A Metric Portrait of a Fugue: The Fugal Development in
Beethoven's Sonata in A Major, Opus 101

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ABSTRACT

JOHN STEPHEN REEF: A Metric Portrait of a Fugue: The Fugal Development in
Beethoven's Sonata in A Major, Opus 101
(Under the direction of Jocelyn Neal)

Hypermeter plays a remarkable role in the fugal development in the last movement of

Beethoven's Sonata in A major, Opus 101. Although previous analyses rarely consider the

presence of hypermeter in fugal textures, my research indicates that hypermeter is a critical

component of this music's goal-directed nature. Using methodologies deriving from the work

of Lerdahl and Jackendoff, Rothstein, and Schachter, I trace processes of hypermetric

expansion throughout the fugue, and demonstrate how expanded hypermetric structures

contrast dynamically with more prototypical structures. Additionally, I investigate localized

metric conflicts in which two metric interpretations are simultaneously possible, using the

groundwork laid out by Krebs, Schachter, and Samarotto. These instances further contribute

to the teleological progression of the development toward its retransition. Throughout my

analysis, I encompass my findings within the narrative metaphor of a metric "plot," lending

greater weight to the role of meter as a developmental phenomenon.

TABLE OF CONTENTS

LIST OF EXAMPLES
(all examples are from Beethoven, Sonata in
A major, Opus 101/iv unless otherwise noted)

vi

I

INTRODUCTION

The last movement of Beethoven's Sonata in A major, Opus 101, is noteworthy as an

exemplar of Beethoven's preoccupation with fugue in his late works, but it also raises

questions about the role of meter in fugal composition and in the process of musical

development. Discussions of Beethoven's piano works frequently mention the sonata

alongside the final movements of Opus 106 and Opus 110 as one of several efforts by

Beethoven to integrate fugal techniques into Classical sonata structures;[1] in the case of the

sonata-form Finale of Opus 101 Beethoven transforms thematic material from the exposition

into a fugue subject in the development.[2] This does not constitute a primary focus of analyses

that center closely on Opus 101, however. Rather, it is the sonata's first movement that

receives the most attention. In spite of this, the fugal development of the last movement

deserves closer analytic scrutiny. One reason for this is its employment of meter, a parameter

that plays a vital role in serving its goal-oriented musical motion.

Heinrich Schenker's suggestion that fugues cannot sustain a hypermetric scheme may

account for the scarcity of meter in the analyses of fugal textures.[3] Nevertheless, Beethoven

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[1]See, for example, Wilfrid Mellers, *Beethoven and the Voice of God* (New York: Oxford University Press, 1983), 159-62.

[2]Beethoven's development does not follow conventional fugal procedures exactly. It differs in the keys suggested by its succession of polyphonic entrances, and certain episodic passages abandon the development's rigorous contrapuntal approach. Nevertheless, for simplicity, I use the term fugue in my discussion without qualification.

[3]"As long as musical content moved principally in imitations of canonic and fugal forms, it was somehow illogical to presuppose a specific metric scheme." Heinrich Schenker,

maintains pervasive metric schemes throughout the development of the last movement of Opus 101. This is a significant fact for the fugue's analysis: as the music unfolds, sonic cues consistently give rise to hypermetric schemes, creating a noteworthy situation in which fugal textures and hypermeter coexist.

The analysis presented here effectively reveals a metric "plot," whose story-telling depends upon the metric character of the sonata-form movement's exposition. The exposition of the fourth movement, marked *Geschwind, doch nicht zu sehr, und mit Entschlossenheit*, exhibits an expected, prototypical, recurring metric scheme that presents little challenge to listeners in its inference. Through the development, the regularity of this pattern subsides, and a different, opposing metric character emerges, one less easily perceived, but which nevertheless derives from a pervasive metric framework. This situation introduces the idea of metric contrast, which heightens as the development progresses and the opening metric character of the exposition is reintroduced. Opposing metric schemes play off each other, tenuously resolve, and eventually chaotically disintegrate. The interaction of metric schemes contributes to the music's goal-oriented nature and advances an intriguing metric plot toward the retransition – an "immense accumulation of force," as described by Theodor Adorno.[4]

Der freie Satz, trans. Ernst Oster (Hillsdale, NY: Pendragon Press, 1977), § 298. The potential metric schemes in his examples exist on the level of the measure, rather than of the beat; hence, he effectively argues against hypermeter in fugues. One significant metric analysis of a fugue can be found in Eytan Agmon, "Rhythmic Displacement in the Fugue of Brahms's Handel Variations: The Refashioning of a Traditional Device" in *Studies in Music from the University of Western Ontario* 13 (1991): 1-20. Agmon's analysis illustrates metric ambiguity in the construction of the fugue subject, and the potential for metric inferences that contradict the music's notation. For detailed applications of Schenkerian principles to fugal analysis, see William Renwick, *Analyzing Fugue: A Schenkerian Approach* (Stuyvesant, NY: Pendragon Press, 1995).

[4]Theodor W. Adorno, *Beethoven: The Philosophy of Music*: *Fragments and Texts*, ed. Rolf Tiedemann, trans. Edmund Jephcott (Stanford: Stanford University Press, 1998), 127.

This analysis seeks to illuminate the movement's metric phenomena as forming an essential component of the development's unfolding.

Opus 101, written in 1816 and dedicated to Beethoven's pupil Dorothea von Ertmann, is the first piano sonata to belong unequivocally to Beethoven's "late" period. In addition to its final movement, it contains three others: the first, a brief sonata-form movement in A major, *Etwas lebhaft und mit der innigsten Empfindung*, which, like the Finale, lacks a distinct second theme; the second, an F-major March, *Lebhaft. Marchmässig*, with a contrapuntal trio; and the third, a supplicant A-minor *Langsam und sehnsuchtsvoll*. It is commonly noted that the opening of the first movement is quoted immediately before the finale begins.[5] Essentially, this quotation encloses the first three movements formally and encapsulates their distinctive characters into a larger single entity, a musical triptych equal in weight to the finale. Whatever their collective emotional content (longing reverie in the first movement, struggle and grim perseverance in the second, and intense pleading in the third, perhaps), listeners may envisage them as representing a single spiritual or metaphysical problem that finds resolution and release in the Finale's exuberance and in its fugal development's metric trajectory.

Robert Hatten offers analyses in "On Narrativity in Music: Expressive Genres and Levels of Discourse in Beethoven" and *Musical Meaning in Beethoven: Markedness, Correlation, and Interpretation* that addresses the sonata's transformation of expressive

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[5]See, for example, Heinrich Schenker's *Erläuterungsausgabe*, Ludwig van Beethoven, *Die letzten Sonaten: Sonate A Dur Op. 101,* Kritische Einführung und Erläuterung von Heinrich Schenker (Vienna: Universal Edition, 1920, 1972), 57-62; Cassandra Irene Carr, *Wit and Humor as a Dramatic Force in the Beethoven Piano Sonatas* (Ph.D. diss., University of Washington, 1985), 251.

states, invoking the notion of "expressive genre."[6] This conception of a piece's generic identity differs from commonly held notions of musical form. Rather, expressive genres are dramatic or narrative structures cued by the signification of musical topics and styles (such as open-fifth drones in pastoral settings, for example). Expressive genres generally imply some change in affective state. Hatten analyzes Opus 101 in terms of the interplay of pastoral and tragic musical topics, tracing a progression in the first movement leading from the pastoral qualities of the opening, through the tragic tinge of the development, and back to the recapitulation's overall pastoral identity (notwithstanding a brief tragic interjection later in the movement). This progression, Hatten argues, is an expressive genre common in Beethoven, and its inscription in the first movement of Opus 101 provides "an expressive context that guides further interpretation of the movement and the cycle as a whole." The incorporation of the pastoral in the Finale is more complex, and the opening of the Finale derives meaning from the troping of pastoral, heroic, and learned (contrapuntal) styles (i.e. the figurative meaning of their interaction). This tropological interpretation points to a sense of "heroic victory," but one that is "understood as an inward, spiritual one – a somewhat different perspective from the outward, heroic triumph of the Fifth Symphony's Finale."[7] Hatten's exegesis attaches a great deal of weight to the Finale through its semiotic and narrative connection with preceding movements; however, most of the evidence he adduces does not come from the Finale itself. The heroic victory tropologically encoded in the

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[6]Robert Hatten. "On Narrativity in Music: Expressive Genres and Levels of Discourse in Beethoven," *Indiana Theory Review* 12 (1991): 75-98; Idem., *Musical Meaning in Beethoven: Markedness, Correlation, and Interpretation* (Bloomington: Indiana University Press, 1994), 91-111, 171-2.

[7]Ibid., 92, 171.

Finale's opening connects obliquely to my idea of metric plot – it is largely the resolution of a variety of musical conflict. The conflict I describe in my analysis, however, exists solely in metric terms, and remains mostly within a single movement.

Few analyses of Opus 101 treat the last movement in detail, covering instead the entire sonata or strictly its first movement. John W. Cockshoot's analysis of the fugal development in *The Fugue in Beethoven's Piano Music* is the most noteworthy exception. Cockshoot's analysis comprises two primary thrusts: Beethoven's sketches and the motivic construction of the fugue. First, Cockshoot explores the evolution of the fugue subject in an 1816 sketchbook of Beethoven's, and constructs hypothetical revisions based on earlier models to show the differences in tonal structure they would have entailed. He continues to speculate on Beethoven's thought process in reaching his final version of the subject. Second, Cockshoot explicates the motivic content of the subject, and in his ensuing discussion of all the subject and answer entrances that appear chronologically, demonstrates how the motives alter slightly. He speculates that these aberrations are instances in which "the claims of the fugue give way to the overriding claims of sonata."[8] In addition, he comments in detail about the irregularity of the polyphonic entrance on the second beat of m. 123, although not in terms of meter.[9]

In the analyses that address the entire sonata, which include Schenker's

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[8]John W. Cockshoot, *The Fugue in Beethoven's Piano Music* (London: Routledge & Kegan Paul, 1959), 50-69, 63.

[9]Measure numbers for the Finale differ in its many editions, with numbering commencing either with the beginning of the first theme, or with the quotation of the first movement that precedes it. I follow the former scheme, used in Schenker's edition of the complete Beethoven sonatas, and alter measure numbers when referring to other sources without comment. For reference to the latter numbering scheme, the measure numbers I use must be increased by 32.

Erläuterungsausgabe as well as a handful of dissertations and theses, the most common approach is one that can be labeled "organic." In this approach, theorists and musicologists analyze the sonata, either in its separate movements or as a whole, as resulting from the outgrowth of one or more primary generating motives, even though they may apply differing analytic methodologies or hermeneutic stances. Usually, although not always, their analyses trace motivic coherence among its movements, suggesting a cyclic view of the work.

Among this sort of analysis, the most significant is the *Erläuterungsausgabe*, Schenker's edition of Opus 101 with extensive commentary and analysis. Published in 1920, it predates *Der freie Satz* by several years. In it, Schenker's conception of the *Ursatz* is not yet manifest, nor is his notion of the *Urlinie* fully formed. Schenker applies an organic conception to each of the sonata's four movements separately in the *Erläuterungsausgabe*, demonstrating for each Beethoven's composing out of a germinal basic idea, or *Ur-Idee*, on multiple structural levels.[10] The *Ur-Idee* is not the same from movement to movement, Schenker's aim being to elucidate organic growth within individual movements rather than throughout the sonata. Nevertheless, Schenker adduces some examples of motivic connections across its movements, such as the prominence of the descending fourth-progression in both the March and the Finale. Schenker devotes more attention to the fugal development than most writers, and provides a thorough explication of its voice leading.

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[10]Brien Weiner offers the term *Ur-Idee* as a conflation of several terms in Schenker's writing, which include *Hauptmotiv* and *Idee*. He compares the *Ur-Idee* to Schoenberg's *Grundgestalt*, stating that the latter exists only upon the music's surface, whereas the former inhabits multiple structural levels. He concludes, as well, that Schenker's pursuit of the *Ur-Idee* in the four movements of Opus 101, in which he located motivic parallelisms between foreground and middleground, was instrumental in his development of the idea of structural levels. See Brien Weiner, *Notes from the Middleground: The Convergence of Ur-Idee and Urlinie in Schenker's Erläuterungsausgabe of Beethoven's Op. 101* (Ph.D. diss., Yale University, 1994), 53, 3-4.

