

Teaching Agency and Narrative Analysis: The Chopin Preludes in E Minor and E Major

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In a recent issue of this journal, Gordon Sly argues that typical undergraduate training in harmony and counterpoint fails to fully prepare students for upper-level analytical work: "...when we ask students to make an argument about a work's striking qualities, its particularly beautiful or eccentric events, about what gives it its special character...the typical Freshman-Sophomore sequence proves largely inadequate as a preparation for analysis."¹ To address this problem, he proposes that we encourage students to develop "an analytical point of view" by telling the story of a particular "musical agent."²

Sly's suggestion is a good one; a focus on agency and musical narrative is, I believe, the best way for students to engage the most striking, expressive, and human characteristics of most Western music. And a good narrative analysis will inevitably build upon crucial foundational issues (such as chord and key analysis, counterpoint, and form). But although there's much that I value in Sly's analysis, his engagement with the concept of agency fails to emphasize the important physical and emotional connections that we tend to make with musical agents.³ And such human connections are precisely why we should encourage a focus on agency in the first place. This paper, then, offers an alternative approach grounded in recent research on agency and musical narrative. I begin with an overview of the topic and then proceed with some brief suggestions for readings and class discussion. I then conclude with narrative

¹ Gordon Sly, "Developing an Analytical Point of View: The Musical 'Agent,'" *Journal of Music Theory Pedagogy* 19 (2005): 51.

² Sly, 51.

³ Sly defines musical agency as "the capacity of some musical element or idea to influence the course of events" (52), and identifies the tone D $\flat$ /C $\sharp$ 5 in the Chopin Mazurka in F minor, Op. 68, no. 4 as an example: "it acts as a point of reference, remaining frozen as the musical context changes around it, and, bound as neighbor to C5, defines the voice-leading motion that characterizes much of the piece" (54). This analytical approach is perfectly valid but does not correspond to most current conceptions of musical agency as discussed below.

analyses of the Chopin Preludes in E minor and E major, which offer case studies for the value of emphasizing agency in the music theory curriculum.

TONE CREATURES AND TONAL ENVIRONMENTS

At its root, musical agency involves animism and anthropomorphism: the interpretation of musical pieces (or elements within) as if they were sentient beings with goals, desires, actions, and intentions.⁴ Rudolph Arnheim creatively referred to such agents as “tone creatures,” arguing that “tones are perceived not as objects but activities, generated by some source of energy.”⁵ That humans would interpret music this way is unsurprising. We view much of the world animistically and anthropomorphically and have been doing so for generations.⁶ Indeed, recent research in music cognition confirms what we already know: listeners naturally and reflexively attribute agency to musical motion.⁷ We

⁴ Theorists have been ascribing agency to music for centuries, but most recent research on the subject arose from Edward Cone’s seminal work, *The Composer’s Voice* (Berkeley: University of California Press, 1974). Contemporary conceptions of agency also resonate with the “energetics” of earlier theorists such as Kurth, Schenker, Halm, and Zuckerkandl. For a summary of their contributions, see Lee Rothfarb, “Energetics,” in *The Cambridge History of Western Music Theory*, ed. by Thomas Christensen (Cambridge: Cambridge University Press, 2002), 927-955.

⁵ Rudolph Arnheim, “Perceptual Dynamics in Musical Expression,” *The Musical Quarterly* 70/3 (1984): 296.

⁶ Some of the best research on animism and anthropomorphism comes from books on religious belief. Stewart Elliot Guthrie’s *Faces in the Clouds: A New Theory of Religion* (New York and Oxford: Oxford University Press, 1993) provides a strong historical summary of Western philosophical views on the topic, especially during the Enlightenment. Justin Barrett partly ties religious belief to humans’ innate “hypersensitive agent detection device” (HADD): “It seems that all that is needed for HADD to identify something as an agent is for the object to move itself (or in some other way act) in a way that suggests a goal for its action.” See Barrett, *Why Would Anyone Believe in God?* (Altamira: Walnut Creek, 2004), 32.

⁷ See, for instance, Zohar Eitan and Roni Y. Granot, “How Music Moves: Musical Parameters and Listeners’ Images of Motion,” *Music Perception* 23/2 (2006): 221-247 and Roger J. Watt and Roisín L. Ash, “A

talk about music leaping, striving, yielding, or interrupting not because these are convenient descriptive metaphors, but because we often experience the music as if such actions were real. Even our most basic musical metaphors—steps vs. leaps, high vs. low—imply musical agents moving about in a particular space. They may not be *literally* real, but—as Mark Johnson would remind us—they are *experientially* real.⁸

According to Arnie Cox, the explanation for such agency attributions lies in mimesis: when we hear sounds produced by the physical gestures of a performer we identify with them in a process that ultimately projects an ideal agent onto the musical actions. This process is rooted in imitation, which can involve anything from “subvocalization” (re-playing the sounds of the piece in our heads) to overt physical imitation (singing along, dancing, conducting, and so forth). What is most important for Cox is that we respond to the “exertion dynamic” of music in a way that ultimately produces a sense of musical agency:

One result of...mimetic participation is that we enact the role of a character or persona—that of an ideal gesturing performer...At the same time, however, the otherness of the gesture remains...it remains an ideal agency that is not-us. We call this agent ‘the music’, and its genesis might follow this pattern: (1) the sound-producing actions of the performers are (2) heard/seen and imitated by a listener, which (3) motivates a participatory agency within the listener, which (4) is then projected outwards toward the original source but which (5) cannot be identified directly with this source and so remains ideal.⁹

Psychological Investigation of Meaning in Music,” *Musicae Scientiae* 2 (1998): 33-54.

⁸ Mark Johnson, “Embodied Musical Meaning,” *Theory and Practice* 22-23 (1997): 99.

⁹ Arnie Cox, “Hearing, Feeling, Grasping Gestures,” in *Music and Gesture*, ed. by Anthony Gritten and Elaine King (Hampshire: Ashgate, 2006), 53. For more on this, see Cox, “The Mimetic Hypothesis and Embodied Musical Meaning,” *Musicae Scientiae* 5/2 (2001): 195-212. For an alternative explanation of agency attributions, see Eric F. Clarke, *Ways of Listening: An Ecological Approach to the Perception of Musical Meaning* (Oxford: Oxford University Press, 2005).

This explanation suggests a highly personal basis for agency, rooted in our own, individual physical responses. Agency, then, is just as much *in us* as it is in the music.¹⁰

Yet the fact that we identify with music in such natural and reflexive ways does not make the process uncomplicated. Listening, after all, involves imaginative acts and these imaginative acts not only change from one listener to another, but from one *listening* to another. As Fred Maus puts it in an oft-quoted passage:

The claim is not that *different listeners* may interpret the music differently (though they undoubtedly will), but rather that a single listener's experience will include a play of various schemes of individuation, none of them felt as obligatory.¹¹

Agency, in other words, is a slippery concept. When we imagine the source of a particular musical gesture, we often draw from a wide range of possibilities: performers, composers, conductors, or even ourselves (e.g. the air guitar phenomenon). This flexibility is especially clear in the way we *write* about music. Agency is frequently attributed to any number of sources, including the composer (e.g. "Beethoven moves from C minor to C major"), the work ("the movement begins with a rapid acceleration toward the dominant"), the performer/instrument ("the violin ascends to a high C"), a fictional character ("Figaro disrupts the metrical pattern"), or any number of smaller musical elements, such as themes, motives, notes, and chords—all of which can be imagined as sentient beings in and of themselves (e.g. "B♭ refuses to resolve as expected"). Obviously, such attributions are sometimes purely rhetorical—in many cases, writers do not *really* ask us to hear the music according to their ever-changing musical agents; they simply

¹⁰ Eero Tarasti warns us that, when attributing agency to musical actions, "We run the risk that the subject we have found in the music is none other than ourselves" (Tarasti, as quoted in Robert Hatten, *Interpreting Musical Gestures, Topics, and Tropes: Mozart, Beethoven, and Schubert* (Bloomington: Indiana University Press, 2004), 230). This is only a risk, however, if it leads to written, individualized interpretations that fail to resonate with a broader audience. But self-discovery in music is not a bad thing. And in most cases, what pieces tell us about ourselves will undoubtedly apply to others as well.

¹¹ Fred Everett Maus, "Music as Drama," *Music Theory Spectrum* 10 (1988): 68

shift agency from place to place for the sake of variety. But this style of writing nevertheless reflects a basic reality: *something* has to be the source of musical action, even if agency rapidly shifts from one location to another.¹²

This inevitable *indeterminacy* of musical agents, especially in instrumental music, does not mean that we cannot construct—and *encourage our students to construct*—compelling musical narratives based on the actions of various imagined agents. What this requires, though, is careful thought not only about the agents themselves, but also about the virtual environments in which they live. Steve Larson, for instance, argues that tonal motion is largely defined by three principal “music forces:” gravity, inertia, and magnetism.¹³ And Robert Hatten has wisely associated such forces with agency and musical gesture. As he puts it, “the deformations attributable to field forces reveal the profile of an agent’s actions and their relative strength.”¹⁴

This formulation is fundamental to my own approach, but we should take care not to assume that tonality always provides a specific, pre-ordained vectoral space that agents pass through. Several scholars, such as Larson, Lerdahl, and Brower have productively defined musical environments in the abstract, with tonal distances, tendencies, and attractions mapped out in advance.¹⁵ But hermeneutic analysis always depends upon context and creativity. Thus any determinations about abstract virtual environments—usually based on cognitive studies and general assumptions about intersubjectivity—are only useful to a point. Consider, for instance, Larson’s concept of magnetism, a force that pulls unstable notes to the closest stable pitch (and grows stronger

¹² For an excellent discussion of the relationship between these different types of agents in analysis, see Seth Monahan, “Mahler’s Sonata Narratives,” Ph.D. diss. Yale University, 2008.

¹³ See, for instance, Steve Larson, “Musical Forces and Melodic Patterns,” *Theory and Practice* 22/23 (1997): 55-71 and “Measuring Musical Forces,” *Music Perception* 23/2 (2005): 119-136.

¹⁴ Hatten, *Interpreting Musical Gestures*, 103.

¹⁵ In addition to Larson’s work (cited above), see Candace Brower, “A Cognitive Theory of Musical Meaning,” *Journal of Music Theory* 44/2 (2000): 323-379 and Fred Lerdahl, *Tonal Pitch Space* (Oxford: Oxford University Press, 2001).

as the distance gets shorter).¹⁶ This metaphor—experienced as a ‘real’ force—offers a powerful explanation for our perceptions of leading-tone energy, and there are, indeed, many cases where we might interpret leading tones as passive objects that are magnetically ‘pulled up’ to the tonic. But there are also times when we might experience leading tones in terms of an agent’s upward striving—an individual will acting *against* a musical force (such as gravity or inertia). And there is no reason why any particular leading tone would have to be experienced consistently one way or another. We shift between metaphors as we see fit. And the metaphors that work best depend entirely upon context as well as our individual sympathies, preferences, and imagination.¹⁷

Agency and musical forces, then, are subjective, indeterminate, and context-dependent (even if they are rooted in common, evolutionary perceptual strategies). And the process of identifying agents and their environments is inherently circular: we determine agents based on the forces that constrain their movement (as Hatten suggests), *but we determine the forces based on the fact that movement is constrained*. For that reason, it is best to conceive musical forces not as something that exist independently of any given piece—as features of some abstract tonal space, waiting for specific agents to pass through—but rather as something that can change from piece to piece, a variable feature that composers evoke and manipulate for dramatic purposes (or—to avoid attributing compositional intention—something that we *experience* dramatically).

This, then, raises the important question of musical narrative, a crucial issue in developing a student’s approach to analysis. The recent work of Byron Almén is especially useful here.¹⁸ Almén counters earlier critiques of musical narrative by showing that they are based on an unnecessary comparison with literary narrative. He establishes instead a “sibling model” in which *narrative proper* exists as an abstract concept with several related manifestations, such as literature, drama, and music:

¹⁶ Magnetism, as well as gravity and inertia, are defined in Larson, “Musical Forces and Melodic Patterns,” 102.

¹⁷ Marion Guck expresses a similar point of view in “Analytical Fictions,” *Music Theory Spectrum* 16/2 (1994): 217-230.

¹⁸ Byron Almén, *A Theory of Musical Narrative* (Bloomington: Indiana University Press, 2008).

I will understand narrative as articulating the dynamics and possible outcomes of conflict or interaction between elements, rendering meaningful the temporal succession of events, and coordinating these events into an interpretive whole...Using our sibling model... we can conclude that literature, drama, and music share a potential for meaningfully ordering events in time, but differ with respect to their degree of referential specificity.¹⁹

Adopting the models of Northrop Frye and, especially, James Jakob Liszka, Almén defines narrative archetypes in music in terms of “hierarchies in crisis,” where a transgressive agent typically struggles against a governing order. He identifies four archetypes—comedy, romance, irony, and tragedy—each of which engages two basic questions: 1) Does the narrative emphasize victory or defeat? And 2) for whom do we sympathize (the transgressor or the transgressed)?

