, len(slist[m].parts)):
513.                 # loop through each text expression (el) in movement m, par
           t p
514.                 for el in slist[m].parts[p].recurse().getElementsByClass('T
           extExpression'):
515.                     # loop through each unique text expression in textlist
516.
517.                     for i in range(0,len(textlist)):
518.                         # If the content of this el-
           th text expression matches the i-th textlist entry, add one to the
519.                         # count of the i-th text expression in the m-
           th movement and move onto next text expression
520.                         # (break out of i-loop)
521.                         if el.content == textlist[i]:
522.                             count[i][m] = count[i][m] + 1
523.                             break
524.
525.         # Print results so easy to copy into e.g. Excel
526.         print('countTextExpressionByTypeAllParts results')
527.         print('--> Movement in slist')
528.         print('v (rows) Text Expression')
529.         print2DList(count) # See print functions below
530.         print('TextExpression names:')
531.         # Loop through text expressions in text list in order to print text
           expression names
532.         for i in range(0, len(textlist)):
533.             # Print i-
           th textlist item BUT put in [] to suppress e.g. \n (new line) command which is
           in some text expressions
534.             # used in music21! Not suppressing \n inserts a new line and sp
           lits one text expression over multiple lines!
535.             print([textlist[i]])
536.
537.         # Return the unique text expression list and the count matrix
538.
539.         return [textlist,count]
540.
541.     def countTextExpressionByType(slist):
542.         # Function which counts the text expressions in each part of each m
           ovement in slist
543.         # Function performs this count for each part, for each movement and
           unique text expression
544.         # Note definition of "unique" is by Python string comparison, so mi
           nor difference, e.g. Cresc. vs. cresc.
545.         # will count as different entries. It is recommended that the resul
           ts of the text list be processed to combine
546.         # similar items into single category.
547.         # Note Python counts from 0, so the first part is p = 0.

```

Appendix A - Python Scripts for Data Collection in Music21

```

547.         # Find, find all the unique text expressions in slist. This include
           s all parts so the list is universal
548.         textlist = getUniqueTextExpressionList(slist)
549.
550.         # Find maximum number of parts
551.         pmax = partChecker(slist)
552.
553.         # set-up empty count matrix (nested list) for text expressions:
554.         # divide matrix into part, movement and text expression
555.         count = [[ [0] * len(slist) for i in range(len(textlist))] for p in
           range(pmax)]
556.
557.         # loop through each movement in slist (m)
558.         for m in range(0, len(slist)):
559.             # loop through each part of the m-th movement (p)
560.             for p in range(0, len(slist[m].parts)):
561.                 # loop through each text expression (el) in movement m, par
           t p
562.                 for el in slist[m].parts[p].recurse().getElementsByClass('T
           xtExpression'):
563.                     # loop through each unique text expression in textlist
564.
565.                     for i in range(0, len(textlist)):
566.                         # If the content of this el-
           th text expression matches the i-th textlist entry, add one to the
           # count of the i-th text expression in the m-
           th movement in the p-th part, and move onto next
567.                         # text expression (break out of i-loop)
568.                         if el.content == textlist[i]:
569.                             count[p][i][m] = count[p][i][m] + 1
570.                         break
571.
572.         # Print results so easy to copy into e.g. Excel
573.         print('countTextExpressionByType results')
574.         # Print one table for each part
575.         for p in range(0, pmax):
576.             print('PART NUMBER ', str(p+1))
577.             print('--> Movement in slist')
578.             print('v (rows) Text Expression')
579.             print2DList(count[p]) # See print functions below
580.
581.         # Print text expression names
582.         print('TextExpression names:')
583.         # Loop through text expressions in text list in order to print text
           expression names
584.         for i in range(0, len(textlist)):
585.             # Print i-
           th textlist item BUT put in [] to suppress e.g. \n (new line) command which is
           in some text expressions
586.             # used in music21! Not suppressing \n inserts a new line and sp
           lits one text expression over multiple lines!
587.             print([textlist[i]])
588.
589.         # Return the unique text expression list and the count matrix
590.
591.         return [textlist, count]
592.
593.     def getUniqueArticulationList(slist):
594.         # Function which finds all the unique articulation marking names pr
           esent in slist
595.         # Compile these into list of names called "articulationlist"
596.         # Initialise "articulationlist"
597.         articulationlist = []
598.         # loop through each part in the score (p)
599.         for p in range(0, 4):
600.             # loop through each movement in slist (m)
           for m in range(0, len(slist)):

```

```

601.