Michael Fritsch, in his dissertation, *Beethoven's Last Piano Sonatas as Fantasy Sonatas*, relies heavily on Schenker, and especially on his identification of the prominence of the descending fourth-progression. Fritsch traces the sonata's multiple instances of this linear descent as a unifying element throughout its four movements, reflecting a different analytic stance from Schenker. Moreover, his analysis serves a less formalist interpretive end, in that he uses the motivic parallelisms in the sonata to argue for its expression of a singular subjective viewpoint. Positing a narrating agent behind the sonata, Fritsch connects these parallelisms with "the illusion, in musical terms, of the successive 'reappearances' of the self – the concession by the self to the limitation of its expression in terms of successive time units."[11]

Kaye Dreyfus's dissertation, *Beethoven's Last Five Piano Sonatas: A Study in Analytical Method*, even more so than the previous examples, analyzes this sonata in organic terms. Dreyfus locates a head motive that generates the entire sonata in the first movement's opening measures (example 1.1). The head motive includes the melodic curve of the upper voice, the descending chromatic line of the tenor in the first two measures, and the melodic $\hat{5}$-$\hat{3}$-$\hat{2}$ motion in m. 4. The descending fourth-progression central to the previous analyses is, in Dreyfus's reading, a distillation of the head motive's tenor line. Dreyfus, like Fritsch, imputes musical meaning on the sonata's organicism, arguing that the head motive's potential for development is stifled in the first movement; only through "perpetuum mobile rhythm and counterpoint" does its motivic content become subject to development.[12]

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[11]Michael Fritsch, *Beethoven's Last Piano Sonatas as Fantasy Sonatas* (Ph.D. diss, Northwestern University, 1987), 24-5.

[12]Kaye Dreyfus, *Beethoven's Last Five Piano Sonatas: A Study in Analytical Method* (Ph.D. diss, University of Melbourne, 1972), 35-9, 58.

Example 1.1: Opus 101/I: The opening of Opus 101, mm. 1-4
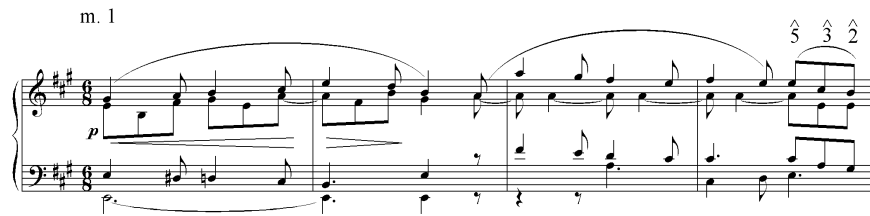
All three of these analyses more or less deal with the idea that the replication or development of certain motivic cells bestows unity upon either the individual movements or the sonata as a whole. While Schenker does make connections among movements, his aim remains to address each movement in its specificity; the other two analysts are more concerned with the entire sonata as a single organic conception, and use their conclusions to support a hermeneutic reading. Neither Fritsch nor Dreyfus engages with the concept of structural levels in the manner of Schenker.

None of these analyses makes much mention of meter. One passage that is frequently discussed in terms of meter, however, appears in the closing material of the first movement's exposition. It comprises a series of chords consistently displaced from the music's strong beats (example 1.2), and many writers note its effects on listeners' metric perceptions. For example, Hatten comments that the off-beat chords "can easily begin to sound like downbeats if the tempo sags too much from earlier gestural *rubati*," and compares their effect to "the lapping of waves against a shore."[13] David H. Smyth, in "Large-Scale Rhythm and Classical Form," observes that their metric ambiguity even obscures the movement's formal boundary
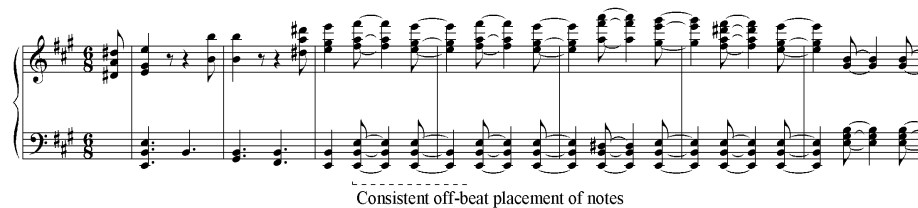
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[13]Hatten, "The Role of Gesture in Interpreting Beethoven's Late Style: The Piano Sonata in A Major, Op. 101," *Arietta* 2 (2000): 10.

between exposition and development.[14]

Example 1.2: Metric ambiguity in mm. 29-33

Consistent off-beat placement of notes

One of the most conspicuous examples of a purely metric phenomenon from the fourth movement of Opus 101 comes from Cassandra Irene Carr's dissertation, *Wit and Humor as a Dramatic Force in the Beethoven Piano Sonatas*. Carr perceives that a certain degree of metric uncertainty attends to mm. 49-58, and suggests a re-barred metric scheme that reflects how listeners may hear the music's meter (example 1.3).[15] Her revision reflects the potential for A in m. 49 to be heard metrically as a downbeat, even though it is notated as the second beat of a measure. Carr's reading is possible because listeners may hear the dynamic and registral disjunction between mm. 48 and 49, as well as the silence that intervenes, as disrupting the established metric flow, allowing second beat of m. 49 to assume metric strength. I would argue that Carr's revision presents a potential metric interpretation latent in this passage, but not an unequivocal one. Beethoven's notated meter is also perceptible and may take precedence over Carr's re-barring; this situation points to the

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[14]David H. Smyth, "Large-Scale Rhythm and Classical Form," *Music Theory Spectrum* 12 (1990): 244-5.

[15] Carr, 252-3.

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necessity of further analytic work on the passage.[16]

Example 1.3: Irregular metric perception of mm. 49-55; Cassandra Irene Carr, *Wit and Humor as a Dramatic Force in the Beethoven Sonatas*: Re-barred example

As notated:

Carr's re-barring:

Two German-language analyses of the first movement, in Patrick Dinslage's *Studien*

zum Verhältnis von Harmonik, Metrik, und Form in den Klaviersonaten Ludwig van

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[16]In my understanding of Carr's revision, her 4/4 notation in the first measure reflects the prevalent metric unit of two measures (2-bar hypermeasures); the six notes beginning with A in m. 49 and ending with G♯ in m. 51 suggest (notwithstanding the music's slurs) a group of four beats that conforms to this metric orientation. Its motivic content is immediately repeated in the left hand, implying a similar metric unit of four beats beginning at the second beat of m. 51, and ending with the right-hand B-major chord in m. 53. Because of the harmonic rhythm that follows this chord (cadential six-four and dominant harmony in B major, each for two beats), it is reinterpreted as a new downbeat. Because a downbeat may also be inferred with the "horn-call" figure beginning on the second beat of m. 55, Carr includes the B-major harmony on the first beat of m. 55 as part of the previous 5/4 measure.

Beethovens and in Michael Kopfermann's *Beiträge zur Musikalischen Analyse später Werke Beethovens*, do follow a methodology that includes a phenomenon termed "meter."[17] Dinslage and Kopfermann, however, draw upon a different theoretical tradition than the analysis presented in this work, and define the term meter differently. Their analyses of metric features in the first movement of Opus 101 center on aspects of the music that would fall within the domain of rhythm as it is understood in prominent American theoretical parlance. Dinslage, for example, discusses the end-weighted quality of the movement's first two phrases (refer to example 1.1) as perceived in mm. 2 and 4 in terms of metric strength.[18] In the terminology I use, meter more appropriately refers to the perceptible recurring points of strength on the downbeats of mm. 1 and 3.

One master's thesis, *An Historical and Analytical Study of Beethoven's Fortepiano Sonata in A major, Opus 101* by Marta Schermerhorn, mentions two instances in the fugal development that are metrically unusual: the polyphonic entrance in the bass on the second beat of m. 123 and the sequential pattern beginning on the second beat of m. 169.[19] Both of these instances comprise a series of regularly spaced accents that do not coincide with notated downbeats, like example 1.2. These off-beat accents may suggest a new metric orientation,

[17]Patrick Dinslage, *Studien zum Verhältnis von Harmonik, Metrik und Form in den Klaviersonaten Ludwig van Beethovens* (Munich and Salzburg: Musikverlag Emil Katzbilcher, 1987); Michael Kopfermann, *Beiträge zur Musikalischen Analyse später Werke Beethovens* (Ph.D. diss., Berlin Frei Universitat, 1975).

[18]Dinslage, 139.

[19]Marta Schermerhorn, *An Historical and Analytical Study of Beethoven's Fortepiano Sonata in A major, Opus 101* (MA thesis, San Jose State University, 1991), 140. This analysis does not fit neatly into the broad category of organicism/cyclic coherence. Through her analysis, Schermerhorn focuses on more general descriptions of Beethoven's melodic style, and notes particular features of his late style – most significantly, wide spacings between the hands and flat-6 key relationships.

although not necessarily. Listeners may perceive a new metric pattern, or they may instead

hear the off-beat accents as rhythmic phenomena that do not alter the prevailing meter.

Schermerhorn refers to both instances as examples of "rhythmic displacement" although it is

not immediately clear whether Schermerhorn's analytic vocabulary makes an overt

distinction between rhythm and meter. Both possibilities are latent in the music, although the

inference of an offset meter is the most likely scenario. Whether or not Schermerhorn

intended to articulate a distinction between rhythm and meter, this very uncertainty speaks to

these passages' perceptual ambiguity.

The theoretical models on which I base my analysis incorporate specific uses of

rhythmic and metric terminology. I adhere to the ideas of meter in Carl Schachter and

William Rothstein's work in the Schenkerian tradition, as well as in the cognitive studies of

Fred Lerdahl and Ray Jackendoff.[20] Specifically, my discussion treats meter as a musical

phenomenon in which listeners infer from a series of equidistant musical pules patterns of

strong and weak beats such that beats perceived as strong partition musical time into

preferably equal spans. Meter is a hierarchical phenomenon, as shown in example 1.4 (based

on Lerdahl and Jackendoff's visual representation), which illustrates a multi-tiered, layered

configuration of meter. This example, which represents one of many possible metric

configurations in music, uses dots to indicate the relative metric strength of equidistant time-

points. The first layer alone comprises a series of musical pulses prior to any inference of

strength or weakness. The second layer depicts the organization of these pulses into

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[20]Carl Schachter, "Rhythm and Linear Analysis: Aspects of Meter," in *The Music Forum* VI, ed. William Mitchell and Felix Salzer (New York: Columbia University Press, 1987), 1-59; William Rothstein, *Rhythm and the Theory of Structural Levels* (Ph.D. diss., Yale University, 1981); Fred Lerdahl and Ray Jackendoff, *A Generative Theory of Tonal Music* (Cambridge, MA and London: MIT Press, 1983).

alternating strong and weak beats; thus, only every other pulse on layer one is strong on layer

two. The third layer of example 1.4 further organizes the strong beats of layer two, and the

relationship between the fourth and third layers follows suit. Theoretically, this process can

continue indefinitely, although metric regularity ceases to be perceptible after a point. This

example shows meter to be hierarchical in that every pulse on one layer is included in the

layer below it; thus, each layer is given a higher degree of metric organization by each

subsequent layer.

Example 1.4: Four hierarchical layers of meter
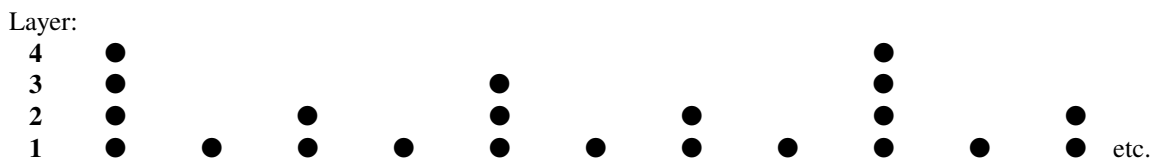
Layer:

If the distance between two pulses on the first layer of example 1.4 were to

correspond to the duration of a notated quarter note, then the pulses of layer three would

represent the downbeats of measures in 4/4 time. Further hierarchical layers in the model

would impose metric organization on these downbeats (as in level four). This phenomenon is

called hypermeter – the tendency for the downbeats of measures to form larger metric

structures called hypermeasures.[21] The downbeat to the first bar in a hypermeasure is called a

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[21]A similar notational scheme involves the marking of poetic feet over musical examples. Close to the level of the beat, this scheme indicates similar information to the dots in example 1.3; however, it indicates hierarchies differently. While dots indicate discrete time-points, poetic feet generally indicate the relative strength or weakness of a duration of musical sound. The hierarchical organization they imply is not the same as groupings of lower-level downbeats; they are consequently less suitable for discussion of hypermeter. See, for example, Grosvenor Cooper and Leonard B. Meyer, *The Rhythmic Structure of Music* (Chicago: University of Chicago Press, 1960, 1963).

hypermetric downbeat. In tonal music of the Classical period, hypermeasures frequently occur in nested groups of two, four, and eight measures. Regarding this tendency, Schenker writes, "Since the principle of systole and diastole is inherent in our very being, metric ordering based on two and its multiples is the most natural to us."[22] Disregarding Schenker's biological justification, I adhere to the idea of two-, four-, and eight-bar hypermeasures as in inductively assumed prototype – an idealized metric structure. This is the basic hypermetric configuration in the last movement of Opus 101, although other hypermetric structures are certainly possible in different musical contexts.