Ultimately, the specific complexities of Almén’s narrative approach may not apply to the typical undergraduate classroom, but suffice it to say that any analysis that tracks the behavior of various agents will inevitably raise issues of narration and musical plot.²⁰ Students will need to give careful thought to a number of basic questions: How many musical agents do they imagine operating within a given piece? Do they prefer to view the piece as a single agent attempting to complete various goals? Or do they hear multiple agents interacting with one another, potentially in conflict? And what are the characteristics of these agents? What are their goals? Do we sympathize with certain agents as opposed to others (protagonists vs. antagonists)? And if there is conflict, what is the result? Also, does *genre* shape our expectations with regard to musical movement and tonal trajectories? How do the constraints of the instruments—including timbre, tessitura, and dynamics—affect our sense of agency? These are all complicated questions, and students will have difficulty answering them without some

¹⁹ Almén, 13-14. This formulation is the principal way that Almén defends the idea of musical narrative against earlier critiques by scholars such as Carolyn Abbate and Jean-Jacques Nattiez.

²⁰ For a discussion of musical plot, especially with regard to Beethoven’s “Appassionata,” Op. 57, first movement, see Gregory Karl, “Structuralism and Musical Plot,” *Music Theory Spectrum* 19/1 (1997): 13-34.

preparation. Thus, before moving on to a discussion of the Chopin preludes in E minor and E major, the following section offers a few possibilities for readings and discussion that might help acquaint students with recent approaches.

A FEW PRELIMINARY PEDAGOGICAL SUGGESTIONS

In my experience, it has not been a challenge to get students to think about music in terms of agency and narrative—most of them seem to do so intuitively. The real challenge is not to compel them to think in those terms, but to help them ground their thoughts in detailed, convincing music analyses. As emphasized above, ascriptions of agency and musical narrative are inherently subjective. But that, of course, does not legitimize an ‘anything goes’ approach to analysis. If we want to participate in a community of scholars and musicians, we need to make our interpretations convincing, meaningful, and interesting to others, no matter how personal our own response might be. And to do so, we need to build our narratives on a secure foundation of relatively objective musical observations.

A good starting point is to consider how specific musical details can convey a sense of character and narrative in text-based works. A simple, effective example is Schubert’s “Der Tod und das Mädchen,” a song that features a dialogue between Death and a young girl. The music provides clear, defining qualities for each character: slow, funeral-march rhythms and monotone melody for Death, and anxious, rhythmically active, dissonant fragments for the maiden. And there is a strong sense that the song carries out a series of distinct dramatic events: (1) Death appears with the opening piano introduction, (2) the girl reacts with terror, (3) Death subdues her, perhaps making physical contact in mm. 16-19 when the funeral march rhythm intrudes into her musical space, and (4) Death attempts to console her by tonicizing various major-mode harmonies, ultimately leading to the D-major conclusion (presumably signifying a peaceful death, perhaps even a vision of heaven).²¹

²¹ Carl Schachter argues that, in the end, “the music, like the maiden, is at peace.” See Schachter, “Motive and Text in Four Schubert Songs,” in *Aspects of Schenkerian Theory* ed. by David Beach (New Haven: Yale University Press, 1983), 70.

There is obviously far more to be said about this song and here is not the place to delve into detailed analysis, specific lesson plans, or alternative interpretations. What is most important for our purposes is that it offers a short, powerful example of how music can create a sense of agency and narrative action, one that corroborates, but is not dependent on, the text. Indeed, the instructor can easily demonstrate how these features would still hold even if we experienced this music without knowing the meaning of the German poem. Though we would lose the referential specificity—the scenic depiction of Death and a young girl—we could still intuit an ominous, dread-inducing presence at the opening, an anxious response, and an eventual resolution, all based on relatively objective musical features (rhythm, tempo, keys, chords, tessitura, and much else). Even without the text, the essential narrative elements and a vague sense of character would remain.²²

This could then lead to an exploration of agency and narrative in *instrumental* music. Unfortunately, the best scholarly work on agency and narrative often tends to veer off into jargon and complexity that isn't suitable for early undergraduate reading assignments; thus, it is often best to focus on isolated passages that students can study and discuss in class with the guidance of the instructor. Instructors might begin, for instance, by introducing a brief passage from Almén's *A Theory of Musical Narrative* that discusses Jérôme-Joseph de Momigny's 1805 analysis of a fugue by Handel.²³ Almén quotes a section in which Momigny imagines the fugue's contrasting elements as an argument between a father and daughter. The passage, along with Almén's thoughts on it, is quite brief and uncomplicated (although Almén eventually ties it in with other terms from the text that teachers will either have to bypass temporarily or explain to the students). The passage serves both as an example of why narrative analysis can be effective, but also how it can be problematic. And it addresses a genre—baroque fugue—that isn't typically dealt with in terms of detailed narrative interpretation (at least compared to, say, late nineteenth-century symphonies). Teachers might have students listen to the fugue with score in hand (ideally with Momigny's motives identified on the score) and then ask them to identify things that they find either

²² The use of this material in Schubert's D-minor "Death and the Maiden" quartet might be relevant here, though it doesn't feature the same binary oppositions that we find in the song.

²³ Almén, 16-20.

convincing or unconvincing.²⁴ Most students will undoubtedly find fault with Momigny's imaginative leaps, especially when it comes to oddly specific ascriptions of meaning (e.g. "The two-part canon [mm. 63-66] is a portrayal of mother and daughter lamenting their inability to soften the heart of the wrathful father").²⁵ And even if we discard the specific personae in Momigny's analysis, there is reason to find fault with some of the descriptive adjectives as well (Almén, for instance, understandably questions whether the opening phrase is really "pleading.") But students might also appreciate Momigny's imaginative way of drawing together disparate musical elements into a memorable, coherent story—one that is far more interesting than a simple, dry accounting of the fugue's form.

After discussing the pros and cons of such an approach, Momigny's analysis can be usefully contrasted with Almén's extended narrative analysis of Schubert's Piano Sonata in B $\flat$ Major, D. 960, first movement.²⁶ This analysis is too laden with narrative-theoretical jargon to assign as complete, independent reading—especially without some mediation on the part of the instructor—but it can be used as a positive model if the instructor simply presents an overview of Almén's narrative with occasional samples from specific sections. Almén fashions a narrative in what he calls "the psychodynamic rhetorical mode," where the music depicts an individual with a hidden flaw (suggested by the famous trill at the end of the opening phrase, among other things). The narrative events occur as conflicts arising within a single persona, with the individual passing through a number of states over the course of the piece, from an opening "pastoral-heroic" space into "vacillation," "mitigated fulfillment," "illusory victory," and ultimately "regret." Obviously, these are all subjective terms that some might dispute—not everyone will hear the ending as marked with "regret," for instance—but what makes this a good model is that every stage in Almén's narrative is bolstered by specific musical details: topics (such as pastoral vs. heroic), key relationships, phrase structure, metric accents, and much else. And Almén is always attuned to the sense of physical agency in the music; indeed, he argues that

²⁴ Students should be made aware that this is a supplement to a more objective, formal analysis of the fugue and does not represent Momigny's sole approach to music analysis.

²⁵ Momigny, quoted in Almén, 17.

²⁶ Almén, 141-161.

“the question of how much or how little force should be exerted to achieve a goal” is “the central problem of the movement.”²⁷

Robert Hatten offers a similar approach in an analysis of Beethoven’s “Hammerklavier” Sonata, Op. 106, third movement, in *Musical Meaning in Beethoven: Markedness, Correlation, and Interpretation*.²⁸ As with the Almén analysis, much of this will be too complex for undergraduates in their first few semesters of theory, but brief sections can be usefully introduced in class with help from the instructor, particularly pages 13-16, which emphasize the importance of grounding musical narrative in binary oppositions and their possible correlations (Hatten, for instance, argues that “minor vs. major correlates with tragic vs. nontragic in the classical style, and distant vs. closely related tonality correlates with extremity vs. normalcy”).²⁹ I find especially helpful Hatten’s distinction between “willed” vs. “unearned” events.³⁰ In several passages, Hatten identifies a sense of physical effort, the music as an agent yearning toward a certain goal. In mm. 39-44, the piece appears to achieve an intended goal through palpable effort (e.g. prolonged chromatic ascent, which suggests an upward strain against gravity), but in the case of the early, sudden shift to the key of G major (the Neapolitan) the suddenness of the key change suggests a “mystical transformation,” rather than an achievement, as if an outside force granted some type of benediction on the central protagonist.³¹ As with Almén, the analysis presents narrative events—in this case, a transformation from tragedy to transcendence—without defining specific programmatic characters.

Together, these readings reinforce two basic suggestions for students: (1) they need not develop specific, elaborate programs for instrumental music (their job is not to imagine a movie for which the assigned piece might be a soundtrack), and (2) their subjective responses should be grounded in objective phenomena, just as Hatten’s description of the “mystical” shift to G major is bolstered

²⁷ Almén, 148.

²⁸ Robert Hatten, *Musical Meaning in Beethoven: Markedness, Correlation, and Interpretation* (Bloomington: Indiana University Press, 2004), 11-28.

²⁹ Hatten, 11-13.

³⁰ Hatten, 18.

³¹ Hatten, 18.

by details regarding harmony, texture, and topics.³²

Throughout these discussions and analyses, instructors can—and should—raise issues regarding performance. This is a crucial theme with regard to agency and musical narrative—one to which many students will immediately relate. Conductors, for instance, often posit fictional agents in order to influence their orchestras. Georg Solti, when conducting the Overture to *Tannhäuser*, suggested that his performers embody the characters from the opera: the cellists should “sing” the lines of Tannhäuser, the trombones must become an immense choir, and the instruments should fade out at the end like pilgrims leaving the scene.³³ And we often hear similar suggestions about agency when performers instruct their students. In a recent master class at Carnegie Hall, Leon Fleisher listened to a student perform the Andante from Schubert’s B♭ Major Piano Sonata and after hearing increased accents in his performance said, “When you get louder, the character changes. Your plaintive, yearning creature, your nymph or naiad, is turning into some horrible, saliva-dripping alien.”³⁴ Particularly interesting is Fleisher’s assumption that the agents aren’t determined by Schubert’s piece; rather, the piece creates a virtual world that allows for a wide range of fictional agents, which can be created, transformed, or even destroyed by the performer.

These sentiments raise obvious and important questions for our students to ponder. Most importantly: How much can a performer affect the musical narrative? Consider, for instance, the role of Death briefly discussed above in “Der Tod und das Mädchen.” We might imagine two distinct versions of this character: (1) Death as a truly benevolent figure who at first appears terrifying to the young girl, but ultimately reveals his true intentions: to bring her peace and, perhaps, salvation; (2) Death as a deceitful, villainous character, whose modulations to the major mode are no more than a trick to subdue the young girl and keep her from resisting. We

³² Another short passage that would be valuable in this regard is Michael Klein’s discussion of the opening measures of Chopin’s First Ballade in “Chopin’s Fourth Ballade as Musical Narrative,” *Music Theory Spectrum* 26/1 (2004): 36-37. This passage brings up several critical narrative issues, including the possibility of a “past tense” in music. And every aspect of the narrative is grounded in specific musical details.

³³ *Georg Solti in Rehearsal*, DVD (Stuttgart: Arthaus Musik, 1966).

³⁴ Leon Fleisher, quoted in Alex Ross, “The Sonata Seminar,” *The New Yorker*, April 19, 2004.

might find one of these interpretations more or less convincing, but it would be impossible to identify either as being objectively correct or incorrect. Performers, however, have considerable power influencing the narrative one way or the other, and instructors would do well to have their students consider the options: What could the singer do to emphasize one interpretation over the other? What could the accompanist do?



Example 1. The final measures of Mendelssohn's *Lieder ohne Worte*, op. 102, no. 2, mm. 28-30

For a more specific situation—and one from an instrumental work—consider Example 1, the end of Mendelssohn's Op. 102, no. 2. This piece is in the key of D major, but features several modulations to the key of F# minor. It would be far too much of a digression to launch a complete narrative for the piece here, but suffice it so say that Mendelssohn stages several moments of conflict between the major and minor mode. This ending, then, is particularly interesting. As the music settles into the final D-major chord, the chromatic passing tones in the inner voices suggest a weak, hidden 'tonicization' of F# minor *within* the D-major tonic (the E# and G# have motivic significance throughout the piece—as does the common-tone relationship between D major and F# minor). Much like the characterization of Death above, Mendelssohn's piece allows for both a positive and negative interpretation. On the one hand, we might imagine the music as an agent that gently contains or subdues F# minor by subsuming it within the stable, idyllic D-major conclusion. On the other hand, we might hear this subtle turn toward F# minor as a genuinely subversive moment, the re-emergence of doubt within the work's central character, quietly undermining the stability of D major with a suggestion of more conflict to come. And ultimately, the performer has considerable power over these possibilities. Simple choices with regard to tempo, dynamics, and articulation could produce drastically different

possibilities: one where the outer voice Ds are emphasized and sustained, keeping the tonic strongly in our ears; and one where the inner-voice motion toward F#minor is emphasized, with the outer voices nearly silent by the time we arrive on the final dyad. We could, of course, imagine non-committal, ambiguous performances as well. But no matter what choice she or he makes, the performer takes on a special role with regard to the musical narrative.