602.           # loop through each note (el) in the m-th movement, p-
        th part
603.           for el in slist[m].parts[p].recurse().getElementsByClass('N
ote'):
604.           # if there are any articulations on this el-
        th note, continue (do nothing if not)
605.           if len(el.articulations) > 0:
606.           # loop through each articulation marking on this el
        -th note (art)
607.           for art in range(0,len(el.articulations)):
608.           # if this is the first articulation marking, ad
        d el-th articulation marking to the
609.           # articulationlist
610.           if len(articulationlist) == 0:
611.           articulationlist.append(el.articulations[ar
t].name)
612.           # loop through each of the unique articulation
        names which currently exit
613.           # on the growing list of articulation type name
        s (i)
614.           for i in range(0,len(articulationlist)):
615.           # if the name of this art-
        th articulation marking on this el-th note
616.           # match the i-
        th name on the existing articulation list, this isn't a
617.           # new type of articulation marking name, so
        break out of the i-loop which
618.           # is searching for a matching name on the a
        rticulation list
619.           if el.articulations[art].name == articulati
onlist[i]:
620.           break
621.           # if we're reached the end of the articulat
        ion list (note Python lists
622.           # start from 0, so the last i = the length
        of the articulation list minus
623.           # one), we can't have found a match (as oth
        erwise we would've broken out
624.           # of the i-
        loop as per the if condition above). Thus the name of the art-th
625.           # articulation marking on the el-
        th note is new and so this new articulation
626.           # marking name is appended to the articulat
        ion list and the i-th loop ended
627.           elif i == (len(articulationlist) - 1):
628.           articulationlist.append(el.articulation
s[art].name)
629.           break
630.
631.           # loop through each chord in the m-th movement, p-th part
632.           for el in slist[m].parts[p].recurse().getElementsByClass('C
hord'):
633.           # if there are any articulation on this el-
        th chord, continue (do nothing if not)
634.           if len(el.articulations) > 0:
635.           # loop through each articulation marking on this el
        -th chord (art)
636.           for art in range(0,len(el.articulations)):
637.           # if this is the first articulation marking, ad
        d el-th articulation marking to the
638.           # articulationlist
639.           if len(articulationlist) == 0:
640.           articulationlist.append(el.articulations[ar
t].name)
641.           # loop through each of the unique articulation
        names which currently exit

```

Appendix A - Python Scripts for Data Collection in Music21

```

642.             # on the growing list of articulation type name
        s (i)
643.             for i in range(0,len(articulationlist)):
644.                 # if the name of this art-
        th articulation marking on this el-th chord
645.                 # match the i-
        th name on the existing articulation list, this isn't a
646.                 # new type of articulation marking name, so
        break out of the i-loop which
647.                 # is searching for a matching name on the a
        rticulation list
648.                 if el.articulations[art].name == articulationlist[i]:
649.                     break
650.                 # if we're reached the end of the articulation list (note Python lists
651.                 # start from 0, so the last i = the length
        of the articulation list minus
652.                 # one), we can't have found a match (as otherwise we would've broken out
653.                 # of the i-
        loop as per the if condition above). Thus the name of the art-th
654.                 # articulation marking on the el-
        th chord is new and so this new articulation
655.                 # marking name is appended to the articulation list and the i-th loop ended
656.                 elif i == (len(articulationlist) - 1):
657.                     articulationlist.append(el.articulations[art].name)
658.                     break
659.
660.             # return articulationlist
661.             return articulationlist
662.
663.     def countArticulationByType(slist):
664.         # Function which counts the articulation markings on each note and
        chord in each part
665.         # Function performs this count for each part of each movement and a
        rticulation type in slist
666.
667.         # First obtain unique articulation list
668.         # Note this list is for all parts, so list is the same for all parts
        s
669.         articulationlist = getUniqueArticulationList(slist)
670.
671.         # Find maximum number of parts
672.         pmax = partChecker(slist)
673.
674.         # set-
        up empty count list structure (nested list) for articulation markings:
675.         # divide list structure into part, movement and articulation type
676.         count = [[0 for a in range(len(articulationlist))] for m in range(
        len(slist))] for p in range(pmax)]
677.
678.         # count articulation markings on notes and chords
679.         # loop through each movement in slist (m)
680.         for m in range(0, len(slist)):
681.             # loop through each part in the m-th movement (p)
682.             for p in range(0, len(slist[m].parts)):
683.