Rhythm, in contrast, is a term that describes the durations of musical events, and the patterns of these durations. Although rhythm is an aspect of music distinct from meter, the two bear a strong relationship with each other. While established metric schemes can affect listeners' interpretation of rhythmic phenomena, rhythmic phenomena can also influence the establishment of meter (as in example 1.2). Patterns of contiguous notes form structures called rhythmic groups. Listeners infer a mutual relationship of continuity in the notes of these groups; that is, they group them together as discrete musical ideas. These are not metric units, and often overlap the equal durations that meter partitions. Nevertheless, patterns of rhythmic groups too can give rise to metric interpretations.

Phrases are larger rhythmic structures whose boundaries are delineated by tonal motion; Rothstein writes, "To qualify as a phrase, a given rhythmic unit must contain a complete tonal unit, such as a linear progression, octave coupling, etc."[23] Phrases may appear "out of phase" with hypermeasures. In example 1.5, from the exposition of Opus 101's

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[22]Schenker, *Der freie Satz*, § 286.

[23]Rothstein, *Rhythm*, 60.

Finale, a phrase begins and ends one eighth note before equidistant hypermetric downbeats.

Phrases may also "overlap" one another. In these situations, the end of one phrase (i.e. its

tonal goal) is simultaneously the beginning of another. This commonly occurs when a phrase

extends over a subsequent hypermetric downbeat. Indeed, the fluid interaction of phrase

rhythm and hypermeter is a common tool exploited by composers of tonal music, used as a

means to generate interest in the temporal domain.[24]

Example 1.5: Phrase and hypermeter, mm. 1-8

As metric patterns must arise from the sound events a particular piece of music

articulates, Lerdahl and Jackendoff, in *A Generative Theory of Tonal Music*, have striven to

enumerate the musical causes for metric perception, under the heading of "Metrical

Preference Rules." Of these rules, two are particularly salient in my analysis. The first

[24]Many writers conceive of the notion of "phrase" differently, and use alternate criteria for its delimitation. For example, William Caplin's ideas of phrase structure are more metrically oriented. He does not include tonal motion as a necessary condition; instead, he defines a phrase as "minimally, a four-measure unit, often, but not necessarily, containing two ideas." Although this does not specifically associate phrase rhythm with the music's underlying metric scheme, it nevertheless parallels discussions of hypermeter in the works of Rothstein and Schachter, and Caplin's understanding of phrase expansion and extension largely matches these terms' metric analogs. See William E. Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven.* (Oxford and New York: Oxford University Press, 1998), 256, 55.

preference rule (MPR 1) states that "where two or more groups or parts of groups can be construed as parallel, they preferably receive parallel metrical structure," and the fifth rule (MPR 5), as one of its corollary points, states that metric strength accrues to "the inception of...a relatively long pattern of articulation."[25] In the examples Lerdahl and Jackendoff give, MPR 5 is used in reference to changes in rhythmic articulation; that is, the change from one consistent rhythmic pattern to another tends to imply a time-point of metric strength.

Hypermeter is more malleable than meter at the level of the beat, and deviations from an established metric pattern of measures are not uncommon. Frequently, hypermeasures are expanded to include a greater number of measures. In a musical setting in which eight-bar hypermeasures were the norm, a nine-bar hypermeasure could be said to contain a one-measure expansion. Potentially, one could compare an expanded hypermeasure against an unaltered metric prototype. If such a prototypical structure were found in the music preceding the expansion, it could form what is termed a foreground prototype. Even if a foreground prototype were not present, the expanded hypermeasure could derive from an idealized middleground prototype – a hypothetical, stylistically determined structure of more regular hypermetric construction against which an expansion can be measured.[26] Expansions that occur at the end of a hypermeasure are called extensions.

At times, a hypermetric downbeat is heard at a time-point that listeners expect to be metrically weak. In a musical context in which eight-bar hypermeasures were typical, one would not expect a hypermetric downbeat to occur after only seven bars. In such instances, either tonal content or surface-level musical features suggest a new downbeat, in

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[25]Lerdahl and Jackendoff, 75, 80-5.

[26]See Rothstein, *Rhythm*, chapter 7.

contradiction to the prevailing metric scheme. This phenomenon is termed reinterpretation, a

situation in which "a weak bar in one hypermeasure becomes reinterpreted as,

simultaneously, a strong bar in a new hypermeasure."[27] Hypermetric reinterpretation

frequently coincides with phrase overlaps, in which a reinterpreted measure may represent

two hypothetical measures. The first of these would serve as the conclusion to one

hypermeasure, with concomitant phrasal closure; it would be eclipsed on the music's surface

by the function of the second, which would begin a subsequent hypermeasure and phrase.

In analyzing the metric plot of the fugal development in Opus 101, I follow Schenker

and Cockshoot in partitioning it into three subsections, beginning in mm. 92, 141, and 177.[28]

For the first section, in Chapter 2, I trace a pattern of ever-increasing hypermetric expansion,

demonstrating a transition from a musical context in which eight-bar hypermeasures are

heard as typical toward one in which hypermetric expansions are the rule, and not the

exception. In Chapter 3, I show how the prototypical eight-bar hypermeasure becomes

defamiliarized in the second and third subsections, and explore ways in which Beethoven

contrasts hypermeasures of differing metric characters – unaltered eight-bar hypermeasures as

well as elaborately expanded structures. In terms of metric plot, this amounts to a working

out of the conflicting metric states of the exposition and the fugue's first subsection. This

leads to moments of metric chaos, a quality that becomes increasingly pronounced as the

development approaches its retransition. In Chapter 4, I discuss three situations in the

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[27]Ibid., 68.

[28]Beethoven, *Die letzten Sonaten*, 78; Cockshoot, 62-9. Neither writer explicitly
accounts for the basis of these divisions in his prose. The boundaries of the three subsections
appear to be determined both through harmonic and polyphonic considerations. The first
subsection resembles a fugal exposition in its consecutive introductions of each voice part,
while the later subsections represent large-scale tonal arrivals of C major and A minor.

development in which more than one metric interpretation is simultaneously possible. These are the most marked instances of metric conflict in the music. They, too, contribute to the development's goal-directedness, and its trajectory from simplicity to confusion. Finally, the fifth chapter summarizes this study's findings, and discusses the fugal development in relation to the sonata movement's coda. Throughout these chapters, I aim to demonstrate the dynamic qualities of meter in the development section of Opus 101's Finale, showing how meter forms a narrative metaphor to encompass its musical contents, and serves as an analytic parameter apposite to the discussion of fugues.

II
HYPERMETRIC EXPANSION IN THE FIRST SUBSECTION

The first subsection of the fugal development (mm. 92-140) exhibits an ineluctable trend toward hypermeasures of increasing lengths, as an easily inferable metric structure, closely related to the metric patterns of the exposition, gradually attenuates. Although each of this subsection's five fugal entrances corresponds to a hypermeasure that exists at a prototypical eight-bar level, these hypermeasures continuously expand on the music's surface with the introduction of each new voice. As listeners' expectations adjust to this process, a new metric character arises in the music, in which expansions appear not as deviations but as part of the development's metric plot. As such, meter becomes a teleological, forward-looking musical parameter, as much as it is elsewhere in the movement a cyclic, recursive phenomenon.

This metric plot unfolds in different musical domains. In one context, this subsection emerges from the exposition of the sonata movement, in which eight-bar hypermeasures, with internal metric divisions of two and four bars, are typical. When Beethoven sets the fugue subject in the development to a hypermeasure of seven bars, listeners can easily make sense of the structure as a derivation from an eight-bar prototype, metrically congruent with the exposition. As hypermetric expansions become longer, listeners' expectations of prototypical structures recede, and they become accustomed to less regular metric patterns. A second characteristic of this metric development concerns the relationship between middleground tonal structures and foreground metric patterns. At times in the development's first subsection, metric patterns contradict the music's middleground tonal divisions. This

factor, too, serves in transition from the development's initial metric regularity toward the mounting metric complexity of the fugue's later subsections.

In order for listeners to perceive hypermetric expansions, the music must first present some degree of hypermetric regularity. Schenker suggested in *Der freie Satz* that this is not possible in fugues, because of the inextricable relationship between time-points of metric strength, on the one hand, and subject or answer entrances, on the other. Rothstein states, "Schenker notes that canonic and fugal writing tends to resist any metrical scheme at the hypermeasure level, because each new imitative entrance involves metrical reinterpretation."[1] In other words, each presentation of a subject or answer constitutes a surface-level feature of the music that suggests the downbeat to a group of measures, regardless of its temporal placement. In this view, even if an isolated subject or answer were to imply a predictable hypermetric structure, each new entrance could undermine this structure. As fugal entrances need not occur at regular time intervals, no long-term hypermetric regularity can exist.

The subject of Bach's Fugue in C♯ minor from Book II of *Das Wohltemperierte Klavier*, BWV 873, scans readily into duple hypermeter (example 2.1). Listeners would expect a downbeat, structurally analogous to m. 1, at the beginning of m. 3, if they were to hear the subject by itself. This expectation is denied in Bach's fugue when the answer comes in the second half of m. 2 (example 2.2). Listeners reinterpret this time-point as the downbeat to a new metric unit. This reinterpretation contradicts the metric scheme suggested by the subject, and weakens listeners' perceptions of a regular duple hypermetric scheme. Thus, example 2.2 seems to uphold Schenker's assertion about hypermeter in fugues.

This relates strongly to Lerdahl and Jackendoff's MPR 1. According to this rule,

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[1]Rothstein, *Rhythm*, 69.

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Example 2.1: Bach, Fugue in C♯ minor, WTC II: Subject, mm. 1-3

Example 2.2: Bach, Fugue in C♯ minor, WTC II: Subject, beginning of first answer, mm. 1-3

listeners tend to project parallel metric structures upon rhythmic groups that they also perceive as parallel. Because the criteria of MPR 1 apply to the subject and answer in example 2.2, both entrances assume the same metric orientation. This is typical of fugal writing. Whether parallel metric interpretations (or reinterpretations) of all polyphonic entrances in a fugue sufficiently undermine the potential for a pervasive hypermetric scheme depends on the time intervals by which these entrances occur and the particular metric character of the music that intervenes between each entrance. Even though all subject and answer entrances in Opus 101 coincide with metrically strong time-points, and even help effect listeners' metric interpretations of these time-points, they do not prevent a fundamentally hypermetric understanding of the music.

Between the entrance of the fugue subject in m. 92 and the subsequent entrance of an answer in C major in m. 99, the music establishes a hypermetric scheme that implies a clear relationship to a normative eight-bar hypermeasure (example 2.4). The metric organization of

21

the subject constitutes a prototype in relation to which listeners hear the following polyphonic

entrances. The subject's prototypical status is already conditioned, to an extent, by the metric

character of the sonata movement's exposition. How the metric schemes of the exposition

resemble the development's fugue subject becomes clear by comparing the subject to the

exposition's opening sentence (example 2.3).

Example 2.3: Opening sentence of exposition, mm. 1-8

Example 2.4: Subject, mm. 92-98

22

The motivic content of the sentence implies the metric division of a group of eight measures into shorter two- and four-bar hypermeasures. In the presentation, the basic idea and its repetition obviously form parallel rhythmic groups, and consequently imply parallel metric readings (MPR 1). This defines the metric level of the two-bar hypermeasure in the sentence. As metric patterns, once established, tend to recur, the two-bar hypermetric division of the presentation persists throughout the sentence's continuation, even though the motivic content in the continuation does not in itself imply such a division.

The sentence's metric division at the four-bar level receives further explanation through MPR 5. The four-bar presentation comprises a continuous pattern of rhythmic articulations, and although the anacrusis to m. 5 suggests a continuation of that pattern, the emergence of straight sixteenth notes on the first beat of m. 5 begins a new one. This reinforces a hypermetric downbeat at the four-bar level at m. 5. Hence, the musical characteristics enumerated under MPR 5 as well as the parallel rhythmic groups of MPR 1 contribute to the opening sentence's clear hypermetric character. In addition, the sentence's opening material returns, with voices inverted, in m. 9. This also relates to MPR 1: as parallel rhythmic groups commence at mm. 1 and 9, these time-points also initiate parallel metric structures, and therefore delimit the exposition's prototypical eight-bar hypermeasure. This structure pervades the exposition, and listeners perceive the development's initial metric scheme in relation to it.

In accounting for the metric character of the sentence using MPR 1 and MPR 5, most of the features I privilege come from the music's upper voice. In the lower voice, however, the musical material of the presentation occurs in canon at the interval of a tenth, rhythmically offset by one beat. Even though all the musical features that define meter in the

upper voice occur a beat later in the lower voice, the presence of canon does not really contradict the metric reading I assert. This is because the music's harmonic rhythm corresponds to the upper-voice articulations. As a corollary point to MPR 5, Lerdahl and Jackendoff note that harmonic rhythm may constitute a musical feature that gives rise to metric inferences.[2] The strong tonic articulation on the downbeat to m. 1 argues for a harmonic rhythm that changes with the notated downbeats and that consequently corresponds with the meter-establishing features of the upper voice I have already identified. The bass pitches G♯, F♯, and E, which occur on the second beats of mm. 2-4, count therefore as suspensions against the changing harmonies. Harmonic rhythm undergirds the music's hypermetric structure at the level of the measure, and enforces the upper voice's potential to define hypermeter at the two- and four-bar levels.