OPPOSITE EXTREMES: THE CHOPIN PRELUDES IN E MINOR AND E MAJOR

The Chopin preludes in E minor and E major help demonstrate the pedagogical value of agency and musical narrative for several reasons. They are short, familiar pieces that are often taught (and performed) in undergraduate and graduate curricula. Moreover, both pieces pose challenges with regard to harmonic analysis, voice-leading, and tonicization/modulation—challenges that make them ideal for any discussion of chromatic theory. These issues, however, can lead to an analytical myopia of sorts, in which local problems—“What chord is this? What key is implied?”—begin to overshadow the obvious pathos and expressivity of the two pieces. As can happen with any in-class analysis, we run the risk of missing the forest through the trees.

A focus on agency and musical narrative recognizes the complete dramatic trajectory and illuminates subtle details only as they pertain to the overall story. For the E-minor prelude, the best starting point comes from two seminal articles by Carl Schachter.³⁵ As Schachter points out, the opening first inversion E-minor tonic suggests the presence of a gravitational pull: “the part of the tonal field that lies below the G is gravitationally charged, as it were, and becomes a presence in the piece even before we hear any of it.”³⁶ Schachter then links this gravitational force, quite convincingly, with a program of impending death. As he argues, we not only hear pervasive use of lament topics (descending chromatic bass, emphasis on $\hat{6}$ - $\hat{5}$ motion, etc.), but we also associate the texture—

³⁵ Carl Schachter, “The Prelude in E Minor Op. 28, No. 4: Autograph Sources and Interpretation,” in *Chopin Studies II*, ed. by John Rink and Jim Samson (Cambridge: Cambridge University Press, 1994): 161-182 and “The Triad as Place and Action,” *Music Theory Spectrum* 17/2 (1995): 149-169.

³⁶ Schachter, “The Triad as Place and Action,” 150.

right-hand cantabile melody and left-hand accompaniment—with song, an “instrumental song” which, for him, presents, “a vision of death, perhaps the imagination of one’s own death.”³⁷ As Schachter points out, however, the death narrative is not simply a result of generic topics:

...the Prelude’s overpowering pathos also inheres in the way it reveals its tonal field, in its governing tonic at first cast adrift without anchor and then pulled further and further down until it finally hits bottom.³⁸

These quotes are, of course, highly suggestive from the standpoint of musical narrative. But Schachter himself never addresses agency in any extensive way; one gets the sense that the piece simply involves a passive yielding to the force of gravity rather than the actions of any specific agent (Schachter’s analysis mainly addresses Schenkerian concerns rather than hermeneutic interpretation).

But what if we imagine the melody of the E-minor prelude (the “voice” of Schachter’s “instrumental song”) not in *passive* terms, but as an *active* agent—a “tone creature”—that resists the overwhelming gravitational pull? Such an interpretation reveals a tragic narrative for the piece: an agent (whom we presumably sympathize with) attempts to resist the prevailing downward force but fails to do so.³⁹ The focus, then, is not on the obvious descending motion, but rather the human drama of the musical agent as it strains upward against the unyielding force of gravity (which Schachter—for good reason—associates with death). This reading gives us an immediate way into the piece that engages crucial dramatic issues, while avoiding the tedium of simple chord/key analysis.

³⁷ Schachter, 152.

³⁸ Schachter, 152.

³⁹ Chopin’s autographs for this piece feature an odd notation in the melody: nearly every note is stemmed down, even those well below the middle line of the treble clef. Schachter discusses this in terms of continuity in “The Prelude in E Minor,” 180, but it’s also worth noting that it visually reinforces the sense of gravity. It’s as if the melody is so strongly pulled down that even the stems are affected.

Imagined Melodic Goal (Unattained)

Melodic agent strains upward above B... Yielding descent...

Piano *p* *espressivo*

Resistance... Upward surge fails to stop descent... A second surge fails to reach high E but at least interrupts the descent to the final tonic...

Melodic agent strains upward above B... Vigorous resistance to gravity...

Bass imitates opening melody, delays final tonic... *pp*

A# in Paderewski Edition

Example 2. Chopin, Prelude in E minor, Op. 28, No. 4, with annotations

Consider, for instance, how it might affect our students' views of the opening measures (see Example 2, which reproduces the complete prelude with brief narrative annotations). The opening octave leap establishes an initial sense of effort and—as is the case with leaps in general—the expectation for a subsequent descent.⁴⁰ Chopin magnifies that expectation here with the unstable, first-inversion tonic and the subsequent descending chromatic harmonies of the left-hand, which seem to weigh down the melody like an anchor (the consistent use of 7-6 suspensions initiates a

⁴⁰ Schachter points out that the opening octave leap was a last minute addition in the compositional process. This offers a good question to pose to our students: Why did Chopin add the octave leap? How does it affect the overall narrative of the piece?

pattern of resistance followed by yielding descent). Yet the melody, the main ‘voice’ of the prelude, counters the gravitational force by painfully and repeatedly stretching up to C5 only to continually fall back down. Thus the eventual descent to B♭4, the first sign of yielding in the melody, takes on added significance: it is marked with a sense of resignation and re-appears at several crucial points later in the drama, including m. 16 (written as A♯) where it triggers a violent and ultimately futile shift to the upper register, and m. 23 (spelled as B♭ or A♯, depending on the edition) where it appears in the bass and precipitates the tragic conclusion.

This interpretation of the opening not only imagines the melody as the actions of a tragic protagonist that stretches, strains, and eventually yields but also assumes that upward motion is desirable in this case—and that the agent has a particular goal in mind. Admittedly, positing a specific goal for an imaginary agent requires a stretch of the imagination; it is natural to conceive musical motion in terms of a fictional agent, but it is not necessarily natural to determine what a fictional agent ‘wants.’ Nevertheless, we are guided by the positive and negative associations of basic musical dichotomies: major vs. minor, up vs. down, stable vs. unstable, and so forth. In this piece, as Schachter argues, we have good reason to view downward motion—along with the prevailing minor mode—in negative terms. It is not hard, then, to imagine the agent’s goal as the opposite: to rise upward, presumably affecting a change to the major mode. We can thus imagine a hypothetical, and ultimately unattainable, melodic goal, in which the virtual agent resists gravity and rises up to the stable, upper tonic, with a corresponding shift to the major mode (shown above the upper staff in Example 2). As we will see, this is essentially the same path that the E-major prelude will take, but in the E-minor prelude it is nothing more than a mirage (once we’ve heard the piece, the idea that it could actually carry out the hypothetical upward motion is absurd).

Still, the existence of the upper tonic as a desired goal powerfully affects our interpretation of the piece. Consider, for instance, the poignant D♭ in m. 12. As previously mentioned, the opening octave establishes B4 as an upper boundary, and the repeated Cs in mm. 1-3 can be heard as an attempt to rise above scale-degree six, only to continually fall back down. The D♭ in m. 12, then, is an especially desperate moment. After considerable chromatic descent, the melody urgently stretches upward to scale-degree 7 over dominant harmony. But it only reaches D♭, not D♯. Thus, although it manages

to get above the heavily weighted scale-degree 6, it does not quite reach its desired goal (D $\sharp$ to E). The dissonant clash between D $\sharp$ and D $\natural$ emphasizes the failure, the fact that upward motion, however frenzied, cannot overcome the relentless pull of gravity.⁴¹

This narrative also helps explain the problem of the ‘gapped’ 5-line, an issue that inevitably arises in any class devoted to Schenkerian approaches. As several scholars have pointed out, the melody of the E-minor prelude features unremitting stepwise descent from B4 to E4. Yet the line is significantly ‘flawed.’ In the first part of the prelude—mm. 1-12—the melody descends from B4 to F $\sharp$ 4 without any stable arrival on scale-degree 3. In the second part, mm. 13-25, it descends from B4 to E4 with an even greater disruption: there is no obvious structural $\hat{4}$, and the structural $\hat{3}$, if it occurs at all, is displaced into the upper register (m. 17). Justin London and Ronald Rodman explain the problem by appealing to genre—since this is a prelude, we do not expect structural completeness. In other words, the gaps go with the territory.⁴² However, it is more meaningful to hear these ruptures as an act of resistance. For instance, there is no $\hat{3}$ in the first part because our agent, however we might imagine her/him/it, tries to overcome the gravitational pull in mm. 8-9 by avoiding G $\sharp$ 4 with a desperate

⁴¹ In “The Prelude in E Minor,” 166-169, Schachter points out that the first autograph of the E-minor prelude was sketched on a piece of paper that contained drafts for the E-minor Mazurka, Op. 41/2. He reveals several similarities between the pieces, but misses a potentially significant connection: the Mazurka features a D $\sharp$ upper voice pedal in the middle section that dramatizes, in an extreme way, the desired upward resolution to the higher octave. This becomes especially poignant when it leads to two climactic failed resolutions at m. 33 and m. 57 of the Mazurka. Both pieces, then, feature a drama in which an agent struggles—and fails—to reach the upper tonic with stable harmonic support.

⁴² Justin London and Ronald Rodman, “Musical Genre and Schenkerian Analysis,” *Journal of Music Theory* 42/1: 101-124. London and Rodman present an in-depth discussion of the gapped line and offer a variety of alternative views. Also, as they point out, Schachter comes up with a fascinating solution by analyzing the *Urlinie* as an undivided 5-line that ultimately concludes in the bass register (“The Prelude in E Minor,” 172). Though this raises pressing questions about obligatory register it solves the problem of the gapped line and also reinforces the sense of gravity, which thus drags the *Urlinie* down along with everything else.

change of direction: G $\sharp$ to A. This sparks the first 'breakout' moment where the agent temporarily throws off its shackles and hurls itself upward. The escape attempt fails, of course, but it is powerful enough to leave a gap in the structural line—a gap which becomes even wider and more disruptive to the *Urlinie* with the vigorous upward surge that occurs later in mm. 16-18. It is also worth noting that the G $\sharp$ in mm. 8-9 does not just resist the force of gravity; it resists metrical forces as well. Though there has been scant research on metrical forces, scholars such as Hatten and Lerdahl suggest that the same forces that we identify in the realm of pitch might also apply to meter (inertia, gravity, and magnetism/attraction).⁴³ The first eight measures of the E-minor prelude create a recurring metric pattern in the melody, with the fourth beat continually falling into the downbeat. The accented G $\sharp$ thus disrupts the pattern by resisting the inertia and gravity of the metrical field (as well as the gravity of the tonal field). Even before it changes the melodic direction, we sense the agent's willed effort against the prevailing forces of the musical environment.

All of this reinforces the overall tragic narrative. It also forces us to rethink the affect of tonal closure. Jeffrey Kresky describes the prelude as "a two-part story, an incompleteness at the end of part one motivating the 'second try' that leads to a successful outcome."⁴⁴ But in what sense is the end a "successful outcome"? The music enacts a hopeless struggle against gravity and fails. Closure, in other words, need not be equated with success.⁴⁵ Kresky's description of the deceptive resolution in m. 21 is similarly unconvincing. He writes that the C in the bass "replaces a chord so longed for, and so painstakingly prepared over the previous few measures... the actual granting of the tonic pitch in the melody intensifies the disappointment, for we actually hear the note we seek, but misharmonized."⁴⁶ Yet if, like Schachter, we interpret the final tonic as a confirmation of death, the deceptive resolution has to be

⁴³ See Hatten *Interpreting Musical Gestures*, 115 and Lerdahl, *Tonal Pitch Space*, 288-97.

⁴⁴ Jeffrey Kresky, *A Reader's Guide to the Chopin Preludes* (Westport, CT: Greenwood, 1994), 19.

⁴⁵ Candace Brower ("A Cognitive Theory," 331) makes an important distinction in this regard between endpoints and goals (the latter as the target of an agent's effort and intention).

⁴⁶ Kresky, *A Reader's Guide*, 23.

reconsidered. What makes it especially powerful is that it involves an imitation of the opening melody in the bass, such that the C still represents a vain, but hopeful, attempt to rise up. It is not a “disappointment” in that it *delays* the final tonic, but because it cannot prevent the final tonic. And the fact that the melodic ‘voice’ is now echoed in the bass renders it especially pathetic. Our ‘tone creature’ has been dragged to the depths. And when the melody again yields to gravity and falls to B $\flat$ in m. 23, as it had done several times before, we are confronted with one of the bleakest moments in nineteenth-century music: the cavernous silence that prepares the final cadence.⁴⁷

There is, of course, much else to say about this prelude, but I introduce it here simply to point out some of the ways that a focus on agency can illuminate specific details in service of a larger expressive narrative. The same is true for the E-major prelude, but with an opposite narrative outcome. Whereas the E minor is tragic, the E major is comic (in the classical sense of a protagonist overcoming various obstacles to achieve a goal). Both preludes begin with pronounced melodic emphasis on $\dot{5}$ and both evoke the idea of an agent struggling to rise up against the force of gravity. But whereas the E-minor prelude presents a narrative of failure, the E-major presents a narrative of success.⁴⁸

⁴⁷ The chord in m. 23 raises several interesting pedagogical questions, mostly related to whether or not the bass should be spelled as B $\flat$ or A $\sharp$ (As Schachter points out in “The Prelude in E Minor,” the two autographs clearly show that Chopin wanted a B $\flat$). The bass eventually leads up to B, behaving like an A $\sharp$ in a diminished-third chord. But the B $\flat$ spelling better captures the heavy resignation of the bass ‘voice’, especially as it echoes the opening melody. And the spelling even suggests a possible harmonic turn toward a dark Neapolitan region. The ambiguity clearly allows room for debate.