684.                 # loop through each note in the m-th movement, p-
        th part and count articulation on notes (el)
685.                 for el in slist[m].parts[p].recurse().getElementsByClass('Note'):
686.                     # if there are any articulation on this el-
        th note, continue (do nothing if not)
687.                     if len(el.articulations) > 0:

```

```

688.                                     # loop through each articulation marking on this el
        -th note (art)
689.                                     for art in range(0,len(el.articulations)):
690.                                     # loop through each unique articulation name fr
        om list of articulation types (i)
691.                                     for i in range(0,len(articulationlist)):
692.                                     # if the name of this art-
        th articulation marking on this el-th note matches
693.                                     # the i-
        th name on the artiulation type list, add 1 to the count matrix and move
694.                                     # onto next articulation mark (break out of
        i-loop)
695.                                     if el.articulations[art].name == articulati
        onlist[i]:
696.                                     count[p][m][i] = count[p][m][i] + 1
697.                                     break
698.
699.                                     # loop through each chord in the m-th movement, p-
        th part and count articulation on chords (el)
700.                                     for el in slist[m].parts[p].recurse().getElementsByClass('C
        hord'):
701.                                     # if there are any articulation on this el-
        th chord, continue (do nothing if not)
702.                                     if len(el.articulations) > 0:
703.                                     # loop through each articulation marking on this el
        -th chord (art)
704.                                     for art in range(0,len(el.articulations)):
705.                                     # loop through each unique articulation name fr
        om list of articulation types (i)
706.                                     for i in range(0,len(articulationlist)):
707.                                     # if the name of this art-
        th articulation marking on this el-th chord matches
708.                                     # the i-
        th name on the artiulation type list, add 1 to the count matrix and move
709.                                     # onto next articulation mark (break out of
        i-loop)
710.                                     if el.articulations[art].name == articulati
        onlist[i]:
711.                                     count[p][m][i] = count[p][m][i] + 1
712.                                     break
713.
714.                                     # Print results so easy to copy into e.g. Excel
715.                                     print('countArticulationByType results')
716.                                     # Print one table for each part
717.                                     for p in range(0, pmax):
718.                                     print('PART NUMBER ',str(p+1))
719.                                     print('--> Articulation Marking')
720.                                     print('v (rows) Movement in slist')
721.                                     print('Articulation Marking names:')
722.                                     print(articulationlist)
723.                                     print2DList(count[p]) # See print functions below
724.
725.                                     # Return the articulation names list and the count matrix
726.                                     return [articulationlist,count]
727.
728.                                     def countSpecificArticulation(slist,articulationname):
729.                                     # Function which counts the articulation markings of the name "arti
        culationname" on each note and chord
730.                                     # Function performs this count for each part and movement in slist
731.
732.                                     # Find maximum number of parts
733.                                     pmax = partChecker(slist)
734.
735.                                     # set-up empty count list struction for articulation markings:
736.                                     # divide matrix into parts and movements
737.                                     count = [[0 for p in range(pmax)] for m in range(len(slist))]

```

Appendix A - Python Scripts for Data Collection in Music21

```

738.
739.         # count articulation markings on notes and chords
740.         # loop through each movement in slist (m)
741.         for m in range(0, len(slist)):
742.             # loop through each part of the m-th movement (p)
743.             for p in range(0, len(slist[m].parts)):
744.                 # loop through each note in the m-th movement, p-
745.                 # th part and count articulation on notes (el)
746.                 for el in slist[m].parts[p].recurse().getElementsByClass('N
747.                 ote'):
748.                     # if there are any articulation on this el-
749.                     # th note, continue (do nothing if not)
750.                     if len(el.articulations) > 0:
751.                         # loop through each articulation marking on this el
752.                         # -th note (art)
753.                         for art in range(0, len(el.articulations)):
754.                             # if the name of this art-
755.                             # th articulation marking on this el-th note matches
756.                             # the articuation name supplied to the function
757.                             ("articulationname"),
758.                             # add 1 to the count matrix
759.                             if el.articulations[art].name == articulationna
760.                             me:
761.                                 count[m][p] = count[m][p] + 1
762.                             # loop through each chord in the m-th movement, p-
763.                             # th part and count articulation on chords (el)
764.                             for el in slist[m].parts[p].recurse().getElementsByClass('C
765.                             hord'):
766.                                 # if there are any articulation on this el-
767.                                 # th chord, continue (do nothing if not)
768.                                 if len(el.articulations) > 0:
769.                                     # loop through each articulation marking on this el
770.                                     # -th chord (art)
771.                                     for art in range(0, len(el.articulations)):
772.                                         # if the name of this art-
773.                                         # th articulation marking on this el-th chord matches
774.                                         # the articuation name supplied to the function
775.                                         ("articulationname"),
776.                                         # add 1 to the count matrix
777.                                         if el.articulations[art].name == articulationna
778.                                         me:
779.                                             count[m][p] = count[m][p] + 1
780.