The fugue subject (example 2.4) is motivically very similar to the opening sentence. It begins with the sentence's basic idea, although now it is transposed to A minor. The way in which the basic idea repeats differs from the sentence, and as a result, the beginning of the subject traces a linear descent of a third, from $\hat{3}$ to $\hat{1}$, instead of the sentence's descent from $\hat{3}$ to $\hat{7}$. In addition, the fugue subject occupies only seven measures, in contrast to the eight measures of the sentence. This truncation owes to the fact that the subject entails a hypermetric reinterpretation, so that two measures of its expected eight are elided. Tonal content as well as rhythmic features account for this fact.

The subject contains two overlapping phrases. The first phrase describes a descending third-progression; the second phrase contains a sequential modulation to C major supporting an F-E upper-neighbor figure (shown on the lower system of example 2.4). The first phrase

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[2]Lerdahl and Jackendoff, 84.

ends in m. 95, and its arrival on î overlaps the second phrase. The overlap marks the site of a

hypermetric reinterpretation: although listeners initially expect m. 95 to be metrically weak at

the four-bar hypermetric level, it instead serves as a hypermetric downbeat at that level. Thus,

the subject's two phrases combined produce a seven-bar hypermeasure; the metric orientation

of m. 95 is like that of the fifth bar of an eight-bar hypermeasure.[3] In example 2.4,

hypermetric numbering at the eight-bar level appears parenthetically; subsequent examples

use numbering strictly at the four-bar level.

As I have noted, the first pitch of m. 95 concludes one phrasal idea and starts another.

It therefore participates in two musical gestures – an ending gesture and a beginning gesture.

If one were to imagine the idealized eight-bar structure to which this seven-bar hypermeasure

relates, one could construct two hypothetical measures to stand in for m. 95. The first of these

would function metrically as the final measure of the first four-bar hypermetric unit, while

the second would serve as a downbeat to the next. Example 2.5 is a hypothetical revision. In

it, the linear progression of the first phrase occurs within a tonally closed four-bar

hypermeasure, as does the second phrase's harmonic progression to C major. This revision,

however, is aesthetically unsatisfactory, with its consecutive reiterations of A sounding

redundant (despite the motivic anacrusis added before m. 92b) and with the musical space

intervening between the two four-bar phrasal ideas lending the music a static character.

The reinterpretation of m. 95 is confirmed by the subject's tonal content. In addition,

the new sequential pattern beginning in m. 95 also enforces that measure's hypermetric

reinterpretation. Support for the reinterpretation comes not only from the new rhythmic

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[3]An unintentional illustration of this is found in Schermerhorn's analysis, in which she states, "the eight-measure fugue subject contains two motives." See Schermerhorn, 140.

Example 2.5: Subject revised to fill eight measures

pattern in the sequential model (which begins on the second eighth note of m. 95) – a shift to straight eighth notes – but also from the sequence's harmonic underpinning. A descending-fifths sequence is implied following m. 95, containing localized V-I tonicizations of D minor and C major. Combined with the sequence's new motivic material, the harmony in m. 95 is likely to be heard as signifying a new tonal beginning (V^7/D minor), in addition to a tonic resolution of the implied dominant of mm. 93 and 94. The close harmonic association of m. 95 with the material that follows it supports its inference as beginning a new hypermeasure at the four-bar level.

The music between the downbeats of mm. 92 and 99 occupies a hypermetrically atypical seven bars and forms a foreground prototype confirmed by the following polyphonic entrance at m. 99. Indeed, the remainder of the fugal development's first subsection relates metrically to these seven measures, even though later entrances depart greatly from the prototype. Example 2.6 charts the succession of subject and answer entrances in this subsection, indicating the voices in which they appear, the length of the hypermeasures they occupy, and the harmonic progressions they follow.[4]

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[4]Schenker refers to the final C-major answer as an "extra" entrance; that is, it is a fifth exposition entrance in a four-voice fugue. See Beethoven, *Die letzten Sonaten*, 78. This entrance does not follow, after its first four measures, the sequential pattern that characterizes previous statements of subject and answer. In addition, it does not fully adhere to the metric precedent set by the preceding entrances. This entrance does not conform to the notated meter; rather, its perceived downbeats are offset by half a measure from the notated downbeats. Thus I refer to its entrance as occurring at m. 123 ½.

Example 2.6: Succession of subject and answer entrances, mm. 92-123 ½

	m. 92	m. 99	m. 106	m. 114	m. 123 ½
Soprano					Subject, 9 ½ bars a-C
Alto			Answer, 8 bars d-a		
Tenor		Answer, 7 bars C-d			
Bass	Subject, 7 bars a-C				Answer, 17 ½ bars C

The C-major answer in m. 99 (example 2.7) lasts for seven bars, like the subject. Its fourth measure (m. 102) functions, through reinterpretation, as the downbeat of a four-bar hypermeasure, although the reinterpretation of this measure is more ambiguous than in m. 95. Several factors contribute to this ambiguity, including the rhythmic character of the countersubject, the harmonic movement after m. 102, and the tonal content of the entire seven-bar hypermeasure.

The introduction of a countersubject partially attenuates the hypermetric reinterpretation at m. 102, undercutting the unequivocal application of MPR 5. In m. 102, the countersubject continues a previously established rhythmic pattern past the suggested point of hypermetric reinterpretation, obscuring the audible clarity of the upper voice's change in rhythmic patterns. The rhythmic scheme of the countersubject alone has hypermetric implications that differ from the upper-voice answer. Taken by itself, it would not suggest a hypermetric reinterpretation at the four-bar level at m. 102. Instead, m. 103 would mark a downbeat at that level. This is because listeners still retain expectations of four- and eight-bar hypermeasures from the exposition, and the duplication in canon of the upper voice's sequential model in m. 103 would confirm this expectation, with its new rhythmic pattern

27

Example 2.7: C-major answer in tenor, mm. 99-105

(MPR 5). It is only in the upper voice, however, that the model actually repeats sequentially. The model coincides in the upper voice with the prolongation of a single harmony in mm. 102-103, over an implied bass C still active from m. 98, with harmonies changing to a V^6-I tonicization of D minor with the sequential repetition in mm. 104-105. Harmonic rhythm thus helps to underscore the upper voice in this passage as generative of meter. Although the metric potential of the countersubject does not prevent the inference of hypermetric reinterpretation at m. 102, it reduces the certainty with which it is met.

Tonal content also obscures the hypermetric reinterpretation at m. 102. While the subject's reinterpreted fourth bar coincides with an overlap of two phrases, this does not happen in the C-major answer. Here, tonal motion binds the entire group more forcefully, without supporting an internal hierarchical division (example 2.7, lower system; example 2.8 reproduces Schenker's sketch of this passage). Although the answer does trace a third-progression in mm. 99-102, listeners cannot construe the arrival of $\hat{1}$ in m. 102 as a point of tonal closure, as it sounds against a B♭ that remains active (as a minor seventh above the

28

tonic C major) until m. 104. A fifth-progression descending from C to F, beginning in the countersubject in m. 99, circumscribes the entire passage tonally. In the example, the large slur that begins below the upper staff indicates this linear progression – its partially dotted segment designates the continuation of the progression in an upper voice. Without any clearly articulated tonal division to match this passage's internal metric hierarchy, metric division at the four-bar level, unlike in the subject, is supported by rhythmic phenomena and parallel reading alone. As such, it is hard to construct a hypothetical eight-bar revision, like that of the subject. The metric similarity of this entrance to the subject owes primarily to surface-level features, and not to any middleground congruence between the two.

Example 2.8: Ludwig van Beethoven, *Die letzten Sonaten: Sonate A Dur, Op. 101*, Kritische Einführung und Erläuterung von Heinrich Schenker: Reduction of tonal motion, mm. 99-105

Although no hypermetric expansion at the eight-bar level has yet occurred in the music, this weakening of internal hypermetric divisions nevertheless forms an aspect of this subsection's metric plot. Here, and in the next C-major entrance (m. 123 ½), perceptible hypermetric patterns are disconnected from the music's tonal middleground, in contrast to the minor-key entrances, where tonal structure more clearly undergirds foreground hypermeter. This disjunction between tonal and hypermetric structure is a developmental metric phenomenon in the fugue, and foreshadows some of the metric confusion that comes in later subsections.

29

The D-minor answer beginning at m. 106 (example 2.9) occurs over the fugal development's first hypermetric expansion. While the C-major answer resembles the subject metrically, but without middleground tonal confirmation of its internal metric hierarchy, the D-minor answer more closely mirrors both subject's metric and tonal organization. Its reinterpreted fourth bar (m. 109) marks the overlapping of two phrases, just as in the subject. The second hypermeasure at the four-bar level, which begins in this measure, is extended to five bars. Thus, even though the answer occupies an eight-bar hypermeasure in total, this eight-bar hypermeasure is an extended hypermeasure. In an abstract sense, it divides into metric units of four and five bars, but because two measures are elided, only eight bars appear on the music's foreground, instead of nine.

Example 2.9: D-minor answer in alto, mm. 106-113

The hypermetric extension occurs so the music can encompass both its tonal motion to V in A minor and its sequential nature. In order for the answer to effect a tonicization of A minor, it departs from the subject's harmonic motion. Were the D-minor answer to transpose the subject's harmonic progression exactly, it would instead tonicize F major within the subject's seven-bar span (example 2.10). Instead, where the subject describes an upper-neighbor figure, F-E, over its final four measures (refer to example 2.4), the corresponding portion of the D-minor answer traces a descending third, B-A-G♯ (example 2.9, lower system). Although the descent of a third could, like the F-E figure, be contained in four measures, a revision that attempts to show this cannot also replicate the two-bar motivic sequential idea beginning in m. 109. Example 2.11 presents one possibility. Here, the third-progression occupies only four bars, but only m. 110 (rather than mm. 109 and 110 together) repeats sequentially. This revision is musically unsuccessful because it departs so strongly from the previous subject and answer entrances; essentially, it changes the overall construction of the fugue subject.

Example 2.10: D-minor answer revised to match subject harmonically

In an explication of Schenker's analysis of the Menuet from Bach's F-Major Overture, Frank Samarotto describes a situation in which "a string of tones acts as an

Example 2.11: D-minor answer revised so that third-descent fits four measures

independent agent to overwhelm the normal metrical boundaries."[5] This is the case as well in

mm. 109-113 of the Beethoven excerpt, in which a pre-established hypermetric pattern

cannot encompass a particular passage's tonal content while maintaining its motivic identity.

Here, Beethoven prioritizes this motivic identity over hypermetric regularity, at least up to a

point. For the first two notes of the third-progression, B and A, he maintains the two-bar

sequential pattern and repetition of the subject. After the first iteration, however, he collapses

the pattern by one bar, repeating only the second bar of the model. Otherwise, a six-bar

hypermeasure following m. 109 would have resulted (example 2.12). By reducing the pattern

for sequential repetition to one bar, Beethoven effects a motivic acceleration toward the next

entrance of the subject.

Even though the second half of the D-minor entrance comprises an internal

hypermeasure of five bars (beginning in m. 109), that five-bar hypermeasure maintains the

prototypical division of a four-bar hypermeasure into two smaller hypermeasures: it contains

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[5]Frank Samarotto, *A Theory of Temporal Plasticity in Tonal Music: An Extension of the Schenkerian Approach to Rhythm With Special Reference to Beethoven's Late Music* (Ph.D. diss., City University of New York, 1999), 23. See Schenker, *Der freie Satz*, § 287, figure 138.

Example 2.12: D-minor answer revised to contain additional sequential repetition

m. 109

Third sequential repetition

hypermeasures of two and three bars. Given the strong-weak metric alternation of measures

beginning in m. 109, listeners might expect m. 113 to be strong, at least at the two-bar level

(example 2.13). This is not the case, however, as m. 113 does not continue the sequence's

motivic pattern. Measure 113 repeats only the weak second bar of the sequence's model. As

it is constructed in a parallel fashion to m. 110 and m. 112, it assumes a parallel metric

orientation to them (MPR 1). It is metrically weak at the two-bar level, like the measure that

precedes it. Thus, m. 113 is part of a metric unit beginning in m. 111 – a three-bar

hypermeasure (or, an extended two-bar hypermeasure), and the five-bar hypermeasure

beginning in m. 109 comprises two, instead of three, shorter hypermeasures. Because the

metric divisions in the D-minor answer resemble those in the subject (notwithstanding the

one-bar extension), the D-minor answer has a great deal in common metrically with the

subject's foreground prototype. Listeners still perceive the hypermeter of the exposition at

this point in the fugue.