⁴⁸ To my knowledge, nobody has specifically analyzed these preludes as narrative opposites. Charles Smith suggests that they represent a pair in that both fill in the gap between B and E, one downwards and one upwards, but he doesn’t elaborate beyond that (See Smith, “On Hearing the Chopin Preludes as a Coherent Set: A Survey of Some Possible Structural Models for Op. 28,” *In Theory Only* 1/4 (1975): 5-16). Fred Lerdahl analyzes the two in terms of their different motions through pitch space, but does not explain them in terms of opposite narrative trajectories. See Lerdahl, “Pitch-Space Journeys in Two Chopin Preludes,” in *Cognitive Bases of Musical Communication*, ed. by Mari Riess Jones and Susan Holleran (Washington, D.C.: American Psychological Association, 1992), 171-191.

Reduction

Largo

Melodic agent struggles upward...

Attains melodic goal, lacks tonic support... *

Responds with yielding descent...

f

5

Agent struggles upward...

Attains melodic goal, lacks tonic support... *

Attains alternate but unacceptable goal... *

Responds with yielding descent...

ff

9

Agent struggles upward...

Success!

p

ff

Example 3. Chopin, Prelude in E major, Op. 28, No. 9, mm. 1-12, rhythmically reduced with annotations.

The E-major prelude—shown in Example 3 in reduced form—begins from the same low register that defined the end of the E minor. However, the melodic agent now rises in the major mode like a phoenix from the ashes. Like the E minor, it begins with melodic emphasis on B ($\hat{5}$), but it never sinks below that note. Indeed, the opening bass register, with a sturdy, root position tonic, creates the opposite effect of the E-minor prelude; instead of a vast gravitational field below the opening tonic, we sense nothing but open space above. The texture, of course, is somewhat different: whereas the E-minor prelude involved a song-like texture in which the harmonies were clearly distinct from the melody—and acted, in a way, as an anchor that weighed down the melodic agent—the E-major prelude features an upper-voice melody that extends from the harmonies in a way that suggests the will of a single, fused

harmonic/melodic musical agent (despite several moments with stepwise contrary motion between the outer parts). And whereas the E-minor prelude is a two-part form featuring a struggle against the inevitable descent to the tonic (successful in the first part, failing in the second), the E-major prelude is a three-part form featuring a struggle to ascend to the tonic (failing in the first two parts, successful at the end). What makes the E-major prelude especially dramatic, however, is that the protagonist (the piece-as-musical-agent) ultimately takes on the burden of the E-minor prelude, rising up through chromatically inflected scale-degrees toward its eventual victory. The basic elements of the narrative unfold as follows.

The upper voice of the first two measures involves a vigorous ascent that reaches the tonic—the desired goal of the piece—on the downbeat of m. 3. It occurs, however, over submediant harmony, and the deceptive resolution triggers a weighted descent, which, with a series of suspensions and seventh-chords, begins to sound eerily similar to the accompanying harmonies of the E-minor prelude. What this suggests is that a stable, peak note—even the tonic pitch—cannot fully escape the pull of gravity without stable harmonic support. At m. 4, the upper voice begins another ascent, but is now weighed down by the minor mode. And when the upper voice reaches E in m. 5, it is completely removed from the major tonic (it occurs atop V7 of $\flat$ -II). The melody hangs on to that E for four successive beats and ultimately reacts to the lack of harmonic stability by rising *beyond* the target, all the way up to $A\flat$ (enharmonically scale-degree 3) in m. 8—a climactic arrival, but not a stable goal and not the correct key. Again, in response to failure, the music descends in a manner quite similar to the E-minor prelude, with weighted, stepwise descent. The final upward trajectory, beginning in m. 9, is, of course, successful. But it is heavily dramatized in that it requires an ascent through natural scale-degrees 6 and 7 before finally reaching the leading tone and ultimately the tonic. What we experience is an agent with a particularly heavy load. Instead of gliding up through a traditional major-mode pathway (B, $C\sharp$, $D\sharp$, E), the agent must pass through *the very notes that blocked upward ascent in the E-minor prelude* ($C\flat$ and $D\flat$).⁴⁹ Indeed, all of the surface

⁴⁹ One of the things that links the E-Minor and E-major preludes is that they both feature complications with regard to a potential *Urlinie*. The E-minor prelude features the problematic gaps discussed above. The E-major prelude begins with what appears to be a strong scale-degree 5 *Kopftön*, but only *ascends* from that pitch and ultimately rises to the tonic in an irregular way. In both cases, the musical narrative helps explain

elements of the piece, including a variety of metric and rhythmic complications, are subsumed in the embodied narrative: an agent struggling to rise against the persistent force of gravity.⁵⁰

A FEW CLOSING THOUGHTS

These interpretations of the Chopin preludes are, of course, incomplete. But they nevertheless demonstrate how an agency-based approach can fuse detailed music analysis with a larger, meaningful narrative. Such an approach validates our natural tendency to hear music in terms of the ‘willed’ efforts of virtual agents moving through a particular musical environment. It also validates our students’ subjective identification with musical gestures and actions and does so in a way that nevertheless draws upon the more objective realities of a given piece.

Obviously, not every composition allows for the fairly straightforward interpretation of the Chopin preludes given above. Indeed, even these short preludes could be interpreted in a more complex manner, identifying other agents, forces, and sources of conflict. And some pieces will not yield much in terms of agency and musical narrative at all. As Anthony Newcomb suggests, “Even the most ‘expressive’ music...at times simply swirls or dreams or chugs along in its decorative function.”⁵¹ Moreover, even with fairly simple pieces, students (and instructors) should always be aware of the dangers of over-simplification. Narratives sometimes impose a simple, teleological structure on pieces in a way that might illuminate some aspects, while obscuring others. (If the narrative

the complication: the struggle against gravity creates distortions in the melodic movement. For some thoughts on the possibility of an ascending *Urlinie* in general, see David Neumeyer, “The Ascending ‘Urlinie,’” *Journal of Music Theory* 31/2 (1987): 275-303.

⁵⁰ My reduction obviously obscures the rhythmic complexity. For more on the metric and rhythmic complications, see Kresky, *A Reader’s Guide*, 47-51 and Wallace Berry, *Structural Functions in Music* (Englewood Cliffs, NJ: Prentice Hall, 1976), 394-97.

⁵¹ Anthony Newcomb, “Action and Agency in Mahler’s Ninth Symphony, Second Movement,” in *Music & Meaning*, ed. by Jenefer Robinson (Ithaca and London: Cornell University Press, 1997), 133. See also Steven Rings, “*Mystères limpides*: Time and Transformation in Debussy’s *Des pas sur la neige*,” *19th-Century Music* 32/2 (2008): 178-208, which brilliantly demonstrates a situation in a Debussy prelude where agency seems “to slip away, or flicker in and out of focus.” Rings, 186.

suggests that the piece is all about “A vs. B,” then what happens to C, D, and E?). These disclaimers, however, simply reinforce a basic principal of music theory pedagogy in general: that we choose our pieces wisely and offer clear guidelines for analysis.

We should also recognize that a focus on agency and narrative does not necessarily require a complete, coherent story (although that may very well be the result). Sometimes it simply clarifies a specific moment—the way a certain passage struggles to modulate to a new key, for instance, or the way a piece builds toward climax. It is thus important to encourage a specific analytical process that can account for anything from complete works to single, isolated sections. The following three steps might serve as a useful starting point:

- 1) Have students determine moments where they feel a strong sense of agency. Where are the agents located and what are their central characteristics as defined by specific musical details: tempo, texture, range, dynamics, mode, consonance vs. dissonance, steps vs. leaps, use of topics, and so forth? (Note that students should first be exposed to multiple possibilities in this regard—hearing an entire piece as a single agent, hearing various themes as agents, and so forth.)
- 2) Have students determine the relationship between the agents and their virtual environment by indentifying any potential boundaries and limitations with regard to musical movement as well as any distinctions between active, “willed” motion vs. passive, “Newtonian” motion (as determined, for example, by Larson’s forces: gravity, magnetism, and inertia).
- 3) Have students determine important sources of conflict (whether between multiple agents or a single agent operating against the constraints of its environment) and see if they can fashion a narrative based on the outcome of whatever conflicts arise.

Again, for this process to work well, students need to be exposed to some of the literature on agency and musical narrative in advance (the readings suggested above are a good start, but there are many other possibilities). It is also worth restating that student interpretations always need to be supported with specific musical details and analytical insights. Students need to know, for instance, that they cannot simply identify one theme in conflict with another without explaining specifically how such conflict manifests in the piece (How do the themes contrast with one another? Does one theme continually interrupt or invade the space of the other? What, in other words, are the musical realities that support the proposed narrative?).

One of the main benefits of this approach is that it will undoubtedly produce multiple, competing interpretations for any given piece and thus provide solid ground for discussion. This is not usually the case, of course, when analysis focuses entirely on taxonomic concerns—chords, keys, formal units, etc.—where answers tend to be more cut and dried, without much room for debate. This does not mean that taxonomic issues are not relevant—in fact, students should have a strong sense of the harmonic, formal, and contrapuntal structure of a piece before they begin thinking in terms of agency and narrative (though, in truth, the process is inevitably circular: our sense of the harmonic, contrapuntal, and formal structure will affect our sense of agency and narrative, which will in turn affect our sense of certain chords, formal areas, and so forth).

We should also remember that agency will always be an issue whether it is addressed explicitly or not. It is crucial to the way our students perform, critique, and listen to music, even if they are unconscious of that fact. Indeed, most analyses generate narrative claims even if agency and musical narrative are not addressed on the surface. What is important is that we have the opportunity to make agency a central issue early on in the curriculum, whether with readings, in-class analyses, short exercises, or large-scale papers and presentations. Such an emphasis will put our students in a position to appreciate analysis not as a grim autopsy of a dead work, but rather as an act of imagination, addressing the most vital aspects of music.

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The Summer Graduate Analysis Course and Stravinsky's *Symphony of Psalms*

GORDON SLY

For the past dozen summers, I have taught a graduate course in analysis. Each year, I begin by trying to make a case for analysis itself. I argue that if an analysis presents a good way to hear or play a piece, it should follow that musicians be enthusiastically involved with analytical work, since the overwhelming majority of us play and/or conduct and/or teach. We should, in fact, see analysis as common ground—perhaps the *only* common ground—shared by the various sub-disciplines that make up music study. I then acknowledge what they all know, that, despite this, very few musicians are involved in any way with analysis, and express my belief that this is due in large part to a misunderstanding of the process of analysis that musicians develop, paradoxically, in the analysis courses they take as students. We purport to teach analysis in our courses, but actually often don't. Instead, we teach the workings and employment of analytical tools. We know we're doing this, and we have good reasons for doing it. But if that's all, or nearly all, we do, the result is that students confuse the acquisition and application of analytical tools for analysis. And they are not at all the same thing.

An analysis, I argue, follows a coherent path through a piece of music. It says, here is a good way to hear, to play, to think about, this piece. An analysis is just that—an analysis, not *the* analysis. It's not looking for the truth. It's not trying to prove anything. We're not in the proving business; we're in the persuasion business. It requires a clearly defined argument that must be logically consistent and musically compelling. The chief tool needed to do analysis is a musical sensibility, musical instincts, and you all have those, I tell them, or you wouldn't be here. Other tools, the ones we learn in these classes, can be helpful, but they are not central. The argument, the point of view, is central, and it will call for, and direct the use of, any tools it needs.

A typical class comprises twenty or so students, and is unusual insofar as almost all of them are out working in the field. Many are instrumental-, vocal-, or general-music teachers, doing graduate work in music education in the summers. Others have college jobs,

and are taking as many summer courses toward DMA degrees, typically in performance or conducting, as they can. Still others are officially year-round students, but play in regional orchestras or teach large private studios (or both) during the academic year, so need to take summer courses in order to make headway in their degree programs. Often these students have moved their families to town for the summer, or are themselves living away from spouses and young children. They are nearly all spending their own money on their studies.