781.         # Print results so easy to copy into e.g. Excel
782.         print('countSpecificArticulation results: articulations markings in
783.         each movement separated by type')
784.         print('--> Part')
785.         print('\n Movement in slist')
786.         print2DList(count) # See print functions below
787.
788.         # Return the count list
789.         return count
790.
791.     ## PRINT FUNCTIONS ##
792.     # These functions turn take the lists (or lists of lists, colloquially c
793.     # alled "matrices" here) and "print" them
794.     # into a format that can readily be copied and pasted into Excel.
795.
796.     def printList(list1D):
797.         # Function which simply prints out a list of numbers or strings ver
798.         # tically
799.         # Loop through each position in list list1D and print the value at
800.         # this point
801.         for j in range(0, len(list1D)):
802.             print(list1D[j])
803.
804.     def print2DList(list2D):

```

```
787.         # Function which prints out a list within a list as a table
788.         # Loop through the outer list (i)
789.         for i in range(0,len(list2D)):
790.             # Create empty message string "msg"
791.             msg = str()
792.             # Loop through the list (j) at position i in the outer list
793.             # Append the information at each position to the message msg (w
ith a space inbetween each list item)
794.             for j in range(0,len(list2D[i])):
795.                 msg = msg + str(list2D[i][j]) + ' '
796.             # Print the message at the end of the inner loop
797.             print(msg)
```

APPENDIX B. TEXT CODES FOR TEXT EXPRESSIONS FOUND BY MUSIC21 PYTHON SCRIPTS

Table B-1 – Unique Text Code assigned for each unique Text Expression

Text Code	Expression
Dynamics (incorrectly input as Text Expressions or Text Box)	
9	<i>p</i>
26	<i>pp</i>
61	<i>f</i>
64	<i>ff</i>
103	<i>sf</i>
104	<i>sfp</i>
105	<i>fp</i>
76	<i>rfz</i>
106	<i>ppp</i>
Expression words	
1	Cresc.
2	Decresc.
13	Smorzando
15	dolce
21	cantabile
38	dim
46	morendo
45	sotto voce
47	perdendosi
43	mesto
50	mancando
51	espressivo
54	legato
59	grazioso
62	leggiarmente/leggiarmento
70	mezza voce
77	sostenuto
78	teneramente
90	beklemmt
92	piacevole
94	lusinghiero
96	semplice
99	ritente
116	mezzo
Structural Indications	
7	Trio
18	Menuetto
20	D.C
22	Var. 1.
23	Var. 2.
24	Var. 3.

- 25 Var. 4.
- 27 Var. 5
- 34 attacca subito
- 52 maggiore
- 55 il minore ma senza...
- 56 Finale
- 57 Introduzione
- 66 con Variazione
- 113 Si repete la seconda\parte al suo piacere.
- 114 attacca il Tema dei Variazioni
- 115 La seconda volta si prende il Tempo piu Allegro
- 117 attacca
- 119 No. 1 Adagio ma non troppo e molto espressivo
- 120 No 2. Allegro molto vivace
- 121 No 3. Allegro moderato
- 122 No 4. Andante ma non troppo e molto cantabile
- 123 No. 5 Presto.
- 124 No. 6 Adagio quasi un poco andante.
- 125 No 7. Allegro

Tempo/Mood indicators

- 3 Allegro
- 6 Adagio
- 11 Andante
- 14 Presto
- 17 Allegretto
- 19 Prestissimo
- 32 Scherzo
- 39 Vivace
- 40 Scherzando/Scherzoso
- 73 Larghetto
- 59 Grazioso
- 74 Agitato
- 75 Maestoso
- 85 Appassionato
- 95 moderato
- 107 Lento
- 108 Tranquillo
- 109 Grave

Unique Titles

- 33 La Malinconia
- 48 Si tratta questo pezzo con molto di sentimento (Op. 59, 2, ii)
- 53 Thème russe.
- 80 Heiliger
- 81 Neue Kraft fuhlend
- 82 Mit innigster Empfindung
- 83 Alla Marcia
- 89 Alla Danza Tedesca

Technical Instructions

Appendix B - Text Codes for Text Expressions Found By Music21 Python Scripts

5 pizz.