Hypermetric perception in relation to the prototype recedes in the subject entrance

beginning at m. 114. It occupies a hypermeasure of nine and one-half bars (example 2.14).

The entrance's nine and one-half measures trace harmonic motion from A minor to C major;

this matches the harmonic progression in the first appearance of the subject, at m. 92 (refer to

example 2.4). This time, however, C major arrives as a first-inversion harmony, with C in the

Example 2.13: D-minor answer, hypermetrically weak inference of m. 113

upper voice (at m. 123 ½). The lower system of example 2.14 shows the subject's voice-leading approaching this harmony (compare this with the lower system of example 2.4). In addition, while the first presentation of the subject cadences on C on the final weak beat of the hypermeasure it occupies, the cadential goal of this entrance contributes in creating a new hypermetric downbeat at the eight-bar level, because it is elided with a subsequent polyphonic entrance.

Example 2.14: Subject in soprano, mm. 114-123

For this entrance's tonal motion to approach a first-inversion C harmony, the F-E neighbor figure of the first subject entrance changes here to the descent of a fourth, from F to C. As in the D-minor answer, this tonal increase occurs over an expanded internal hypermeasure at the four-bar level. This time, however, the expanded hypermeasure divides internally into three smaller hypermeasures, instead of two. Prolongations of the first two pitches of the fourth-descent, F and E, each occupy a two-bar hypermeasure, but this process changes for D, in m. 121, whose prolongation instead occurs over a two and one-half-bar hypermeasure. Its slightly longer prolongation contains a more superficial descent to its lower third, B. Example 2.15 shows how this prolongation occupies an extra half measure; it includes a rhythmic normalization of mm. 117-123. The prolongation of D includes five melodic diminutional pitches, F-E-D-C-B, and each of these, in the normalization, occupies a quarter note.

Example 2.15: Subject, rhythmic normalization of mm. 117-123

35

These pitches' two and one-half bars maintain a metric structure analogous to a two-bar hypermeasure; their content could theoretically occupy two measures. This is shown in example 2.16, which replaces the music's five-beat prolongation of D with a second replication of the sequential model from mm. 117-118 (B, the lower third of D, now appears in the alto voice). The two and one-half bars can thus be thought of as expanded from a more prototypical two; hence their metric structure is similar to the preceding two-bar sequential diminutions of F and E (see example 2.15). A polyphonic entrance occurs at m. 123 ½; if it were delayed a bar, mm. 121-123 would instead form a three-bar hypermeasure (example 2.17).

Example 2.16: Subject revised to contain additional sequential repetition

Example 2.17: Subject revised to delay C-major answer until m. 124

The hierarchical relationship between prototypical four- and two-bar hypermeasures

therefore weakens considerably in this A-minor subject entrance. The six and one-half-bar

hypermeasure beginning in m. 117, although understood at the prototypical four-bar level,

does not maintain its expected division into two smaller hypermeasures. Rather, it divides

into three. This differs from the preceding D-minor answer, whose metric similarity to the

subject is clearer. This is pivotal in the metric plot of the fugue's first subsection. Now,

hypermetric expansion is not only typical, but does not lie in such close proximity to the

subject's foreground prototype.

The hypermeasure beginning at m. 123 ½ has a more complex structure than any that

precede it (example 2.18).[6] It contains a bass entrance in C major, and lasts for seventeen and

one-half bars, dramatically expanded from the prototypical seven. By this point in the

development, listeners hear the expanded hypermeasure not so much as an irregular

modification of the prototype, but simply as a regular aspect of a new metric texture. The C-

major polyphonic answer it contains looks different from previous entrances on the music's

score, because it is offset against the notated barlines by half a measure. Apart from this, its

deviation from the seven-bar prototype of the first subject entrance is apparent in three ways.

First, certain musical features obscure the location of an internal hypermetric division at the

four-bar level. Second, the seventeen and one-half-bar hypermeasure contains a lengthy

internal expansion (mm. 129-136) – an eight-bar structure that exists metrically closer to the

musical surface than its surrounding music. It also concludes with a four-bar extension (mm.

137-140).

The metric patterns perceived in listening to the C-major answer temporarily differ

[6]See Cockshoot, 64.

Example 2.18: C-major answer in bass, with eight-bar internal expansion and four-bar extension, mm. 123 ½-140

from the music's notation. Example 2.19 presents the first several bars of the answer both as it is notated and as it is perceived. The metric offset does not continue for long, and the notated meter resumes after m. 127. This entrance necessitates a hypermetric reinterpretation. Unlike in previous instances of reinterpretation, however, the reinterpretation in this example falls at the level of the beat, so that previously weak beats at the level of the measure become strong. Schenker cited this particular passage to prove his claim that all fugal entrances cause

reinterpretations.[7] Nevertheless, this reinterpretation does not prevent the perpetuation of a hypermetric scheme. Both the seventeen and one-half-bar hypermeasure that the C-major answer commences and the nine and one-half-bar hypermeasure that it concludes relate to a hypermetrically regular prototype, even if this relationship is difficult to hear.

Example 2.19: C-major answer, metric displacement in mm. 123 ½-126 ½

As notated:

As perceived:

The expanded hypermeasure beginning at m. 123 ½ suggests a degree of confusion regarding the placement of a hypermetric downbeat at the four-bar level. All previous subject and answer entrances had a hypermetric reinterpretation at their fourth measure; here the reinterpretation is obscured both by the music's tonal motion and by the conflicting rhythmic

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[7]Schenker, *Der freie Satz*, §298, figure 149, example 8. See also Beethoven, *Die letzten Sonaten*, 84.

patterns of the answer and the countersubject. Additionally, surface-level features in the music support the possibility for hypermetric reinterpretation at two different time-points, at a distance of half a bar from each other.

Because the beginning of the seventeen and one-half-bar hypermeasure is metrically displaced from the notated barlines, its fourth "bar" begins in m. 126 ½. Here, as in previous examples, changes in the musical surface suggest the reinterpretation of a hypermetric downbeat at the four-bar level. These include the bass's new rhythmic pattern of straight eighth notes and the introduction of motivic material which, although not repeated sequentially, resembles the sequential material of previous entrances.[8] Identical changes, however, occur in the upper voice half a measure later, in m. 127 (example 2.20). This points to a greater level of metric ambiguity than in the earlier C-major entrance (following m. 99), in which certain musical features also weakened a four-bar internal hypermetric division. This instance, then, continues the metric foreshadowing of the earlier entrance, leading the way to more ambiguous metric structures later on in the fugue.

The middleground tonal motion in this passage does not confirm a reinterpretation at either m. 126 ½ or m. 127. Neither time-point coincides with a phrase overlap, as is the case in both A-minor subject entrances and the D-minor answer. Rather, the reinterpretation is tonally bound by a descending linear progression, as in the previous C-major entrance. Here, mm. 123 ½-128 trace a descent from C, through B♭, to A, without tonal closure between its endpoints (compare this to example 2.7).

Measures 129 through 136 make up an internal eight-bar expansion within the expanded hypermeasure beginning at m. 123 ½ (example 2.21). One the one hand, they

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[8]Compare the left hand at m. 126 ½ with the upper voice of m. 102, for example.

Example 2.20: C-major answer, ambiguous hypermetric reinterpretations at mm. 126 ½ and 127

exemplify the trend in the fugue's first subsection toward lengthier expansions; on the other,

they allude to the hypermetric pattern of the movement's exposition. The expansion gives

rise to its own hypermetric structure, with internal two- and four-bar divisions; these are

inferred from the parallel two-measure groups at mm. 129, 131, and 133 (MPR 1). The entire

expansion takes the form of an eight-bar hypermeasure without any internal reinterpretation.

This is the first occurrence of such an unaltered structure during the development; however, it

exists metrically much closer to the music's foreground than the preceding music from the

development, embedded within a larger irregular structure. The expansion's tonal motion is

closer to the music's foreground as well, existing entirely within a D-minor prolongation (see

the lower system of example 2.21).[9] Despite the transition from the exposition's eight-bar

hypermeasures toward the development's expanded hypermeasures, the eight-bar internal

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[9]See Beethoven, *Die letzten Sonaten*, 84.

expansion at m. 129 serves as a subtle reminder of the exposition's metric patterns. This prefigures an element of contrast between two metric characters; this contrast is more significant in the fugue's second and third subsections.

Example 2.21: C-major answer, eight-bar internal expansion, mm. 129-136

This final seventeen and one-half-bar hypermeasure concludes the metric development of the fugue's first subsection. By the final polyphonic entrance at m. 123 ½, listeners do not hear expanded hypermeasures as metrically atypical in contrast to the exposition's eight-bar hypermetric regularity. Instead, hypermetric expansion has become a typical part of the music's overall metric character. The four-bar extension to this last polyphonic entrance (which concludes the upper-voice descent from C in m. 123 ½ to E in m. 141) foreshadows the metric character of the fugue's second subsection, which contains longer hypermeasures with three internal four-bar divisions (see example 2.18). In the

42

remainder of the fugue, Beethoven contrasts the development's new expansive metric

character with eight-bar hypermeasures reminiscent of the exposition. Because of the changes

in the fugue's first subsection, the re-introduced eight-bar hypermeasures no longer sound

metrically ordinary. They now exist in a different musical context effected by the fugue's

metric plot, and they stand out. This allows for further metric development.

III
METRIC PLOT CONFLICTS IN THE LATER SUBSECTIONS

The music of the development during the first fugal subsection enacts a gradual

progression toward irregular, expanded hypermeasures. The second and third subsections

introduce metric patterns that challenge this unimpeded flow. Because listeners cease to

expect regular eight-bar hypermeasures during the course of the first subsection, the

reintroduction of such metric structures in the second adds an element of conflict to the

metric plot. Two divergent metric characters are active through the remainder of the fugue,

and during the retransition at the end of the third subsection, the original hypermetric

ordering of the sonata's exposition overtakes the hypermetric irregularity of the development.

In the second subsection of the fugue (mm. 141-176 ½), the metric contrast between

the expanded hypermeasures of the first subsection and the unaltered eight-bar

hypermeasures of the exposition (refer to example 2.3) comes to the fore through the

juxtaposition of both metric types. The subsection begins with an expanded hypermeasure

that contains its only subject entrance, in C major. An eight-bar sequentially constructed

hypermeasure, beginning in m. 154, follows immediately. The latter is the first eight-bar

hypermeasure in the development whose internal metric divisions at the two- and four-bar

levels lack any alterations in regularity.[1] As such, it is marked as something that stands apart

from the music's metric context – perceptibly distinct precisely because of its conformity to

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[1]The only other hypermeasure of eight bars encountered thus far is that of the D-minor
entrance in m. 106. Although its length alone matches the prototypical hypermetric
orientation of the sonata's exposition, its internal divisions are atypical of this norm, with an
asymmetrical division into three- and five-bar hypermeasures.

an eight-bar prototype. The unaltered prototype has become defamiliarized through the course of the fugue thus far; this phenomenon is noteworthy in the continued unfolding of the metric plot.

The C-major entrance, along with its ensuing episodic material, occupies thirteen bars (example 3.1). It begins in a fashion metrically similar to all the preceding subject and answer entrances, although it concludes with an additional four-bar hypermetric unit like the seventeen and one-half-bar hypermeasure that begins in m. 123 ½ (refer to example 2.18). Its fourth bar, m. 144, is reinterpreted as the downbeat to an internal hypermetric division at the four-bar level; hypermetric expansion at the four-bar level also occurs to accommodate the passage's tonal content, as in the preceding D-minor (m. 106) and A-minor (m. 114) entrances. Thus, a linear third-descent from E to C occurs over six bars, in mm. 144-149.[2]

Measure 150 introduces a new sequential pattern whose metric interpretation initially suggests a hypermetric downbeat structurally equal to the one at m. 141. It follows an apparent weak-beat cadence in C major in m. 149, which at first sounds like a metrically weak phrasal conclusion, closing tonal motion before a new hypermeasure begins. The perceived weakness of m. 149, as well as the shift in m. 150 to the sequence's new rhythmic pattern (which can signify metric strength according to MPR 5), seems to support this metric interpretation of m. 150. In actuality, m. 150 marks only another downbeat at the four-bar level within a larger hypermetric structure that lasts from mm. 141-153. The cadential

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[2]Although on the music's foreground a sense of rhythmic equilibrium is maintained in this third-progression (two measures for each pitch), a reading of the music's middleground indicates that the second pitch, D, is prolonged for three and one-half measures, while the final C is reached only on the second beat of m. 149. Nevertheless, the expansion from four to six bars helps to preserve a degree of motivic connection among consecutive two-bar units in this passage.

Example 3.1: C-major subject in alto, with ensuing episodic material, mm. 141-153

activity at m. 149 is more superficial than the C-major tonic arrival at m. 154, and the entire

thirteen-bar hypermetric structure is tonally circumscribed by a descending third-progression

from E in m. 141, through D in m. 153 (but implied over V in m. 151), to C, which overlaps

the next hypermetric downbeat at m. 154.