Efforts and sacrifices of this sort inculcate a pronounced impatience for coursework that they see as professionally unhelpful or irrelevant. These classes teem with an eagerness to discuss what role, if any, analysis might play in their professional lives, as well as a collective perspective that makes this discussion meaningful, both of which qualities are largely absent in younger students and students who have never been out of school. These distinctions make for particularly rewarding teaching. What they care about is clear to me. Students feel invested in what they are learning, and anxious to apply it to the more central activities of their professional lives. At the end of each summer I have students tell me that the class has stirred them to approach their teaching or playing differently in some sense—a powerful incentive for me to want to reflect back that same level of interest and investment, to do my best for them. I also feel that there is a lot at stake when I make decisions about course structure and music to study.

Over the years, I have treated the course as a kind of analysis laboratory, continuously looking for the approach that works best. I have not taught the course the same way twice, and several times have restructured my approach fundamentally from the year before. In some years, I have worked through a lot of analyses in class myself, hoping that modeling the sort of procedure I would like students to follow would be helpful. In other years, I have kept this modeling to a minimum, and instead tried to prompt students to discover workable procedures on their own. I have had students work alone, in groups, or alternate between the two. I have had them give several shorter presentations of their analyses, or work toward a single longer presentation. I have used the Stein collection,¹ assigning each student a specific set of essays to study,

¹ Deborah Stein, ed. *Engaging Music: Essays in Music Analysis* (New York and Oxford: Oxford University Press, 2005).

depending on his or her choice of piece for a final analysis project.² I have at times had the course culminate with a written analysis, and have at other times dispensed with writing altogether in favor of oral presentations (in recent years, videotaped and critiqued by the presenter). I have structured the course by analytical foci—text-music relations, motive, rhythm—or by musical genre. Finally, I have varied the balance between number of pieces studied and depth of study. Some summers, we have worked through a lot of literature at a piece-a-day pace. Other years, we have spent more time with each of a smaller number of pieces, or even with a single work. I will return to this approach to the course in a moment.

Unfortunately, but probably not unexpectedly, I am unable to report that one particular course design stands out as superior. Each of these strategies has both advantages and shortcomings. But there are two course features that I would now be unwilling to give up. The first is group work. Many students, regardless of how self-assured they may be as performers or teachers, are uncertain about whether they have anything at all to *say* about a piece of music. They are reluctant to develop and express their ideas, and groups (and I have acquired a strong preference for groups of three members) insulate against this uncertainty. Further, the smallest of obstacles will derail an individual student's line of inquiry. Groups are much more resilient in managing such difficulties. Even if the ultimate goal is individual analysis—which of course it is—structured group work is, I believe, singularly effective in developing the necessary skills. The second is oral, rather than written, presentation of analyses—provided, that is, that students have come to understand that their analyses must *persuade* their audience of a good way to listen to the music. If this understanding is in place (and it can sometimes take a lot to get it in place!), the immediacy of an audience can provide a helpful guide to the analytical argument that disappears with written analysis. As well, of course, these students are conductors and performers: any analysis they do beyond my course is likely to be presented to an audience.

I mention above the idea of devoting the entire course to the study of a single work. This approach sacrifices any breadth of literature to which students are exposed, of course, as well as the benefit of modeling analytical process for students before they try

² I describe this process in some detail in Gordon Sly, Review of *Engaging Music: Essays in Music Analysis*, ed. Deborah Stein (Oxford, 2005), *Journal of Music Theory Pedagogy* 20 (2006): 161-78.

it themselves. Instead, the course becomes a summer-long (in the present case, six-week-long) workshop on a piece, one advantage of which is the opportunity to examine it from several different vantage points. This can be valuable: when analytical findings from various perspectives are overlaid and students see that they are mutually supporting, the result can be an especially vivid picture of a piece. It also allows students to dig deep into a substantial work, quite possibly the first such opportunity they have had; time constraints in our analysis courses often confine our choice of pieces to miniatures, or our study to the musical surface.

This workshop approach can also encompass other of the course features discussed above—group or individual work, written or oral presentation of analytical findings, and so forth—but this work must now be structured within the context of a single analytical process. The instructor must have a good idea at the outset of how ultimately the analysis should look, or at least what essential things it should comprise, and design a series of tasks and assignments that will accomplish that goal. Readings from the analytical literature can also be brought into the process, but they should always be called for, as it were, by what is encountered in the piece.

The balance of this essay will focus on the opening movement of Stravinsky's *Symphony of Psalms*, a work that I have found most effective for this course design. It is sufficiently substantial to support this level of analytical attention, and is a complete movement, so allows for meaningful overarching analytical interpretation. At the same time, it is still of manageable length, running just over three minutes. It employs string, brass, woodwind, percussion (including piano), and vocal forces, so every member of the class can find him/herself in its instrumentation. And it clearly invites several different analytical perspectives. It sets a text, so word-music relations should be considered. It represents the vast "post-tonal" literature, whose principal contributors include Debussy, Bartók, Messiaen, Ravel, and Scriabin, as well as Stravinsky. Much of this music presents us with synthetic tonal languages that bring together traditional and non-traditional tonal materials,³ characteristics shared by

³ The post-tonal literature is not tonal in a common-practice sense, of course, but clearly exhibits tonal focus. Arthur Berger coined the term "centric," which has become standard vocabulary in the field. See "Problems of Pitch Organization in Stravinsky," in *Perspectives of New Music* 2/1 (1963): 11, reprinted in *Perspectives on Schoenberg and Stravinsky*, ed. Benjamin Boretz and Edward T. Cone (New York: Norton, 1968).

much of the literature these students regularly play or teach. This movement subtly moves among octatonic, modal, and traditional tonal constituents. It is wonderfully animated music that lures analytical attention to its rhythmic life. And it features a referential sonority, an event that is contextually privileged or marked for consciousness. Attention focused on this sonority's occurrences across the movement—"tracing its history,"⁴ if you will—suggests perhaps a narrative analytical approach. As well, focusing on the precise locations of its deployment leads the analyst to consider the proportional division of musical time that its placement imposes on the movement.

In what follows, I will consider the movement from four different perspectives: text, points of formal division, pitch material, and temporal design.⁵ My discussion is not meant to chronicle the analytical process that a class would follow. Instead, it tries to provide the kind of textured image of the piece that an instructor would need in order to design around it the kind of course I have described. The course itself could unfold in any number of specific ways, and follow these four—and perhaps other—analytical perspectives in any order.

TEXT

The three movements of the *Symphony of Psalms* set, respectively: Psalm 38, Verses 13-14; Psalm 39, Verses 2-4; and the whole of Psalm 150. These texts unfold an essential progression in the relationship between humanity and God. The Psalm 38 text invokes prayer, an entreaty to God. God responds to that plea in Psalm 39, whose closing lines acknowledge that response with humanity's testimony of faith. Psalm 150 represents a life "in God," expressed through praise. In the first-movement text, an important structural feature of the Latin is lost in English translations that are commonly consulted. A brief account of the history of this text and of the relationship

⁴ Asking students to identify and trace the history of a striking or quirky event in a piece is an analytical idea that I owe to Brian Alegant, who has used it to great success in his classes at Oberlin. One of its advantages is that students without much technical training in music are not excluded.

⁵ Many people, including students from several classes and two anonymous reviewers, have offered comments and suggestions that have been most helpful to me. I thank them all heartily.

between English and Latin versions is therefore in order.

The book of Psalms was originally in Hebrew. Several Latin versions were in circulation in the early centuries of this era. Some may have been translations of the *Septuagint*, which was a Greek translation of the original Hebrew. The original texts lacked punctuation, so adding it was a matter of editorial discretion. Wide variation exists here. The version used by Stravinsky is given below; it is from the *Vulgate*, a Latin translation from the Hebrew made by St. Jerome in the late-4th century.

*Exaudi orationem meam, Domine
et deprecationem meam.
Auribus percipe lacrimas meas.
Ne sileas.
Quoniam advena ego sum
apud te et peregrinus,
sicut omnes patres mei.
Remitte mihi,
ut refrigerer
priusquam abeam et amplius non ero.*

The chief difficulty for an English translator occurs in the third line with the words *auribus* and *lacrimas*, which refer, respectively, to “ears” and “tears,” and with the punctuation of that and the following line. My own more or less literal translation of the Latin runs as follows:

Hear my prayer, O Lord and my entreaty.
Perceive with your ears my tears.
Do not be silent.
For I am a newcomer with you and a wanderer,
like all my forefathers.
Turn your (fierce) glance from me,
That I may be refreshed
Before I depart and am no more.

Compare this with the verses as they appear in the *New King James* bible, given below (Psalm 39, Verses 12-13):

Hear my prayer, O Lord
and give ear to my cry;
do not be silent

at my tears:
 for I am a stranger with You,
 A sojourner,
 as all my fathers were.
 Remove Your gaze from me,
 that I may recover strength,
 before I go away and am no more.

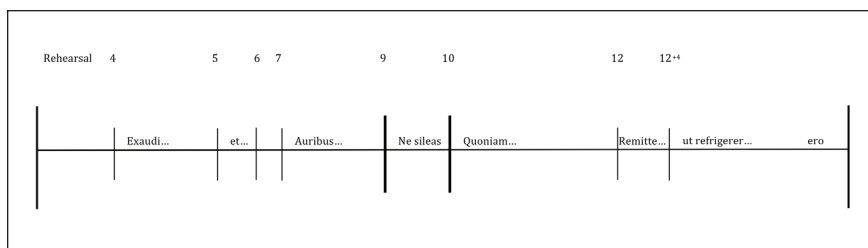
This translation makes changes necessary to deal with the odd suggestion of “hearing tears,” and in so doing, incorporates the line *Ne sileas* into the passage that, in the Latin, precedes it. A new line—and a new idea—then starts with *quoniam advena ego sum* (“for I am a stranger”). While the meaning is perhaps not substantially altered, what is lost is the relatively central, discrete position of *Ne sileas*. This plea to the Lord to act (“do not be silent”) is the crux of the text. Punctuation sets it off as a self-contained statement. Accordingly, Stravinsky sets it off musically from what precedes and follows it. In fact, as we will see, careful study of the movement’s architecture reveals a series of symmetrical durational structures into which Stravinsky sets these words, just as a jeweler sets a gemstone into its mounting.⁶

⁶ Richard Taruskin argues that an insensitivity, even an indifference, to the meaning of the text he was setting was a “longstanding habit” for Stravinsky. The context for Taruskin’s remarks is his controversial discussion of the Cantata—specifically, of Stravinsky’s choice of the anti-Semitic text “To-morrow shall be my dancing day” for the work’s second Ricercar. While Taruskin makes a strong argument that includes examples that both pre- and post-date the *Symphony of Psalms*, I would nevertheless argue that in this work, at least, Stravinsky attended very carefully to the meaning of the text and its musical setting. See “Stravinsky and us,” *Cambridge Companion to Stravinsky*, ed. Jonathan Cross (Cambridge University Press, 2003): 276-84.

FORMAL DIVISION

Formal design in the opening movement is articulated in usual ways—by boundary events, contrasts in texture, and changes in tonal material. The latter will be taken up presently; here, we will consider boundary events and textural change. The main point of division, as noted, occurs at Rehearsal 9, setting off the words *Ne sileas*. This text is punctuated by framing statements of the Psalm chord: that preceding it is the first occurrence of the chord since the opening bars; that following it is the final sounding of the chord in the piece. A number of second-level points of division can also be noted. At Rehearsal 4, voice is added to the orchestral texture, as the altos introduce the first words of the text. At the same time, the double reeds take over from the horns, pianos, and low strings, producing a shift in orchestral timbre. At Rehearsal 5, the new line of text is announced by the first entry of the full choir. Just four bars later, at Rehearsal 6, a marked change in texture occurs, as the choir drops out and all motion ceases, save for a four-bar passage in the oboes. The music at Rehearsal 7 recalls that of Rehearsal 4, as the altos intone the third line of text, again set to the E-F semitone oscillation. As before, they are accompanied by the double reeds, but now pizzicato cellos and contrabasses add depth to the texture. This carries the music to the sounding of the Psalm chords that set off the fourth line of the text, *Ne sileas*.

A distinctly new melodic idea—and a relatively large section of music, setting the next three lines of text—begins at Rehearsal 10. The large intervals that shape the voice parts here stand in stark contrast to the minimal intervallic motion in the voices to this point. The vocal texture thickens with the addition of the sopranos and tenors in the fourth bar, and the whole continues to intensify, reaching its apex at Rehearsal 12. Although the final word of the seventh line of text (*mei*) overlaps this point of arrival, the musical climax serves to set line eight, a second plea of this Psalm text, *Remitte mihi*. The *New King James* renders this as “remove Your gaze from me”; I have it a “fierce glance”: what is important is to recognize the desperate cry for release that these words convey. Beginning in the fourth bar of Rehearsal 12 is the closing section of the movement. Melodically, the music here recalls the solo alto theme found at Rehearsals 4 and 7, with the E-F semitone idea now taken up by the tenors. The texture is filled out by the other three vocal parts, though, and the full orchestral timbre characteristic of the second half of the movement remains. Example 1 summarizes this formal organization.