8 Sul A.
31 arco
60 sul una corda
86 col punta d'arco
97 sul ponticello
98 per l'ordinario
111 Sul G
118 Corda C

Emphatic/modifiers

4 sempre
12 con moto
16 ma non tanto
28 poco
29 con brio
30 ma non troppo
35 quasi
36 e
37 piu
44 molto
68 poco a poco
71 ma serio
72 assai
87 ben
93 mosso
102 meno
110 tratto

Articulation

10 staccato
49 tenuto
69 non legato
88 marcato
112 queste note ben marcate

Tempo Changes

41 rit
42 a tempo
58 stringendo il tempo
65 tempo primo
67 accel
79 l'istesso tempo
84 immer geschwinder
91 Ritmo di quattro battute
100 Ritmo di tre battute
101 Ritmo di due battute

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Table B-2 –Text Codes and word count applied to each unique Text Expression found in xml file by Python script

Text Expression found in xml file	Words	Applicable Text Codes					
Cresc.	1	1					
Decresc.	1	2					
Allegro	1	3					
cresc.	1	1					
decresc.	1	2					
sempre	1	4					
pizz.	1	5					
Adagio	1	6					
Trio	1	7					
Sul A.	2	8					
sempre staccato	2	4	10				
p cresc.	1	9	1				
sempre stacc.	2	4	10				
decresc	1	2					
p cresc.	1	9	1				
Andante con moto	3	11	12				
dd	0	0					
smor -	1	13					
zan -	0	0					
do	0	0					
zan -	0	0					
arco	1	31					
Presto	1	14					
dol.	1	15					
smor - - - -	1	13					
zan	0	0					
- - - - - do	0	0					
smor - - - -	1	13					
f	0	61					
smor - - - -	1	13					
zan - - - - -	0	0					
- - - do							
Allegro ma non tanto	4	3	16				
Andante scherzoso quasi Allegretto	4	11	40	35	17		
Allegretto	1	17					
Men. D.C.	2	18	20				
La seconda volta si prende il Tempo piu Allegro	9	115					
Prestissimo	1	19					
cresc	1	1					
sf	0	103					
Menuetto	1	18					
Menuetto D.C.	2	18	20				
Andante cantabile	2	11	21				
p	0	9					
Var. 1.	2	22					
Var. 2.	2	23					
Var. 3.	2	24					
Var. 4.	2	25					
sempre pp	1	4	26				
Var. 5.	2	27					

Appendix B - Text Codes for Text Expressions Found By Music21 Python Scripts

Text Expression found in xml file	Words	Applicable Text Codes					
Poco Adagio	2	6	28				
.	0	0					
q =165	0	0					
PP	0	26					
P	0	9					
Allegro con brio	3	3	29				
Adagio ma non troppo	4	6	30				
stacc.	1	10					
queste note ben marcate	4	112					
queste note ben marcate.	4	112					
TRIO	1	7					
D.C. Scherzo	2	32	20				
LA MALINCONIA	2	33					
pp	0	26					
attacca subito il Allegretto	4	34	17				
Allegretto quasi Allegro	3	17	35	3			
poco Adagio	2	28	6				
e dolce.	2	15	36				
piu	1	37					
dim.	1	38					
mezzo	1	116					
e dolce	2	36	15				
Allegretto vivace e sempre scherzando.	5	40	17	39	36		
poco rit.	2	28	41				
a tempo	2	42					
sempre stacc. e piano	4	4	10	36	9		
Adagio molto e mesto	4	6	43	44	36		
morendo.	1	46					
a tempo.	2	42					
molto cantabile.	2	44	21				
sotto voce.	2	45					
espressivo	1	51					
Adagio ma non troppo.	4	6	30				
sempre e perendosi.	3	4	36	47			
dolce	1	15					
piu cresc.	2	37	1				
il	1	0					
poco ritard	2	41	28				
Molto Adagio	2	44	6				
Si tratta questo pezzo eon molto di sentimento	7	48					
ten.	1	49					
mancando	1	50					
espress.	1	51					
sul G.	2	111					
staccato	1	10					
poco cresc.	2	1	28				
Maggiore	1	52					
Theme russe.	2	53					
sempre.	1	4					
legato	1	54					
il minore ma senza\n replica ed allora ancora una\n volta il trio, e dopo di nuovo\nnda capo ilo minore senza replica	22	55					

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Text Expression found in xml file	Words	Applicable Text Codes					
legato e sempre	3	54	36	4			
Finale. Presto	2	56	14				