This thirteen-bar hypermeasure resembles the seventeen and one-half-bar

hypermeasure in m. 123 ½-140 in that it contains three internal hypermetric divisions at the four-bar level (although it does not contain a similar internal expansion). Also like the preceding hypermeasure, its final four bars (mm. 150-153) are of a different polyphonic character from most of the fugal development. Their upper voices are built on much closer imitation of a one-bar rhythmic group, and they are underscored to a much greater extent by the bass's harmonic rhythm. Their construction is in many ways more characteristic of certain passages from the sonata movement's exposition than it is of most of the development, as can be seen by comparing them to a passage from the exposition following m. 59 (example 3.2).[3]

Example 3.2: Comparison of mm. 150-153 with mm. 59-62

Measures 150-153, by virtue of their motivic content and their liberal deviation from strict four-voice counterpoint, imply some amount of continuity with the following eight-bar

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[3]Cockshoot attributes the construction of this portion of the fugue, and the passages that follow it, to Beethoven's intention to combine sonata and fugue styles. See Cockshoot, 66.

hypermeasure (example 3.3). Nevertheless, this eight-bar hypermeasure, beginning in m. 154, stands apart from its preceding metric context owing to its sheer metric regularity. Its motivic material and harmonic content both support completely unmodified hierarchical divisions into two- and four-bar hypermeasures. It contains a two-bar sequential model and its repetition in its first four bars, followed in its second group of four bars by a one-bar model repeated three times over (with the last repetition modified to effect an arrival on I^6 in A minor). This shift from a two-bar to a one-bar sequential pattern marks an internal hypermetric downbeat at the four-bar level at m. 158 (MPR 5), and the sequential repetition of mm. 154-155 in mm. 156-157 defines the two-bar level (MPR 1). None of the preceding hypermeasures at the prototypical eight-bar level exhibits this sort of regularity, as each coincides with a subject or answer entrance and consequently is reinterpreted metrically at its fourth measure.[4] The significance of this hypermeasure is not just in its deviation from the surrounding metric context, but also in its function within the fugue's metric plot. As the first subsection represents an evolution from one metric state to another, the reintroduction in the second subsection of metric schemes characteristic of the exposition is a notable contrast. The two conflicting metric schemes infiltrate the remainder of the development, coloring the metric plot through the retransition.

In this connection, the fourteen and one-half-bar expanded hypermeasure in mm. 162-

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[4]The internal expansion from mm. 129-136 may be read as an exception to this claim. It, too, is an eight-bar hypermetric structure whose internal divisions are not marked by reinterpretation. Nevertheless, it does not exhibit the same metrically prominent character of the hypermeasure under consideration, both because of its embedding within a larger, irregular hypermeasure, and because its initial downbeat lacks the strong harmonic articulation of m. 154. In terms of metric continuity, the eight-bar expansion in mm. 129-136 can be thought of as "dovetailing" the metric plot elements enacted in the first two fugal subsections.

Example 3.3: Unaltered eight-bar hypermeasure, mm. 154-161

176 ½ comprises a mixture of two metric characters (example 3.4). Even though it concludes the fugue's second subsection, it does not resolve the metric tensions that mm. 154-161 introduce. Rather, this passage creates a metrically unsatisfactory conclusive gesture. As part of the overall metric plot, it connotes a failed attempt at reconciling contrasting hypermetric schemes. The hypermeasure commences with the regularity of the previous eight-bar structure, as if the music has returned to the exposition's metric ordering without incident. The return is stymied, however, by the inclusion of a three-bar internal expansion, which offsets the music's perceived downbeats at the level of the measure from the notated downbeats; this has implications on the metric interpretation of the hypermeasure's conclusion.

The hypermeasure beginning in m. 162 initially suggests clear, unmodified hypermetric regularity. It begins with a four-bar sequential model, which repeats in m. 166, suggesting hypermeter at the four-bar level (MPR 1). The repetition is truncated half a bar early, by the introduction of a new one-bar sequential model in m. 169 ½. This model is repeated twice, creating a three-bar internal expansion within the hypermeasure begun at m. 162. The expansion exists closer to the foreground than the surrounding music tonally as well as metrically, within a prolongation of a bass B (through inner-voice 6-5 motion).

49

Example 3.4: Conclusion of second subsection, mm. 162-176 ½

The sequential material in the three-bar expansion enables a reinterpretation at the level of the measure. Listeners may hear 169 ½ as a measure-level downbeat, offset by half a bar, because the introduction of a new sequential model at this time-point disrupts a previously established rhythmic pattern and begins a new one (MPR 5). The reinterpretation of this model in mm. 170 ½ and 171 ½ reinforces this inference, for the repetitions form parallel rhythmic groups and consequently imply parallel metric orientations (MPR 1). The offset meter remains in effect through measure 176 ½. Thus, after m. 172 ½, at which point the music's meter returns to the same structural level as before the expansion, the V^7/V-V^7-I cadential formula occurs with each harmony changing on a downbeat. The tonic arrival overlaps the next hypermetric downbeat.

While the music immediately following m. 162 sounds as though the metric orientation of the exposition has been regained, this return is undermined through reinterpretation, displaced meter, and shifting structural levels. As a result, the conclusion of this fourteen and one-half-bar hypermeasure is musically unsettling; the metric plot is not yet resolved. Moreover, metric considerations undermine the cadential effect of mm. 172 ½-176 ½. Even though the perceived measure-level downbeats of the cadence are shifted from the notated barlines, the introduction of the bass pitch E occurs on the written downbeat to m. 175, half a bar later than the strong-beat inception of dominant harmony. This weakens the cadence considerably, impairing listeners' mental establishment of dominant harmony before the tonic arrival at m. 176 ½. Thus, while the entire fourteen and one-half-bar hypermeasure begins in a metrically regular fashion, it ends with a certain degree of confusion.

If the second subsection as a whole enacts a failed transition from irregular to regular metric structures, then the third one (mm. 177-199) offers a victorious unaltered eight-bar

51

model (example 3.5). The tonal content of the third subsection comprises an *Urlinie* descent from $\hat{3}$ to $\hat{2}$, the point of interruption in the movement's *Ursatz*; the descent occurs over a single large hypermeasure of 22 bars (beginning in m. 179 and preceded by a two-bar hypermetric upbeat), with a major internal hypermetric articulation at m. 192. This division marks a final shift from metric confusion to metric normalcy.

As I have noted, the cadential arrival on I at m. 176 ½ overlaps a new hypermetric downbeat. The *stretto* entrance in m. 177 occasions a new hypermetric reinterpretation, and listeners ultimately understand both mm. 176 ½ and 177 to be hypermetric upbeats to m. 179, wherein the start of a hypermeasure coincides with the inception of cadential six-four harmony and an alto-voice subject entrance (transferred to the soprano in m. 182). This final entrance, with its reinterpreted fourth bar (m. 182), is similar metrically to the earlier examples of fugal entrances. Measure 182 begins an internal hypermeasure at the prototypical four-bar level; on the musical surface this hypermeasure is expanded to ten measures, and it comprises an octave coupling from C to C.

Measures 182-191 introduce a greater degree of metric manipulation than elsewhere in the development, because of the potential for meter to be offset by an eighth note at m. 186 ¼. Two factors work in conjunction to support this displacement: a shift in harmonic rhythm, so that harmonies no longer change with the notated downbeats, and the continuous off-beat *sforzandi* articulations (example 3.6). Measures 182-185 imply a harmonic change on every other downbeat, such that the two-bar sequential pattern in the upper voices has stronger metric implications than the canonic imitation in the lower voices. The lower-voice imitation in mm. 182-185 differs slightly from the model, so that the first notated eighth-note in m. 186 circled in example 3.6) matches the harmonic content of mm. 184-185. The circled eighth-

Example 3.5: Final subsection, mm. 177-199

note does not suggest a change in harmony; this fact weakens its perceived metric strength.

 (Instead, harmonies change on the second and fourth notated eighth-notes of m. 186, and listeners may opt to interpret these time-points as metrically strong at the level of the beat. The recurring *sforzandi* accents in both voices following m. 186 contribute to the continued inference of a displaced meter, for Lerdahl and Jackendoff's MPR 4 states that equidistant beats of a particular level of pulses that receive greater stress tend to be heard metrically [5]

Example 3.6: Shift in harmonic rhythm, mm. 182-191

Difficulty in perceiving meter arises in m. 191, for here the offset meter is at odds with certain other aspects of the musical surface. The written *sforzando* and the cadential six-four harmony on the second eighth-note of m. 191 enforce the potential metric strength of these time-points, and suggest that the displacement remains in effect. The jump in the bass to a low E on the second notated beat of m. 191, however, creates a registral accent. This accent, along with the strong bass at the beginning of m. 192, contradicts the displaced meter. In terms of metric plot, this passage represents a disintegration of the metric character of the development. Within a hypermetric expansion characteristic of earlier parts of the fugue, a

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[5]Lerdahl and Jackendoff, 79.

metrically regular, albiet markedly offset, group of measures emerges at m. 186; their metric patterns collapse in m. 191, after which an unaltered eight-bar hypermeasure emerges. Motivically, this eight-bar hypermeasure divides into two units of two bars each, followed by a group of four measures, supporting internal metric divisions identical to the eight-bar prototype of the exposition (refer to example 3.5).

Even though the final eight bars of the development exist within a larger hypermetric structure, their regular division is conspicuous. This points to a metric resolution of the development's irregularities, beginning simply with the elision of one bar in what would otherwise be a standard eight-bar hypermeasure, and progressing to expanded hypermeasures of great complexity. Casting this resolution within the metaphorical context of a metric plot, one notes the utility of discussing fugal music in terms of meter. Not only does it lend a generally unnoted dimension to the discussion, but it also provides an overarching framework through which the entire development can be comprehended as a dynamic, procedural entity.

IV

SHADOW METER

The fugal development in the Finale of Opus 101 contains three instances in which metric patterns shift away from the music's notation. The passages following mm. 123 ½ and 169 ½ imply measure-level downbeats offset by one beat from the printed barlines, while the passage following m. 186 ¼ implies a half-beat offset. Each of these examples is significant in the metric plot of the development. They each occur toward the end of one of the three subsections and represent a culmination and summation of local metric activity. Analysis of the real-time perceptions of these three examples yields further nuanced interpretation. Not only does metric displacement accord these passages further phenomenal prominence, but, in addition, it allows them to suggest multiple simultaneous metric readings. In other words, listeners may hear the displaced meter and the meter that precedes the displacement as active at the same time. In creating these situations of metric ambiguity, Beethoven provides stronger punctuation to important moments in the fugue. These events contribute to the overall teleology of the music as each occurrence of metric displacement is more audibly pronounced than the one that precedes it.

Even though the passages following mm. 123 ½, 169 ½, and 186 ¼ contain sonic cues that point to the inception of new, displaced metric patterns, these new patterns remain in conflict with their surrounding metric contexts. Simultaneous metric inferences are possible in these passages because of listeners' tendencies to retain established metric patterns. Listeners impute on meter a degree of "inertia," in that they mentally perpetuate a recursive

scheme even in the face of conflicting metric signals.[1] Several theorists have dealt with this phenomenon at length, including Harald Krebs, Carl Schachter, and Frank Samarotto.[2]

Harald Krebs considers musical situations that juxtapose two incommensurate metric patterns to be a variety of "displacement dissonance." He speaks to the notion of inertia in his discussion, noting:

> ...our tendency as listeners [is] to maintain an established pulse for a short time after it is discontinued in actuality. When...two nonaligned congruent layers juxtaposed, the listener inwardly continues the first layer as the second begins, so that there arises a brief but clearly perceptible conflict between the mentally retained first layer and the actually sounding second layer.[3]

The brief but perceptible conflict that Krebs mentions can arise at either the beginning or the end of each of the metric displacements in Opus 101. As soon as the displacement commences, the audible clash between old and new meters can be quite startling. This effect subsides quickly, as listeners become attuned to the new meter. Once the original meter resumes (that is, when the displacement ends), the conflict of metric displacement is met again, as the displaced meter itself has begun to exhibit its own inertia. These moments of metric conflict engender in listeners a sense of unrest. Perceptions of meter are ambiguous

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[1]Regarding the metaphorical use of "inertia," see Agmon, 9.

[2]Harald Krebs, *Fantasy Pieces: Metrical Dissonance in the Music of Robert Schumann* (New York and Oxford: Oxford University Press, 1999), 22-61; Schachter, op. cit.; Samarotto, "Strange Dimensions: Regularity and Irregularity in Deep Levels of Rhythmic Reduction," in *Schenker Studies* 2, ed. Carl Schachter and Hedi Siegel (Cambridge: Cambridge University Press, 1999), 222-38.