Example 1: Stravinsky, *Symphony of Psalms*, I; Main Formal Divisions

PITCH

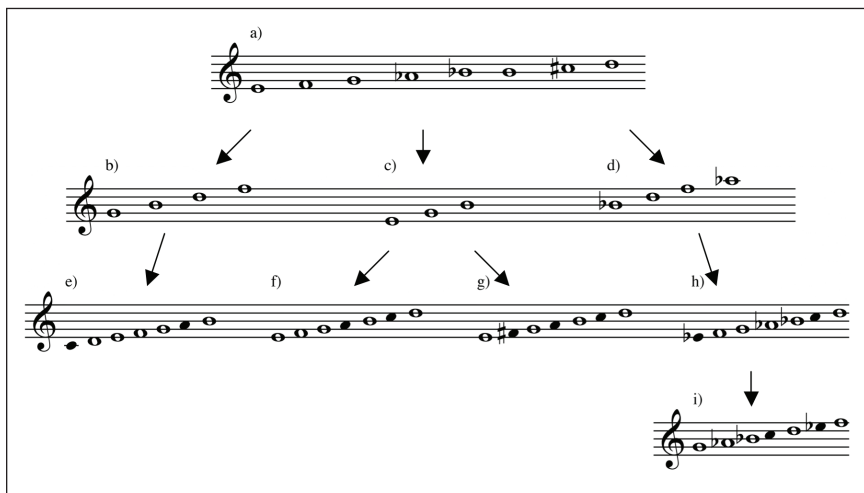
An E-minor triad opens the work. Its first two statements frame arpeggiated major-minor 7th chords built on B $\flat$ and G. Taken as a whole, the pitch-class content of these opening four bars defines—and is confined to—the octatonic set built on the chromatic dyad E-F: seven of its eight members are used; C $\sharp$ is not. The division, or partitioning, of that octatonic set, though, into the E-minor triad and Mm7th chords, clearly deemphasizes its octatonic character in favor of a more diatonic-tonal character. This raises a number of questions. Is the octatonic collection the *source* of these bars in any meaningful sense, or is it simply an incidental by-product of the three chords that make up the passage? The singularity of the Psalm chord itself, as well as its recurrences through the movement, clearly endow it with referential status of some sort. Does it function as the “tonic” triad? Beyond this, are the Mm7th chords meant to suggest dominant harmonies? If so, what roles are played by their respective tonics, E $\flat$ and C?⁷

⁷ A good deal has been written about pitch material in the *Symphony of Psalms*. Much of this scholarship advances the view that the octatonic set serves as pitch source in the work, and indeed, in much of Stravinsky’s music. The locus classicus of this idea is Berger’s “Problems” (see note 3). It is also fundamental to Pieter van den Toorn’s *The Music of Igor Stravinsky* (New Haven: Yale University Press, 1983). However, given, for instance, that a grouping of any major, minor, or diminished triads whose roots lie a minor 3rd or tritone apart will give rise to the octatonic collection, how does the analyst determine whether the collection itself or the superimposed sonorities that generate it are compositionally prior? And what, if any, are the implications of such a determination? In “Stravinsky’s Tonal Axis,” *Journal of Music Theory* 26.2 (1982), Joseph Straus rejects the idea that the octatonic set is the fundamental source of pitch material in this music, and posits in its

An overview of the music to the first vocal entrance at Rehearsal 4 may begin to answer these questions. In the next three bars, the Mm7th chords continue in the upper three notes of the arpeggios. In the lowest voice, though, B $\flat$ gives way to A in m. 5, which persists into m. 7 and then falls through G and F $\sharp$ to E. This descent through the lower tetrachord of the E-minor scale is punctuated by the third statement of the Psalm chord. Rehearsal 1 begins by restating the gesture of mm. 7-8, with the descent through the E-minor tetrachord sounding below arpeggiated Mm7th chords on B $\flat$ and G. In m. 10 we have our first evidence that the Mm7th chord on G does indeed function as V7 of C, as the arpeggiated figures in the oboes and bassoon move through a first-inversion C-major triad and then back to V7 of C. From here they arpeggiate the Mm7th chord on E. Between Rehearsals 1 and 2, then, the oboes and bassoon give us Mm7th chords built above tones in a descending chain of minor thirds: B $\flat$, G, and E. Sounding between the oboe's and bassoon's last chord, the English horn plays first a minor triad, then a Mm7th chord, on G. Meanwhile, the piano begins an ascending gesture that describes the E $\flat$ -major scale. This is now set off by the fourth occurrence of the Psalm-chord. For the opening five bars of Rehearsal 2 we find "white-note" music above an E in the bass; this, then, has a strong Phrygian character. The E-Phrygian line continues, first in the horn, then in the solo cello, through Rehearsal 4, but a bar

place the "tonal axis," which is a conflation of triads that produces either a major- or a minor-7th chord, and whose role in a piece must satisfy a number of defining features. The axis of the opening movement of the *Symphony of Psalms*, according to Straus, is the 7th chord e-g-b-d. Interestingly, Straus's tonal axis shares important characteristics with Robert Bailey's "double-tonic complex," developed to account for the tonal language and structure of *Tristan*, and expounded most clearly in his *Prelude and Transfiguration from Tristan and Isolde* (New York: W. W. Norton: 1985), and by his student, Christopher Lewis, in *Tonal Coherence in Mahler's Ninth Symphony* (Ann Arbor: UMI Research Press: 1984). Dmitri Tymoczko has most recently taken up the question of octatonicism in Stravinsky's music, and determined that its role has been overstated. While he does not deny the composer's use of the scale, he feels that it shares the stage with other of Stravinsky's techniques, such as triadic or polyscalar superimposition and modal use of non-diatonic minor scales. See Tymoczko "Stravinsky and the Octatonic: A Reconsideration," *Music Theory Spectrum* 24/1 (2002): 68-102, and van den Toorn and Tymoczko "Colloquy: 'Stravinsky and the Octatonic,'" *Music Theory Spectrum* 25/1 (2003): 167-202.

before Rehearsal 3 the pianos and second horn, later joined by the strings, reintroduce the E-octatonic set. In these final bars leading into the vocal entrance at Rehearsal 4, then, the diatonic and the octatonic are set in different strata of the orchestra.



Example 2: Stravinsky, *Symphony of Psalms*, I; Pitch Materials

At this point it would be wise to step back from the music for a moment to try to organize these observations. Example 2 sets the various pitch-class collections into a kind of flow-chart that interprets their possible derivations and interrelationships. This asserts that the octatonic set is the source of the pitch material, and gives that set in open noteheads in the example (a). Also in open noteheads are those members of all other collections Stravinsky uses to this point in the piece that reside within the source octatonic scale. Pitch-classes foreign to the source set are given in black noteheads. As we read down the example we see first the partitioning of the octatonic set into the work's opening gestures, the E-minor triad (c) and the two V7 chords (b and d). The E-minor triad implies both the E-Phrygian and E-minor collections (f and g), and the V7 chords imply their respective tonic collections, C and E $\flat$ (e and h). These are the collections we identified through Rehearsal 4. One final scale, the G-Phrygian, is shown in example 2 (i). It is isolated to indicate that it has not appeared in the music so far, but included because it completes this group of pitch-class collections inasmuch as it stands in the same relation to the E $\flat$ -major set as does the E-Phrygian to the C-major set. Both pairs are different rotations

of the same collection. We also see, by observing the content of each set represented in open noteheads, the invariant segments that flow out of the octatonic set to effect transition from one collection to another. For example, the tetrachord D-E-F-G belongs to both the octatonic and the diatonic collection that yields C major and E Phrygian; it therefore functions as a “pivot” between the two sets, and allows Stravinsky to move seamlessly between octatonic and diatonic tonal worlds.

Shifts in pitch collection tend to reinforce the formal divisions noted above. The section of music from Rehearsal 4 through Rehearsal 9 is cast as a three-part *aba* design, with a brief interpolation in the oboes and flutes at Rehearsal 6, before the return of the *a* music. The pitch material in the orchestra is octatonic throughout, described most prominently in the persistent arpeggiations of the bassoons and English horn. The opening line of text is sung by the altos alone, to the pitches E and F. Confining the vocal part to this “hinge dyad” between the octatonic and Phrygian collections at once places the voices in tonal agreement with their accompaniment, and continues the stratification between octatonic and diatonic sets that had been introduced by the orchestra in the preceding bars.

At Rehearsal 5 the sopranos, tenors, and basses join the altos to complete the choral texture, outlining the V7/C harmony. Meanwhile, the altos themselves move up to the chromatic dyad G-A $\flat$. The total pitch content of these bars completes and is confined to the octatonic set, but Stravinsky continues the stratification, as the orchestra’s full octatonic collection sounds against the dominant-7th diatonic subset in the choir. The alto voice, with its G-A $\flat$ oscillation, once again straddles the line between the contrasting sets: as a continuation of the E-F dyad that began the larger section, its progression E-F-G-A $\flat$ allies itself with the octatonic, since it belongs to no diatonic collection; at the same time, the A $\flat$ is comfortable within the diatonic harmonic function projected by the choir, as the 9th above V7/C.

The interpolation to which we referred earlier occupies the four bars between Rehearsal 6 and 7. This is a curious passage, quite unlike anything that comes before or after. It begins with a distinctly Phrygian flavor, but tails away in its last bar with a fully chromatic gesture. Oddly enough, the only member of the total chromatic that does not sound here is C $\sharp$, the same pitch-class that was omitted from the octatonic set projected in the opening four bars of the movement. We will leave this passage for the moment, but revisit it below.

Rehearsal 7 marks the return to the music of Rehearsal 4. A fuller texture in the orchestra is the only modification here, as pizzicato ostinati in the strings fortify the arpeggiations of the double reeds. The vocal part returns to altos alone with their E-F oscillation.

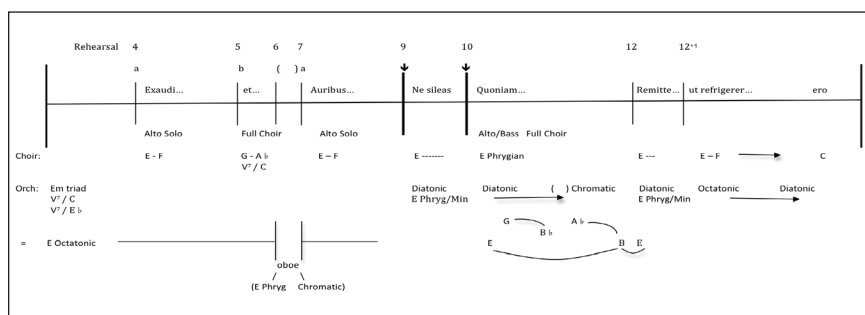
The setting of the line *Ne sileas* at Rehearsal 9 is purely diatonic, either E Phrygian or E natural minor (neither F $\sharp$ or F $\natural$, which would point to one or the other, occurs), with pedal Es in the strings and octave Es in the sopranos and tenors, all supporting E Phrygian/minor figuration in the rest of the orchestra.

Like Rehearsals 4 through 9, the music from Rehearsal 10 through the end of the movement is organized into three sections, the central one, beginning at Rehearsal 12, signaling the climax of the movement. In the first section, the E-Phrygian character of the preceding music continues in both orchestra and voices. This is short-lived, though, as elements of the E-minor and octatonic sets begin to be overlaid. The whole of this passage is characterized by an increasing chromatic texture. For the first time in the piece (save for the brief interpolation at Rehearsal 6) we find fully chromatic segments, such as the G-F $\sharp$ -F $\sharp$ -E in the bass trombone in the third and fourth bars after Rehearsal 10. This bass trombone line is part of the underlying bass voice that supports the opening section. At the broadest level, E moves to B, its dominant, in the bar before Rehearsal 12, and the bass progression back to E helps announce the climax. But the motion from the initial E across to B is shaped by parallel major-6th descents. The first of these is from the G in the third bar of Rehearsal 10 to the B $\flat$ in the bar before Rehearsal 11. The second one, enharmonically spelled, begins on the A $\flat$ in the second bar of Rehearsal 11 and leads to B $\sharp$. These parallel descents are divided by the opening bar of Rehearsal 11, which stands outside the growing chromaticism of the section and returns for a moment to E Phrygian. These major 6^{ths} can be understood as octave-displaced minor 3^{rds}, of course, a defining interval of the octatonic set, which brings to mind the motion in minor 3^{rds}, noted above, that occurs between Rehearsals 1 and 2.

The climactic passage at Rehearsal 12 is a more intense version of the setting of *Ne sileas* at Rehearsal 9: the music is, once again, purely E Phrygian or minor, with pedal Es in the bass, repeated Es in the sopranos, tenors, and basses, and arpeggiations in the full orchestra.

The closing section of the movement begins with idiosyncratically Stravinskian abruptness in the fourth bar of Rehearsal 12. This

section reverses the increasing chromaticism of Rehearsals 10 through 12, as the octatonicism gradually gives way to a diatonic conclusion. At Rehearsal 13 the octatonic string ostinato E-G-F-A $\flat$ gives way to half notes on D and E, and the strong Phrygian character in the choir shifts its tonal focus toward C major. Finally, four bars from the end a bass descent in G Phrygian supports the approach to the G-major triad that concludes the movement. This harmony functions locally as dominant of the C that begins the second movement. It is in keeping with Stravinsky's conception of the first movement as a prelude that it should be tonally "open" in this way. Example 3 fleshes out the overview given in Example 1 by adding details of the movement's tonal organization.