Piu presto	2	37	14				
Introduzione	1	57					
Allegro vivace	2	3	39				
string. il tempo.	3	58					
arco.	1	31					
Andante con moto quasi Allegretto.	5	35	12	11	17		
sempre dim.	2	38	4				
Menuetto Grazioso	2	18	59				
sul una corda.	3	60					
Menuetto da Capo	3	18	20				
Allegro molto.	2	3	44				
crescendo poco a poco	4	1	68				
sempre piu crescendo	3	4	37	1			
sotto voce	2	45					
più cresc.	2	37	1				
più f	1	37	61				
cantabile	1	21					
espressivo morendo	2	51	46				
mezza voce	2	70					
dim. p	1	38	9				
legieramente	1	62					
piu p	1	37	9				
Piu presto quasi prestissimo	4	35	37	14	19		
sempre ff	1	4	64				
sempre f	1	4	61				
Tempo primo	2	65					
Più presto quasi prestissimo	4	35	37	14	19		
sempre p	1	4	9				
sempre piu p	2	4	37	9			
attacca il Tema dei Variazioni	5	114					
Allegretto con Variazioni	3	17	66				
sempre f e staccato	3	4	36	61	10		
sempre dolce e p	3	4	36	15	9		
sempre p e dolce	3	4	36	15			
un poco più vivace	4	28	37	39			
accel.	1	67					
cresc. poco a poco	4	1	68				
Allegro con Brio	3	3	29				
non legato	2	69					
-----	0	0					
Allegretto ma non troppo.	4	17	30				
sempre piano	1	4	9				
attaca subito	2	34					
Allegro assai vivace ma serio	5	3	71	72			
Più Allegro	2	37	3				
Larghetto espressivo	2	73	51				
Allegretto agitato.	2	17	74				
sempre forte	1	4	61				
poco ri - tar - dan - do	2	28	41				
Allegro.	1	3					

Appendix B - Text Codes for Text Expressions Found By Music21 Python Scripts

Text Expression found in xml file	Words	Applicable Text Codes					
molto leggieramento	2	44	62				
rinf.	1	76					
Maestoso	1	75					
e dolce	2	36	15				
Adagio ma non troppo e molto cantabile	6	36	6	30	44	21	
	0	0					
Andante Con moto	3	12	11				
poco	1	28					
Adagio molto es-	3	6	44	51			
pressivo	0	51					
Tempo 1	2	65					
cresc. - - - -	1	1					
rinf. - - -	1	76					
rinf. - - -	1	76					
rit.	1	41					
Scherzando vivace	2	40	39				
Tempo I	2	65					
piu piano	1	37	9				
Finale	1	56					
Allegro con moto	3	3	12				
non legato	2	69					
Assai sostenuto	2	72	77				
piu cresc	2	37	1				
teneramente	1	78					
Rit.	1	41					
A tempo	2	42					
f H	0	61					
p teneramente	1	78	9				
p non legato	2	9	69				
oiu f	1	37	61				
morendo	1	46					
p dolce	1	9	15				
p non legato	2	9	69				
piu f	1	37	61				
p dolce	1	9	15				
L'istesso tempo	2	79					
p dol.	1	9	15				
ps	0	0					
Heiliger Dankgesang eines Genesenen an die Gottheit, in der lydischen Tonart.	11	80					
Andante	1	11					
e = 30	0	0					
Neue Kraft fuhlend	3	81					
Molto adagio	2	44	6				
Mit innigster Empfindung	3	82					
p piu p	1	9	37	9			
Alla Marcia, assai vivace	4	83	39	72			
attacca subito	2	34					
Piu Allegro	2	37	3				
Accel.	1	67					
immer geschwinder	2	84					
smorzando	1	13					
Allegro appassionato	2	3	85				

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Text Expression found in xml file	Words	Applicable Text Codes					
poco a poco	3	68					
poco a poco	3	68					
col punto d'arco	3	86					
Tempo I.	2	65					
ben marcato	2	87	88				
ben marc.	2	87	88				
più	1	37					
R	0	0					
L	0	0					
J	0	0					
Music Engraving	0	0					
una corda	2	60					
Corda C	2	118					
ritar - dan - do	1	41					
poco ritard.	2	28	41				
in tempo	2	42					
Andante con moto ma non troppo.	5	11	12	30			
Poco scherzoso.	2	28	40				
Cantabile.	1	21					
non troppo presto	3	30	14				
Allegro assai	2	3	72				
Alla danza tedesca	3	89					
Adagio molto espressivo	3	6	51	4			
Beklemmt.	1	90					
ritard	1	41					
poco a poco	3	68					
al	1	0					