[3]Krebs, 45. Krebs's term "layer", or more specifically, "interpreted layer," refers to listeners' partitioning of an undifferentiated musical pulse stream into larger units. Interpreted layers are not necessarily metric constructs in Krebs's formulation; thus, rhythmic groups, as well as measures and hypermeasures, can be interpreted layers. Displacement dissonance need not be a specifically metric variety of dissonance, even though the examples from Opus 101 that I discuss are; it can also arise from the juxtaposition of offset rhythmic groups.

and volatile; at times they are even chaotic. In the passages following mm. 123 ½ and 186 ¼, it is at the resumption of the original meter, rather than at the inception of the displacement, that metric confusion is most conspicuous. Beethoven introduces these displacements rather abruptly, but once listeners adjust to their initial shock, they are able to follow the new meter without difficulty. The return to the original meter is more ambiguous, as a preponderance of conflicting sonic cues substitutes for an abrupt metric shift. As a result, it is more difficult to locate the point at which the original meter returns than the site of the initial displacement. The displaced passage following m. 169 ½, in contrast, presents equal ambiguity at both of its endpoints; it is easier to retain a sense of the original meter through the duration of the displacement, but the confusion is also prolonged.

When a displaced meter temporarily overtakes a preexisting meter, theorists generally grant a degree of primacy to the preexisting meter. Although the displaced meter tends to assert itself more strongly in listeners' minds, it remains a foreground gloss upon more basic metric ordering. Schachter writes of this, "Usually...the new pattern is the stronger of the two, but it is not necessarily 'the' meter of the passage, for it can often be heard as struggling against the prevailing meter rather than supplanting it."[4] Samarotto attributes the same relationship to the two coexisting metric patterns, which he terms "main meter" and "shadow meter." In his terminology, shadow meter refers to the displaced meter. The term does not connote fuzziness or uncertainty in real-time metric perception, for listeners tend to hear the shadow meter more strongly than the main meter. In his analysis of Beethoven's Sonata in A♭ major, Opus 110, he cites two examples in which the contraction of a measure creates an incipient shadow meter that briefly challenges the primacy of the notated meter. Example 4.1

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[4]Schachter, 35.

reproduces Samarotto's analysis of mm. 9-16. Samarotto writes:

> In [example 4.1b], a rhythmic shift backwards contracts the second measure
> and creates in the piece what I call a "shadow" meter. The main meter, the met-
> er as written, casts a shadow, as if were, of a subsidiary, displaced meter, which
> we are drawn to hear as real as it dissolves in the seventh measure.[5]

Samarotto indicates that the A♭ in m. 10 arrives half a bar early; example 4.1a presents a

hypothetical normalization of the same passage to show how that contraction takes place and

incites a conflicting metric scheme that lasts for several bars, which is labeled in example

4.1b.

Example 4.1: Frank Samarotto, "Strange Dimensions: Regularity and Irregularity in Deep levels of Rhythmic Reduction:" Beethoven, Sonata in A♭ major, Opus 110/ii: Shadow meter in mm. 9-16

a) Normalization of rhythm according to ascending 5-6 series

b) Contraction by rhythmic shift

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[5]Samarotto, 235, 236, example 11 (I have omitted example 11c). Rothstein has subsequently adopted the term shadow meter; in his usage, it refers to a series of regularly spaced accents that may challenge a prevailing metric pattern, but that do not necessarily alter the original pattern's imminent perceptibility. He writes in an analysis of Beethoven's *An die ferne Geliebte*, "while the shadow meter is especially strong in this...passage, it remains a shadow; it never replaces the notated meter as the governing metrical pattern." See Rothstein, "Beethoven mit und ohne Kunstgepräng': Metrical Ambiguity Reconsidered," *Beethoven Forum* 4, ed. James Webster and Glenn Stanley (Lincoln: University of Nebraska Press, 1995), 169.

Even before metric displacement appears in the development of Opus 101, the C-major answer in mm. 99-105 foreshadows the importance of metric ambiguity. Here, Beethoven presents signals that can potentially confuse the location of hypermetric downbeats at the four-bar level (demonstrated in example 2.4). The tenor voice, through changes in rhythmic patterns and the introduction of new sequential material, implies a hypermetric reinterpretation at m. 102. Contrary to this, however, the countersubject in the bass offers similar signals a bar later, in m. 103. Because of the overriding harmonic rhythm of the passage, listeners privilege the first site, but the passage's meter remains slightly ambiguous. This C-major answer gives a foretaste of the uncertainty that accrues to the development's three later examples of metric displacement.

The displacement of the C-major bass entrance in m. 123 ½ from the notated barlines effects a reinterpretation at the level of the measure. This measure-level reinterpretation constitutes an example of shadow meter, offset from the main meter by half a measure. The main meter (that is, the meter as notated) remains in play through the displacement, and certain foreground elements in the music remind listeners of its existence. The shadow meter dissipates gradually, and it is difficult to locate an exact point where the main meter returns to the perceptual foreground. Around m. 127, signs of the main meter begin to contest the shadow meter more forcefully. Certainly the shadow meter is no longer active during the eight-bar expansion beginning in m. 129 (whose motivic content argues only for downbeats conforming to the printed measures; refer to example 2.21).

If shadow meter arises in example 4.1 through the contraction of a measure, in the C-major entrance of m. 123 ½, it relates instead to a hypermetric expansion, in which the two and one-half-bar prolongation of D in mm. 120-123 derives from a prototypical two-bar

60

structure (refer to examples 2.15 and 2.16). Example 4.2 illustrates this inception of shadow meter.

Example 4.2: Shadow meter in mm. 123 ½-128 ½

While the metric position of the answer in the bass clearly articulates the shadow meter, the implicit continuation of the notated main meter is also audible in this passage. In earlier instances in the fugue, the presence of a countersubject had little effect on metric perceptions at the level of the measure, but here, the countersubject's long notes in the upper voice (in mm. 124-126) subtly confirm that the main meter has not fully subsided. The outer voices here audibly emphasize the conflict between the two meters. This tension is only possible because listeners mentally retain the main meter past m. 123 ½; the long notes in the countersubject assume metric weight because of the metric context that precedes them.

In Chapter 2 I identified two time-points, at mm. 126 ½ and 127, as potential sites of hypermetric reinterpretation at the four-bar level (refer to example 2.20). Each of these

locations holds a change in rhythmic patterns and motivic material to support their reinterpretations. Considering this passage in terms of the interaction of main meter and shadow meter, one can see that in addition to the foreground signals that enforce reinterpretation at mm. 126 ½ and 127, both sites correspond to a position of metric strength at the level of the measure, either in the main meter (m. 127) or in the shadow meter (m. 126 ½). Once listeners become reoriented to the main meter (by m. 129), they realize that the main meter has been active all along. As a result, m. 127 supersedes m. 126 ½ as the more probable location for hypermetric reinterpretation.

The interplay of main meter and shadow meter remains past the point of reinterpretation, even after the notated meter regains audible prominence. The inertia of the shadow meter remains active after m. 127, causing a relatively brief locus of metric confusion. Here, certain surface features of the music may conform to the abandoned shadow meter (which is indicated by dots in example 4.2), and thus help to enforce its retention. This is especially true of the upper-voice A on the second beat of m. 128: as one possible interpretation, listeners may tentatively infer consecutive measure-level downbeats at a distance of one beat, at mm. 128 ½ and 129. The continuation of metric conflict past m. 127 ends with the eight-bar expansion beginning in m. 129, in which meter at the level of the measure is unambiguous.

The second passage under consideration begins in m. 169 ½ (example 4.3). In Chapter 3, I noted that at this point, the introduction of a new sequence implies a half-bar metric displacement, which remains in effect through m. 176 ½. Unlike in the passage beginning in m. 123 ½, here the offset shadow meter is on more of an equal footing with the main meter. Two factors account for this fact. First, listeners can more easily perceive a relationship

between the main meter and the music's harmonic rhythm at the beginning of the sequence. Second, Beethoven prepares the displacement with consistent off-beat *sforzandi* in mm. 162-168. After the sequence ends, the metric stalemate between main meter and shadow meter clouds listeners' metric perceptions of the cadence in mm. 172 ½-176 ½ that ends the fugue's second subsection.

Example 4.3: Shadow meter in mm. 169 ½-176 ½

The sequential model in mm. 169 ½ and 170 ½ implies a sharp break in motivic content from the material that precedes it. This change in pattern as well as the model's sequential repetition support the reinterpretation of m. 169 ½ as a measure-level downbeat. Nevertheless, the harmonic motion that attends to the onset of the sequence is elusive. While the beginning of the sequence in m. 169 ½ is marked harmonically by bass motion from G to B, this motion is obscured because B is subsequently prolonged by its lower third, G. This

diminutional return to the prior active bass pitch (even though it no longer functions as bass) weakens the sonic impact of the harmonic motion. The bass motion to A in m. 170, however, is much more perceptible. As a more strongly articulated harmonic change, it sets the harmonic rhythm, and its metric implications, in conflict with the sequentially defined shadow meter. In this passage, listeners are more free to shift between either metric possibility.

Carl Schachter has characterized the phenomenal effect of metric displacements as occasionally "violent;" that is, they can be quite unsettling to listeners.[6] This adjective is more fitting for the example at m. 123 ½, while the present example effects a more gently perceived displacement. Part of the reason the displacement beginning in m. 169 ½ is less violent is due to the *sforzandi* Beethoven places on the second beats of mm. 162, 164, 166, and 168. Schenker writes of these, "The syncopated rhythm arising in m. 169 was foreshadowed by the sf-accents in mm. 162 and 166."[7] The off-beat *sforzandi* gradually prepare the displacement at m. 169 ½; that Schenker does not perceive a metric shift here speaks to the near-equality with which main meter and shadow meter coexist in this passage.

The structural bass pitch E in m. 175 does not coincide with the perceived hypermeter as the second subsection approaches its final cadence; this lack of alignment weakens the cadence's conclusive effect. In addition, the temporal placement of the E conforms to the music's subcutaneous main meter, reinforcing the simultaneity of metric inferences at play.

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[6]Schachter, 35.

[7]Beethoven, *Die letzten Sonaten*, 86, trans. in Weiner, 366. Schenker uses the word "Rhythmus" in reference to this displacement, in contrast to "Metrum" for m. 123 ½. See Beethoven, *Die letzten Sonaten*, 84. Cockshoot also notes the preparatory effect of the *sforzandi* accents. See Cockshoot, 67.

Because the music following m. 169 ½ does not abandon its original metric ordering so forcefully or violently as after m. 123 ½, the eventual reorientation to the original meter is not so audibly problematic. Listeners' mental retention of the shadow meter is slight once the original meter returns after m. 177. Nevertheless, the very fact that both metric possibilities are active to such an extent in this passage contributes to a greater degree of metric confusion, especially after m. 172 ½.

In one final example of metric displacement, following m. 186 ¼, less of a perceptible pull exists between main meter and shadow meter (example 4.4). The music presents no sonic signals to confirm or enforce the original main meter after the quarter-beat offset, so that the shadow meter is basically unchallenged by the musical surface, and only the listeners' mental retention of the original meter carries any effect. The earlier examples of metric displacement related the displacements to some sort of metric manipulation in the music immediately preceding – the half-bar shift at m. 123 ½ follows a half-bar hypermetric extension, while the half-bar shift at m. 169 ½ follows a half-bar contraction. The situation at m. 186 ¼ is slightly different. Here, a contraction precedes the metric shift, but it only occurs in the lower voices – the sequential motivic idea in the lower voices in mm. 183-184 is one note shorter when it repeats in mm. 185-186. This deletion of one note allows the harmonic rhythm to coincide with both the motivic pattern and the *sforzandi* of mm. 186 ¼-170 ¼. These factors combined support such an unambiguous metric displacement at the level of the measure.

No real conflict arises between main meter and shadow meter during this passage until m. 191. Listeners' metric perceptions of this measure are muddied considerably, as I noted in Chapter 3. In this measure, sonic signals exist to support the continuation of the

Example 4.4: Shadow meter in mm. 186 ¼-191 ¼

shadow meter, as well as a resumption of the main meter. The bass octave leap on the second

beat of m. 191, along with the strongly articulated chord on the notated downbeat of m. 192,

enforce the perception of the original meter at the level of the beat, and conflict with the

shadow meter established in m. 186 ¼. The *sforzando* accent and the introduction of

cadential six-four harmony on the second eighth note of m. 191, however, uphold the shadow

meter, suggesting the perception of quarter-note beats offset by an eighth note. The entirety of

m. 191 is metrically unclear; listeners cannot affix a metric reading to it with certainty.

Clarity returns during the eight-bar hypermeasure beginning in m. 192 (refer to example 3.5).

Because its construction insures that listeners perceive only the notated downbeats, listeners

retrospectively reorient their perceptions of m. 191 to match the main meter.