Example 3: Stravinsky, *Symphony of Psalms*, I; Formal Divisions and Tonal Design

PROPORTION

I begin here with an anecdote. As a young student, I had the good fortune to attend a wonderful performance of the work given by the Boston Symphony Orchestra, the ensemble for whom it was composed,⁸ and the Tanglewood Festival Chorus. Of the images of that performance that remain with me, the most vivid is the sense I had that the division of time in the opening movement had been very carefully calculated. The sudden changes of texture that punctuate the musical flow throughout the movement certainly contributed to this impression. But the effect of closely measured punctuation was introduced in the exciting opening moments. In all the literature, few openings are as distinctive and memorable as this one. This quality is owed largely to the initial E-minor

⁸ The *Symphony of Psalms* was composed in 1930, and commissioned by Serge Koussevitzky to celebrate the 50th anniversary of the Boston Symphony Orchestra.

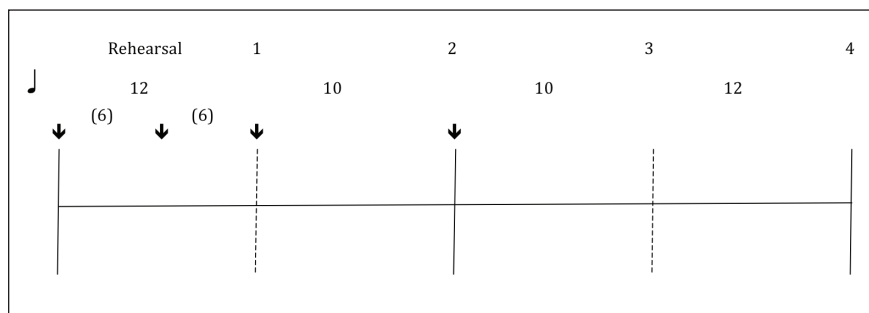
triad, the “Psalm chord,” whose unique sonority derives from its articulation, timbre, and registral deployment. The Psalm chord that opens the work sounds three times more in close succession, and each time it is framed differently—that is, each has a different duration of silence immediately preceding it: the first of the three is preceded by a quarter rest, the second by no rest, and the third by an eighth rest.⁹ Maestro Ozawa clearly attached significance to this feature, and gestured emphatically so as to differentiate the three statements of the chord in this respect. Does Stravinsky’s placement of the Psalm chords articulate a perceptible pattern in the division of musical time?

Time signatures change frequently in the movement, but they are all based on the quarter note, and no tempo changes occur. The quarter note, then, is a temporal constant that one might use to calculate the division of time. Six quarters separate the opening two statements of the Psalm chord, and six more come between the second and the third. Ten quarters then elapse before the fourth iteration of the Psalm chord. Rehearsal 2 clearly marks the first main point of articulation, with the entry of the sustained bass tones in the left hand of the piano and strings and the descending line in the horn. As we noted, the five bars following Rehearsal 2 present “white-note” arpeggiations above the bass E-F-E, suggesting a Phrygian character. This is disrupted a bar before Rehearsal 3 with the change of bass tone from E to G, and the addition of non-Phrygian members A $\flat$ and B $\flat$ in the pianos. The B $\flat$ is actually introduced on the second half of the previous bar, but it is the new bass tone on the following downbeat that draws our attention, and, with the A $\flat$ and B $\flat$, signals the change in sound from Phrygian to octatonic. The next formal boundary, of course, is the vocal entrance at Rehearsal 4.

The passage between Rehearsal 2 and the shift from Phrygian to octatonic is ten quarters in duration; from this point through Rehearsal 4 is twelve quarters. The division of time through to the first vocal entrance, then, produces a durational palindrome, as illustrated in Example 4. The arrows again locate Psalm chord statements, and the numbers above the time-line indicate elapsed quarters. Note that the main division within this opening passage, signaled by the final Psalm chord and the new musical texture

⁹ The Psalm chord that opens the piece comes out of silence, of course, but it is worth noting that Stravinsky begins the work with a notated quarter rest, setting this first sound on the second beat of the opening $\frac{2}{4}$ bar.

at Rehearsal 2, occurs exactly in the middle, articulating the palindrome. The less pronounced divisions are marked by Psalm chord statements in the first half, and a shift in collection (Phrygian to octatonic) in the second. Also note that while the Psalm chords help define the durational scheme, they are not themselves included in it. The quarter-note duration that each of the four occupies stands outside the main temporal unfolding of the piece.

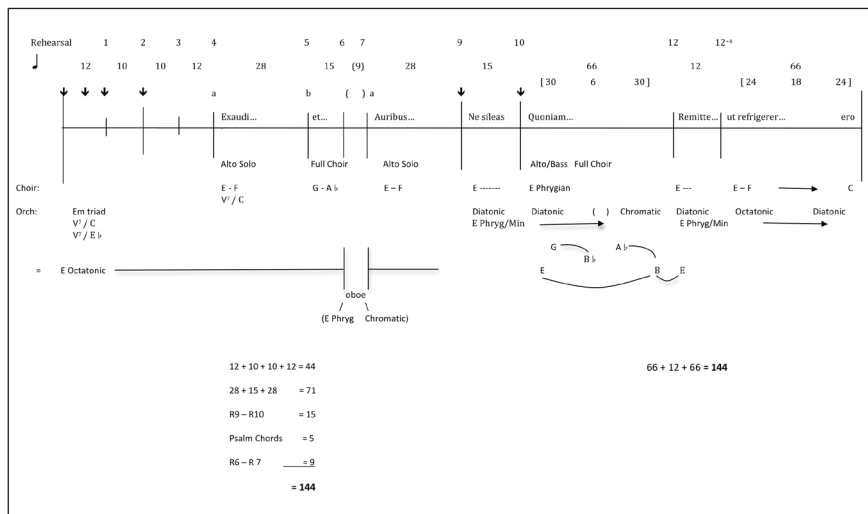


Example 4: Stravinsky, *Symphony of Psalms*, I; Temporal Proportion through Rehearsal 4

Continuing our investigation into Stravinsky's durational architecture beyond the opening twenty-four bars reveals a number of striking calculations. The music between Rehearsals 4 and 9—if we ignore the nine-beat interpolation of Rehearsal 6, which we shall do for the moment—is once again cast as a durational palindrome, with sections of twenty-eight quarters framing a middle section of fifteen quarters. Given the *aba* design, the durational symmetry is less remarkable than it would be were the design otherwise. It is worth noting, though, that the lines of text set by the two *a* passages have different numbers of syllables. That Stravinsky fit both lines into the same number of beats, then, is surely not incidental.

The music from Rehearsal 10 through the end also unfolds as a large durational palindrome, with the climactic passage at Rehearsal 12 occupying twelve quarters centered between passages of sixty-six quarters on either side. Beyond this, each of the passages of sixty-six quarter duration divides symmetrically in this way, creating nested palindromes within the larger one that shapes the second half of the movement. The Phrygian bar at Rehearsal 11 occupies six quarters, centered precisely between passages of thirty quarters on either side. And the diatonic displacement of the foregoing octatonic at Rehearsal 13 initiates a passage of eighteen quarters

that divides the closing sixty-six-quarter section into twenty-four plus eighteen plus twenty-four quarters. Example 5 summarizes this durational scheme and incorporates it into the overview of formal and tonal designs shown in Example 3.



Example 5: Stravinsky, *Symphony of Psalms*, I; Overview of Formal Divisions, Tonal Design and Durational Architecture

In addition to this series of palindromes, two other large proportional relationships emerge. The principal division within the first part of the movement, up through the first of the final two soundings of the Psalm chord that frame *Ne sileas*, occurs at Rehearsal 4. Here we have both the first choral entrance and the point of division between the two palindromes. Preceding this point are the forty-four quarter notes that comprise the opening palindrome, plus the four quarters occupied by the four Psalm chords, for a total of forty-eight. Following it are the seventy-one quarters of the second palindrome (ignoring again, for a moment longer, the nine-beat interpolation at Rehearsal 6), plus the one quarter of the Psalm chord that announces *Ne sileas*, for a total of seventy-two quarters. The ratio of forty-four to seventy-two is exactly 2:3.¹⁰

¹⁰ Jonathan Kramer's well-known analysis of the *Symphonies of Wind Instruments* reveals the consistent use of the durational ratio 3:2 in the work's first half. See "Moment Form in Twentieth-Century Music," *Musical Quarterly* 64 (1978): 177-94, and *The Time of Music: New Meanings, New Temporalities, New Listening Strategies* (New York: Schirmer: 1988).

A second, and overarching, proportional relationship is shown in the few calculations given at the bottom of Example 5. The large palindromes that frame and thereby highlight the setting of the line *Ne sileas*, and the fact that the Psalm chord punctuating these words marks the final sounding of that singular event, focus attention on this moment. From Rehearsal 10 through the end of the movement we have sixty-six plus twelve plus sixty-six quarters, for a total of one hundred forty-four. The opening of the movement, as just noted, has the forty-four quarters of the first palindrome and the seventy-one quarters of the second. *Ne sileas* at Rehearsal 9 has fifteen quarters. Now, as we noted earlier, the durational palindrome through to Rehearsal 4 did not include the quarters occupied by the Psalm chords. This was appropriate, since those Psalm chords articulated the balanced divisions. But in calculating durational proportion, as we did in determining the 2:3 ratio of the movement's first half, those values must be taken into account. There are five of them up to the *Ne sileas* passage. In total, forty-four plus seventy-one plus fifteen plus five equals one hundred thirty-five. If we then include the nine-quarter duration of the curious little interpolation at Rehearsal 6 (finally!), we have a total of one hundred forty-four. The sixth and final sounding of the Psalm chord, then, which punctuates the crux of the movement's text, *Do not be Silent!*, divides the structure exactly in half, with precisely one hundred forty-four quarters on either side.¹¹

¹¹ Martha Hyde has shown that the temporal architecture of the opening movement of the *Symphony in C*, completed in 1940, ten years after the *Symphony of Psalms*, shares important features with those I have presented here. See "Stravinsky's neoclassicism," *Cambridge Companion to Stravinsky*, ed. Jonathan Cross (Cambridge University Press, 2003): 115-22. She shows the overarching palindrome of the movement—in her words, "a balanced arch with strict temporal proportions." She also points out the return of the principal theme "in the middle of the development section (bar 181) exactly halfway through the movement . . ." (emphasis mine). A number of other scholars, as well, have taken up Stravinsky's division of musical time and proportional organization. Edward Cone also discusses proportional relationships in the first movement of the *Symphony in C* in "The Uses of Convention: Stravinsky and His Models," *Stravinsky: A New Appraisal of His Work*, ed. Paul Henry Lang (New York: Norton, 1963): 21-33. In his "Stravinsky: The Progress of a Method," *Perspectives of New Music* 1/1 (1962): 18-26, reprinted in *Perspectives on Schoenberg and Stravinsky*, ed. Benjamin Boretz and Edward T. Cone (New York: Norton, 1968), Cone describes the temporal interruption characteristic of Stravinsky's music as a three-phase process he terms "stratification,

This focus of the course is analytical process, informed by the idea that analysis ought to be understood as an argument aimed at persuading the listener of a good way to hear or play a piece. It is vital that this goal of analysis be made clear at the outset. It entices students initially because it eschews a dependence on tools and techniques in favor of musical instincts and sensitivity. And it both defines a desired outcome and provides an abiding standard against which students can measure their evolving lines of analytical inquiry. It is equally important to return to this idea at the end of the process, since it represents a meaningful assessment tool that—and consider how often you can say this—students are not only able, but anxious, to apply to their own work. Does the foregoing analysis, then, whose crux is a set of interdependent proportional relationships, represent a good way to hear the piece? Is it sufficiently compelling to justify the effort? Should we envision the music this way? I would argue that we should.

The precision and symmetry that the durational architecture embodies is certainly in keeping with the objective, overtly anti-romantic conception of the work, the austerity and timeless qualities that define the piece in so many ways: an ancient text, in Latin, set by vocal writing that invokes chant; the use of double-reed instruments, which have an ancient provenance and an ascetic timbre, and the concomitant absence of clarinets, which have a more recent history and produce a warmer sound; the fortified brass and percussion, which, similarly, evoke a distant past. Stravinsky's stated preference for children's rather than woman's voices, of course, reflects the historical practice of the Christian church, but also contributes to the austere quality, since they lack the romantic warmth of mature women's voices. As well, the multi-level tripartite design, realized in the form of the palindrome, with its inherent autonomy, reflects the importance of the number three in Christian symbolism and imagery.

interlock, and synthesis." The "relational patterning" of Stravinsky's formal designs is taken up by Marianne Kielian-Gilbert in "The Rhythms of Form: Correspondence and Analogy in Stravinsky's Designs," *Music Theory Spectrum* 9 (1987): 42-66, a study that owes much to the work of Jonathan Kramer. Kramer's contribution to our understanding of musical time and proportion in 20th-century music is vital. His *The Time of Music* devotes a full chapter to "duration and proportion," focusing here prominently on Stravinsky's music.