No. 1 Adagio ma non troppo e molto espressivo	9	119	6	30	36	44	51
r	1	76					
dolce cresc.	2	15	1				
No 2. Allegro molto vivace	5	120	3	44	39		
un poco ritard.	3	28	41				
No 3. Allegro moderato	4	121	3	95			
piu vivace	2	37	39				
rin	1	76					
No 4. Andante ma non troppo e molto cantabile	9	122	11	30	36	44	21
Più mosso.	2	37	93				
Andante moderato e lusinghiero	4	36	94	95	11		
Adagio ma non troppo e semplice	5	6	30	36	96		
No. 5 Presto.	3	123	14				
Molto poco adagio.	3	6	44	8			
piacevole	1	92					
Ritmo di quattro battute	4	91					
sul ponticello	2	97					
da capo per l'ordinario	4	20	98				
un poco più adagio	4	28	37	6			
attacca	1	117					
No. 6 Adagio quasi un poco andante.	7	124	6	28	11	35	
No 7. Allegro	3	125	3				
poco riten.	2	28	99				
Ritmo di tre battute	4	100					
Ritmo di due battute	4	101					

Appendix B - Text Codes for Text Expressions Found By Music21 Python Scripts

Text Expression found in xml file	Words	Applicable Text Codes					
Poco adagio.	2	28	6				
semplice espress.	2	96	51				
piu dim.	2	37	38				
Meno mosso e moderato	4	102	93	36	95		
Allegro molto e con brio.	5	3	44	29			
ri -	1	41					
tar -	0	0					
dan -	0	0					
sfp	0	104					
pizz	1	5					
Vivace	1	39					
fp	0	105					
ff	0	64					
ppp	0	106					
meno	1	102					
dim	1	38					
Lento assai, cantante e tranquillo	5	107	72	11	108	36	
rfz	0	76					
Piu lento	2	107	37				
[key change in middle of this bar]	0	0					
semplice	1	96					
a	1	0					
ritardando	1	41					
ritar -	1	41					
- dando	0						
Grave ma non troppo tratto.	5	109	110	30			
Si repete la seconda\parte al suo piacere.	8	113					

Table B-3 –Text Codes and word count applied to each unique Text Box found in xml file by Python script

Text Box found in xml file	Words	Applicable Text Codes					
- 10 -	0	0					
- 11 -	0	0					
- 12 -	0	0					
- 13 -	0	0					
- 14 -	0	0					
- 15 -	0	0					
- 16 -	0	0					
- 17 -	0	0					
- 18 -	0	0					
- 19 -	0	0					
- 2 -	0	0					
- 20 -	0	0					
- 21 -	0	0					
- 22 -	0	0					
- 23 -	0	0					
- 24 -	0	0					
- 25 -	0	0					
- 26 -	0	0					
- 27 -	0	0					
- 28 -	0	0					
- 3 -	0	0					

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Text Box found in xml file	Words	Applicable Text Codes					
- 4 -	0	0					
- 5 -	0	0					
- 6 -	0	0					
- 7 -	0	0					
- 8 -	0	0					
- 9 -	0	0					
- dando	0	0					
10	0	0					
11	0	0					
12	0	0					
13	0	0					
14	0	0					
15	0	0					
16	0	0					
17	0	0					
18	0	0					
19	0	0					
2	0	0					
20	0	0					
21	0	0					
22	0	0					
23	0	0					
24	0	0					
25	0	0					
26	0	0					
27	0	0					
28	0	0					
29	0	0					
3	0	0					
30	0	0					
31	0	0					
32	0	0					
33	0	0					
34	0	0					
35	0	0					
36	0	0					
37	0	0					
38	0	0					
39	0	0					
4	0	0					
40	0	0					
5	0	0					
6	0	0					
7	0	0					
8	0	0					
9	0	0					
a	0	0					
Adagio affetuoso ed appassionato	4	6		36	85		
Adagio Cantabile	2	6	21				
Allegretto.	1	17					
Allegro con brio.	3	3	29				
Allegro Molto Quasi Presto	4	3	44	35	14		

Appendix B - Text Codes for Text Expressions Found By Music21 Python Scripts

Text Box found in xml file	Words	Applicable Text Codes				
Allegro	1	3				
ben marcato	2	87	88			
ben tenuto	2	87	49			
Cavatina	1					
Copyright 2002 Robert L. Jenks\nEdition may be freely distributed, copied, or performed	0	0				
Copyright 2002, Robert L. Jenks	0	0				
Copyright 2003 by Robert L. Jenks	0	0				
Copyright2002 by Robert L. Jenks	0	0				
cresc.	1	1				
dim.	1	38				