These three musical events accentuate different ways that meter is a goal-driven

phenomenon in the development in the last movement of Opus 101. One way in which they

are goal-directed is that they articulate key points in the music's metric plot. The passage

beginning in m. 123 ½ represents the culmination of the trend toward hypermetric expansion

in the first subsection. It marks the beginning of the fugue's longest hypermeasure relatable to

the prototypical eight bars, with the exception of the twenty-two bar hypermeasure in the

third subsection. The second passage, beginning in m. 169 ½, highlights the failed resolution

of the metric plot in the second subsection, tempering the assumed return to the hypermetric

regularity of the exposition with ambiguity and confusion. The third passage, following m.

186 ¼, marks the point in the development immediately before the plot resolution finally

occurs. Thus, each example of metric displacement points to a critical point in the unfolding

of the development.

Another way in which these examples are goal-directed is in the confusion they cause

for listeners. The first example presents some difficulty in the inference of a hypermetric

downbeat at the four-bar level, either at m. 126 ½ or m. 127, but the return to the notated

meter is relatively unproblematic. The second example is of a less clear-cut metric shift, for

the two metric possibilities it implies are asserted more or less equally. Nevertheless, the

metric confusion the example creates over the V^7/V-V^7-I cadential formula in mm. 172 ½-

176 ½ exceeds that of the first example. Finally, the violence, to use Schachter's appellation,

that occurs in m. 191 marks the most pronounced instance of metric chaos in the fugue.

Harald Krebs has argued that displacement dissonances that are closer to consonances

(i.e. those that are displaced only slightly from the prototype) are the strongest, having the

most pronounced effect on listeners.[8] This claim hods true in the fugue, as the final

displacement of an eighth note is much more aurally caustic than either of the quarter-note

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[8]Krebs, 57.

shifts. Because of the ways in which the three examples of metric displacement are goal-directed, they lead the way to the metric resolution at m. 192, and, by extension, to the tonal return to A major in the sonata movement's recapitulation.

V

CONCLUSIONS

The narrative metaphor of metric plot development that I use in my analysis draws on a complex, nuanced understanding of meter as it functions in the fugal development of Beethoven's Opus 101. Meter is not simply the recurrence of evenly-spaced strong pulses that parse and delineate musical time in the fugue; rather, it is a component of the music as goal-driven as tonality itself. The notion of a metric plot is particularly appropriate in analyzing development sections of sonatas, as the term "development" carries its own narrative connotations within sonata discourse. While writers more frequently prioritize motivic and thematic criteria in conceiving of development sections, the explication of a metric plot reveals additional developmental variables at work.[1]

Hypermetric drama is possible because of an inherent perceptible polarity between two different hypermetric patterns. Either type, when consistently repeated, helps to create a distinct musical environment. In hearing similar hypermetric structures repeated, listeners are able to define a sense of what is hypermetrically typical in a particular musical context, and they can easily identify hypermetric structures foreign to that context. These foreign hypermeasures often sound out of place, and can create strong aural impressions such as unease, tension, or excitement. In Opus 101, two disparate hypermetric characters vie with each other for primacy; their relative roles add forward momentum to the music.

The first basic hypermetric structure active in the Finale of Opus 101 is the standard eight-bar hypermeasure (which encompasses shorter hypermeasures of two and four bars).

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[1]Caplin, 139.

The exposition comprises hypermeasures of this form, and deviations occur only rarely. Listeners become accustomed to this hypermetric structure in the exposition not only because it repeats several times over, but also because eight-bar hypermetric patterns are so common in music of the Classical era. Representing an archetypical pattern, the hypermeter in the exposition does not in itself suggest anything metrically extraordinary to listeners.

The second hypermetric structure in the last movement of Opus 101 is less regular and more complex. In the first subsection of the fugal development, Beethoven employs hypermeasures of uneven lengths, whose internal divisions at the four-bar level are altered through reinterpretation and expansion. Even though their structural downbeats do not occur at fully regular intervals, these unequal groups of measures are still fundamentally hypermetric, and all derive from an eight-bar hypermetric prototype.

Each of the two basic hypermetric structures, when repeated, creates a particular metric environment. Repetition of unaltered eight-bar hypermeasures generates a sense of regularity; without much deviation from the eight-bar norm, hypermeter is highly predictable, and does not function in a particularly goal-directed manner. Consistent use of uneven hypermeasures, in contrast, can lend a more process-oriented quality to musical time. Hypermeasures of unequal length weaken listeners' expectations for regular hypermetric downbeats in the fugal development, but Beethoven can use this premise for particular musical ends. By manipulating the lengths and internal divisions of hypermeasures, he creates metric situations that imply change and progress, rather than stasis. Thus, in contrast to the exposition, the development traces an evolution in metric environment.

Furthermore, Beethoven plays on listeners' abilities to become habituated to an irregular hypermetric context. While the hypermeasure that begins the development (mm. 92-

98) initially sounds metrically charged because of its reinterpreted fourth measure, later hypermeasures that depart much more strongly from the exposition's eight-bar prototype are accepted as aspects of the local metric context. Because listeners accustom themselves to an irregular hypermetric scheme in the first fugal subsection, the unaltered eight-bar hypermeasure, initially suggesting normalcy and facility of inference, sounds far less typical when it returns in the second subsection (mm. 154-161). The sonic effect of this reintroduction is startling, and it draws listeners' attention forcefully. By juxtaposing incompatible hypermetric schemes, Beethoven introduces conflict into the metric plot. By the end of the second subsection, he presents one attempt to reconcile the two types of hypermeasure. This attempt is inconclusive, ending in a situation of metric ambiguity (mm. 169 ½-176 ½). In the third subsection, a return to the hypermetric normalcy of the exposition follows an extreme dissolution of the development's irregular hypermetric character. Here, a metrically displaced passage ends chaotically, and the following eight-bar hypermeasure conveys a sense of satisfaction and resolution, as the prototypical hypermetric patterns of the exposition resume (mm. 182-199).

In addition to illuminating the progression of the sonata movement's fugal development, metric analysis explains the easing of musical tension at the end of the coda. Hypermeter becomes a goal-directed element in the coda as well as in the development, but in the coda it functions gradually to abate energy, rather than to propel the music toward greater intensity. The coda begins by introducing two seven-bar hypermeasures, indicating that meter will be important in the coda's unfolding. The final fifteen bars of the coda are hypermetrically ambiguous, allowing two possible interpretations of hypermeter at the four-bar level. This ambiguity creates a vastly different effect from the violent metric

displacements in the development. As noted in Chapter 4, Krebs characterizes displacements of very short time intervals – such as the quarter- or eighth-note displacements following mm. 123 ½, 169 ½, and 186 ¼ – as the most trenchant. The more distant displacements (of two bars) in the coda create a much calmer sensation.

The beginning of the coda immediately reminds listeners of the fugal development (example 5.1). Its first two bars (mm. 286-287) resemble the subject, transposed to F major. The subject does not continue, but the ensuing measures make up a seven-bar hypermeasure (mm. 286-292). A second seven-bar hypermeasure occurs in mm. 293-299.[2] The coda, then, contains an immediate hypermetric resemblance to the development, which also begins with two seven-bar hypermeasures. This similarity suggests that metric development will be significant in the coda; the final measures of the coda confirm that suggestion.

Example 5.1: Two seven-bar hypermeasures in coda, mm. 286-299

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[2]For the internal hypermetric construction of this hypermeasure, see Beethoven, *Die letzten Sonaten*, 98.

Following an expanded fifteen-bar hypermeasure in mm. 300-314, a hypermetrically

ambiguous group of fifteen measures concludes the sonata (example 5.2). Most of these

measures group readily into four-bar hypermeasures, although the delineation of those

hypermeasures remains uncertain. Listeners initially hear m. 315 as a hypermetric downbeat

at the four-bar level (with subsequent hypermeasures beginning in mm. 319 and 323);

however, they may reinterpret mm. 315-316 as a two-bar hypermetric upbeat, with four-bar

hypermeasures beginning in mm. 317 and 321. The strong textural and harmonic change at

m. 327 clearly suggests a four-bar hypermetric downbeat, and it retroactively orients the

passage's hypermetric patterns so that four-bar hypermeasures begin in mm. 315, 319, and

323. In real-time listening experience, however, whether listeners infer hypermeasures

beginning in m.315 or 317 depends on their perceptions of certain sonic signals that attend to

m. 317, as well as their metric interpretations of this passage's II^7-V-I cadential motion.

Schenker interprets mm. 315-326 as three four-bar hypermeasures; thus, he does not

infer hypermetric reinterpretation at m. 317. Example 5.3 reproduces Schenker's reduction of

upper-voice motion in this passage, along with his hypermetric numbering.[3] The relative

stasis of mm. 315-316, however, makes downbeats difficult to hear. Even though the

downbeat to m. 315 is distinct, mm. 315-316 lack any signals to support the continued

perception of metric divisions at any level. Only the upper voice contains distinct rhythmic

patterns, and its first longer note value occurs on the downbeat to m. 317. Lerdahl and

Jackendoff's MPR 2 states that in fixing metric readings to rhythmic groups, listeners tend to

place downbeats rather early.[4] The melodic pattern in mm. 316-319 forms a continuous

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[3]Ibid., 99, figure 89.

[4]Lerdahl and Jackendoff, 76.

Example 5.2: Conflicting hypermetric interpretations of mm. 315-326

rhythmic group, and a downbeat at m. 317 falls earlier in the group than a downbeat at m.

319. Thus, MPR 2 supports a reinterpretation at m. 317. Example 5.2 indicates this reading,

with Schenker's hypermetric interpretation noted parenthetically.

Example 5.3: Ludwig van Beethoven, *Die letzten Sonaten: Sonate A Dur, Op. 101*, Kritische
Einführung und Erläuterung von Heinrich Schenker: Hypermetric analysis of mm. 315-323

Each reading presents a different metric interpretation of the passage's cadential pattern. Hypermeasures beginning in m. 317 and 321 give greater metric weight to $\hat{4}$, supported by pre-dominant harmony, than to $\hat{3}$, which is supported by tonic harmony. Schenker's reading, in contrast, places the greatest weight on the tonic arrival. Lerdahl and Jackendoff's rules do not designate whether listeners prefer weak-strong or strong-weak metric inferences of cadential arrivals.[5] In fact, this passage facilitates listeners' oscillations between the two possibilities. Listeners may retrospectively prefer Schenker's reading in example 5.3, because it allows m. 327 to by hypermetrically strong without reinterpretation; however, they may favor either option before that point.

This metric analysis I offer is fundamentally different from most treatments of the last movement of Opus 101. The analyses that treat the fugue in the most detail – those by Schenker and Cockshoot – concern themselves mostly with tonal motion and motivic development. My analysis offers an additional, equally important consideration to the dialogue, showing how hypermetric principles govern the fugue's entire unfolding. Very few analyses focus on meter in fugues. Edward Lowinsky notes a regular, periodic metric structure in Mozart's C-major Fugue, K. 394, but he does not analyze the work in its entirety.[6] Eytan Agmon provides a thorough metric analysis of the Fugue from Brahms's *Variations and Fugue on a Theme by Handel*, Opus 24.[7] Agmon's analysis concerns the metric ambiguity built into the subject, affecting metric inferences at the level of the measure; thus, it is fundamentally a metric, but not a hypermetric, analysis.

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[5]Ibid., 88-9.
[6]Edward E. Lowinsky, "On Mozart's Rhythm," *Musical Quarterly* 42 (1956): 162-3.
[7]Agmon, op. cit.

Nevertheless, hypermetric analysis of fugues can lend a great deal of specificity to their temporal dimensions. Brief examination of the subject of another of Beethoven's fugal finales, from the Sonata in A♭ major, Opus 110, illustrates an entirely different hypermetric construction (example 5.4) This four-bar subject divides unproblematically into two two-bar hypermeasures. A metrically offset reading is latent in the subject, however, because the subject does not suggest a single harmonic rhythm so clearly as the subject in Opus 101. Listeners may hear harmonies changing on mm. 26 ½, 27 ½, and 28 ½, instead of on the notated downbeats. The slight rhythmic change in the second half of m. 29 also gives support to an offset meter. Thus, the fugue subject from Opus 110 invites a simultaneity of metric interpretations from the very beginning, although neither possible interpretation involves internal hypermetric reinterpretation. As a result, quite a different metric plot from the fugue of Opus 101 evolves in Opus 110.

Example 5.4: Beethoven, Sonata in A♭ major, Opus 110/iii: Subject, mm. 27-30

as notated:

re-barred alternative:

A full understanding of the function and effect of hypermeter in fugues requires more significant work. Nevertheless, my research indicates that exploring hypermetric analyses may be useful, and can yield a new dimension to musical understanding. This approach contradicts Schenker's dismissal of hypermeter in fugues. It is not only the commonly noted instances of local displacement that provide metric interest in the fugue from Opus 101, but rather its entire hypermetric framework. Treating hypermeter as a developmental principle illustrates the breadth of analytic possibilities applicable to this fugue, its essential goal-directed nature, and the value of the "plot" metaphor in musical analysis.

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