DREI QUARTETTE\n\nfür 2 Violinen, Bratsche und Violoncell\nOp. 59 No.1 2nd Movement	0	0				
DREI QUARTETTE\n\nfür 2 Violinen, Bratsche und Violoncell\nOp. 59 No.1 3rd Movement	0	0				
DREI QUARTETTE\n\nfür 2 Violinen, Bratsche und Violoncell\nOp. 59 No.1 4th Movement	0	0				
DREI QUARTETTE\n\nfür 2 Violinen, Bratsche und Violoncell\nOp. 59 No.1	0	0				
DREI QUARTETTE\n\nfür 2 Violinen, Bratsche und Violoncell\nOp.59 No.2 1st movement	0	0				
DREI QUARTETTE\n\nfür 2 Violinen, Bratsche und Violoncell\nOp.59 No.3, 4th movement	0	0				
f	0	61				
ff	0	64				
fp	0	105				
Fuga.	1					
Grave ma non troppo tratto.	5	109	30	110		
GROSSE FUGE\n\n(Grande Fugue, tantot libre, tantot recherchée)\n\nfür 2 Violinen, Bratsche und Violoncell	0	0				
L van Beethoven	0	0				
L. v. Beethoven, Op. 133	0	0				
L. van BEETHOVEN	0	0				
L. van Beethoven	0	0				
Ludwig van Beethoven	0	0				
Overtura	1					
p	0	9				
piu	37	37				
poco	28	28				
pp	0	26				
Prepared from Public Domain sources for Project Gutenberg	0	0				
Quartet No.2 in G Major \n\nOp. 18 no. 2, 1st Movement	0	0				
Quartet No.2 in G Major\n\nOp. 18, no.2, 2nd Movement	0	0				
Quartet No.2 in G Major\n\nOp.18 No. 2, 4th Movement	0	0				
Quartet No.2 in G Major\n\nOp.18, No.2, 3rd Movement	0	0				
Quartett No. 13\n\nfür 2 Violinen, Bratsche und Violoncell\n\nOp. 130 1st Movement\n\nDem Fürsten Nicolaus von Galitzin gewidmet.	0	0				

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Text Box found in xml file	Words	Applicable Text Codes				
Quartett No. 13\nfür 2 Violinen, Bratsche und Violoncell\nOp. 130 4th Movement\n\nDem Fürsten Nicolaus von Galitzzin gewidmet\n.	0	0				
Quartett No. 13\nfür 2 Violinen, Bratsche und Violoncell\nOp. 130 6th Movement\n\nDem Fürsten Nicolaus von Galitzin gewidnet.	0	0				
Quartett No. 13\nfür 2 Violinen, Bratsche und Violoncell\nOp. 130 2nd Movement\n\nDem Fürsten Nicolaus von Galitzin gewidmt.	0	0				
Quartett No. 13\nfür 2 Violinen, Bratsche und Violoncell\nOp. 130 3rd Movement\n\nDem Fürsten Nicolaus von Galitzin gewidmet.	0	0				
Quartett No. 13\nfür 2 Violinen, Bratsche und Violoncell\nOp. 130 5th Movement\n\nDem Fürsten Nicolaus von Galitzin gewidnet.	0	0				
Quartett No. 16.	0	0				
QUARTETT\nfür 2 Violinen, Bratsche und Violoncell\nOp.135 1st Movement	0	0				
QUARTETT\nfür 2 Violinen, Bratsche und Violoncell\nOp.135 3rd Movement	0	0				
QUARTETT\nfür 2 Violinen, Bratsche und Violoncell\nOp.135 4th Movement	0	0				
Quartett\nfür 2 Violinen, Bratsche und Violoncello\nOp. 131\n\ndem Baron von Stutterheim gewidmet\n\ndedicated to Baron von Stutterheim	0	0				
QUARTETT\nfür 2 Violinen, Bratsche und Violoncello\nOp. 95 1st Movevment	0	0				
QUARTETT\nfür 2 Violinen, Bratsche und Violoncello\nOp. 95 2nd Movement	0	0				
QUARTETT\nfür 2 Violinen, Bratsche und Violoncello\nOp. 95 3rd Movevment	0	0				
ritardando	1	41				
Scherzo Allegro.	2	32	3			
Scherzo D.C.	1	32	20			
SCHERZO D.C.	1	32	20			
SCHERZO\nAllegro molto	3	32	3	44		
Scherzo	1	32				
sempre	1	4				
sf	0	103				
String Quartet No.1\nOp. 18, no. 1, 1st Movement	0	0				
String Quartet No.1\nOp. 18, no. 1, 2nd Movement	0	0				
String Quartet No.1\nOp. 18, no. 1, 3rd Movement	0	0				
String Quartet No.1\nOp. 18, no. 1, 4th Movement	0	0				
String Quartet No12 Op127	0	0				
String Quartet No15 Op 132	0	0				
String Quartet Op.18 No.5	0	0				
String Quartet Op18 No3	0	0				
String Quartet Op18 No4	0	0				
String Quartet	0	0				
Sul D.	2					
Theme russe.	2	53				

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