Musicians will certainly disagree about what sorts of structures ought to attract our attention when listening to a piece of music. If our analytical and pedagogical efforts tend to be apportioned in response to those opinions, then most of us, it would seem, are dubious about the significance—perhaps the accessibility—of durational proportion. In the context of tonal music, where most of us spend most of our time, there are good reasons for this. The energy that derives from tonal harmony and melody ebbs and flows, changing the nature of musical time and our perception of it. As a result, the “substance” of a given passage issues far more from its content than from its duration. Many of us appeal to just this idea when teaching the difference between rounded binary and ternary forms. Both are represented by the thematic schema ABA. But whether we understand a given work’s formal design as A || BA (rounded binary) or A || B || A (ternary) depends on the nature of the B section. Does it simply stand on the dominant, or move to the dominant via sequence? Does its chief melodic role seem to be simply “other than A”? Or does it present new thematic content? Contrasting character? It’s own key? In short, does it have the musical heft to rival the surrounding A passages as a self-contained section? Does it “weigh” enough? Duration usually carries little influence in this decision. Pieces in which each of the three “thematic” sections is eight measures in length—a durational scheme that would obviously point toward a ternary conception—yet are heard as rounded binary forms are very common. That is, the skewed durational proportions (8 || 8 + 8) caused by regarding the digression and the return as a single part do not upset our sense of an essentially balanced two-part design. Clearly, many qualities contribute more substantively to our impression of musical weight in tonal music than does duration.

But what of post-tonal music, in particular a style like Stravinsky’s, that is frequently strikingly discontinuous, static, and highly recursive? Such music, according to B. M. Williams, “is closer to the truly static arts of sculpture and architecture than music which is dynamic, whose parts are constantly on the move in a kaleidoscope of change.”¹² Jonathan Kramer similarly concludes that “the proportions in Stravinsky’s music operate in a way quite

¹² B. M. Williams, “Time and the Structure of Stravinsky’s Symphony in C,” *Musical Quarterly* 59 (1973): 357-58. Cited in *The Time of Music*.

different from those in tonal music.”¹³ Edward Cone sums up this difference concisely:

Classical balance, even when apparently rigid, controlled contrasting events moving at various speeds, so that the listener’s experience usually belied the exact parallel of timespans and defeated most attempts to measure one against the other. Stravinsky’s sections—rhythmically persistent, harmonically static, melodically circular—not only invite the hearer to make the comparisons leading to just such measurement, but also reward him for doing so.¹⁴

The proportional architecture is one among many aspects of the work’s design that provides an analytical approach that can form an important part of a listener’s experience of the piece. Certainly the weight of evidence—the number and complexity of the symmetrical structures, the fact of an identical number of quarter-note values on either side of the final statement of the work’s referential sonority, the absence of any tempo variation whatever—suggests that Stravinsky has done everything in his power, as Cone would have it, to reward the effort.

¹³ *The Time of Music*: 286.

¹⁴ Cone, “The Uses of Convention,” p. 29. Cited in *The Time of Music*.

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Sonata Theory in the Undergraduate Classroom

SETH MONAHAN

Since the mid-1990s, James Hepokoski and Warren Darcy have committed themselves to changing the way we hear and think about sonata form. Dissatisfied with traditional schematic or architectural approaches to the form, these authors have long advocated a dynamic, action- and expression-oriented model of the genre—one that revives familiar nineteenth- and twentieth-century traditions of narrative/humanistic analysis (à la Marx and Tovey) while also providing a framework for rigorous analysis of musical details and processes. Their enterprise, Sonata Theory (always capitalized), has made significant inroads with professional analysts but remains mostly unknown outside of academia.

However, as Stephen Rodgers has recently pointed out, Sonata Theory takes its place alongside several recent theories of the classical style that boast the kind of transparency and aural immediacy that make them well-suited for beginning and intermediate pedagogy.¹ My purpose in this essay will be to expand on Rodgers's insight and to show what Sonata Theory has to offer students who are *not* aspiring scholars. My principal focus will be on the undergraduate classroom, especially on the theory's applicability in upper-division form and analysis classes. However, the pedagogic program I outline here can easily be adapted for use with graduate-level performers and/or education majors as well. Given the breadth of this journal's audience, I shall presume no prior experience with Sonata Theory—though I would hope that theorists who have some experience with the topic would find new pedagogical ideas and insights here as well.

¹ Stephen Rodgers, Review of Matthew Santa, *Hearing Form: Musical Analysis With and Without the Score* (New York: Routledge, 2010) (*Music Theory Online* 16/3, 2010). Rodgers also cites William Caplin's idea of "tightly-" and "loosely-knit" themes and Kofi Agawu's paradigm of "beginnings, middles, and endings" (which themselves "overlap" with Caplin's ideas about formal function); see William Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven* (Oxford: Oxford University Press, 1998) and Kofi Agawu, *Playing with Signs: A Semiotic Interpretation of Classic Music* (Princeton, NJ: Princeton University Press, 1991).

The essay falls into seven parts. The first offers two parallel perspectives on a Mozart string quartet movement—one using traditional sonata-form concepts and another using Sonata Theory—in order to demonstrate the kind of interpretive style the theory facilitates and encourages. The next three sections introduce basic terminology and concepts, while the fifth and sixth consider a host of pedagogical and curricular concerns. The final section focuses on an array of deviations from the conventional sonata plot that make for especially engaging classroom analyses. There follow three appendices: a brief overview of Hepokoski and Darcy's core text, the *Elements of Sonata Theory*; a set of repertoire lists for pieces well-suited to Sonata Theory analysis; and an aural analysis rubric.

I. A TEST CASE: MOZART'S "HUNT" QUARTET, K. 458

The grandly-conceived opening movement of Mozart's String Quartet in B $\flat$ major, K. 458 ("The Hunt") might not be ideal for *introducing* sonata form; like the other five quartets dedicated to Haydn, it is sweeping in its dimensions and ambitious in its scope. But it is less daunting than some of Beethoven's well-known curricular warhorses (e.g., the "Tempest" or "Waldstein") and certainly within the grasp of undergraduates with some experience analyzing smaller sonata designs.

What would a conventional sonata-form analysis tell students about the "Hunt" quartet?² They could easily gather that its primary theme was built as a small ternary (ABA) design with a return of the main incipit at m. 27, and that from there, Mozart segues into a transitional passage. (Their instructor might also point out while the elision of the main theme into the transition is standard fare, rounded primary themes of this sort are quite unusual.) They would likely assume that the secondary thematic area began around m. 47, marked by a change of key and the music's sudden preoccupation with a new motive—the sixteenth-note neighbor figure heard in nearly every bar between mm. 42 and 70. Though there are many cadences to choose from, it seems likely that the one at m. 77 would serve as the gateway to the closing area (though m. 88 might also serve well).

The three-stage development also brings few surprises—save perhaps that it opens with a wholly new *cantabile* theme in the

² An annotated score of the quartet's opening movement is available on this journal's website.

dominant (mm. 91–105). The second stage is more agitated and more recognizably “developmental”; a new motive enters (a clear derivative of the exposition’s sixteenth-note figure) and the music ascends the circle of fifths, from F minor to C minor to G minor (mm. 106–22), and then changes direction, cycling down the circle to E♭ major (m. 126). There the third, retransitional leg begins. Other than a brief deflection to the subdominant in m. 167, the recapitulation (like most of Mozart’s) holds closely to the expositional model. There follows at m. 230 an extended, tonic-confirming coda, focused first on the movement’s main theme and then on the two sixteenth-note motives heard earlier.

Now obviously, there is much more to say about this wonderful movement. Depending on the level and experience of our students, we could lead them through discussions of its contrapuntal ingenuity (especially in the coda!), its deployment of topics (e.g., the much-discussed opening “hunt” motif), its use of expressive chromaticism (as in mm. 71–73) or common phrase forms, or its diversity of textures. We could also use the movement (alongside countless others) as a model for eighteenth-century harmonic syntax and prolongational strategies. But none of these features, examined atomistically, have much to do with the movement *as a sonata form*. Indeed, as described above, its status as a sonata—its “sonata-ness”—is arguably one of the movement’s least interesting or distinguishing features. Labeling its sections (“first theme,” “second theme,” “development,” etc.) merely points out what this quartet has in common with countless other movements. For beginning analysts, such an exercise risks seeming perfunctory, a mere precursor to the discovery of what is singular or special about the piece.

This need not be the case, however. Let us now go through the movement again—but this time keeping in mind one of Hepokoski and Darcy’s central axioms: the idea that an eighteenth-century sonata-form exposition will be structured around two important cadential goals. The first such goal is the *medial caesura* (or “MC”), a marked rhetorical break or pause (usually at a half cadence) that closes the transition and opens the secondary thematic area. The second goal will be the perfect authentic cadence (PAC) that culminates the secondary thematic area, announcing that the exposition’s tonal goal—a secure modulation to the secondary key—has been safely reached. In Sonata Theory, this terminal PAC

is known as the moment of *essential expositional closure*, or “EEC.”³

By remaining alert to cadential processes (and by keeping in mind the ways in which these processes normally unfold), our experience of this second hearing may change substantially. To begin: the half cadence that closes the primary theme’s B-section (m. 25) will now grab our attention as a prospective medial caesura, making the return of the primary theme in the tonic seem all the more capricious.⁴ Another half cadence comes in m. 42, at what seems to be the end of the transition. This arrival, now in the dominant key, makes for a more propitious MC. Though there is no *literal* pause here, the abrupt thinning of the texture suggests a clear structural division, with the bare sixteenth-note motives passed between the instruments (mm. 42–46) serving merely to accentuate a deeper conceptual “silence” in those bars. (Such embellishments are common; Hepokoski and Darcy call them “caesura-fill.”) Indeed, the motives’ rhythmic acceleration and rising registral sweep in mm. 45–46 suggest that a major arrival is at hand—presumably, the anticipated second thematic group.

But then the unforeseeable happens: when the music restarts in m. 47, the ostensibly transitional sixteenth-note figure (henceforth “motive x”) remains obstinately lodged in the texture. Indeed, aside from the key change, nothing about the music that follows sounds very much like a proper secondary “theme” at all. The resumption of the dominant in m. 47 (rather than a clear, phrase-initiating tonic) suggests that the bass is somehow “stuck” on the half cadence articulated in m. 42; the repeated embellishment of that bass with the minor mode’s flattened submediant D♭ lends a sense of foreboding, even crisis. The sonata gives the impression of spinning its wheels, of being unable to move past the half cadence whose division of the form ought to have been a mere formality.

And then, just as abruptly, another change: the dynamics fall off (m. 51), the tension dissipates, and motive x carries us gently to an innocuous PAC in F major (m. 54). Is what *follows* the secondary

³ For an expanded discussion of the basic cadential trajectory of the eighteenth-century sonata exposition, see Section II below; see also James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata* (Oxford: Oxford University Press, 2006), Chapter Two: “Sonata Form as a Whole: Foundational Considerations.”

⁴ Recall that if the half cadence had been an MC, it would have led instead to the non-tonic secondary thematic zone.

group? Not in any straightforward sense. Composers typically reserve PACs for the *end* of secondary groups, for the moment of “EEC” described above. But the upcoming music is positively riddled with PACs (mm. 60, 66, 69, 77, 81, 85); indeed, it mostly just strings together repetitions of various two- or four-bar cadential/closing formulae. Something has gone terribly wrong—we seem to have bypassed the secondary theme altogether and proceeded directly into some kind of closing zone.

Needless to say, such an interpretation would scarcely have been possible in past decades, when traditional wisdom obliged all sonatas to have some sort of “second subject.”⁵ But I would argue that this movement is best understood as an idiosyncratic specimen of what Hepokoski and Darcy call a “continuous” exposition—that is, one in which no medial caesura *and no secondary theme* materializes.⁶ In such movements, the sonata’s transition will often simply spin forward until, having modulated at some point, it reaches a terminal PAC and closing zone in the sonata’s secondary key. Mozart’s plan here is more personalized, more deliberately eccentric: the uncontrolled proliferation of the would-be caesura-fill (motive *x*) seems to cause a short-circuit in the unfolding exposition. Rather than launching a new secondary theme, the

⁵ Many contemporary analysts refer to m. 54 as a secondary theme; see Melvin Berger *Guide to Chamber Music* (New York: Dodd, Mead, 1985), 292; Donald Ferguson, *Image and Structure in Chamber Music* (Minneapolis: University of Minnesota Press, 1964), 62; Harold Gleason and Warren Becker, *Chamber Music from Haydn to Bartók* (Bloomington: Frangipani Press, 1980), 22; and A. Hyatt King, *Mozart Chamber Music*. Guildford: Billing & Sons, 1968), 25. John Irving is more circumspect, noting the “ambiguity of thematic function” in the exposition’s second half and offering a reading with a number of parallels to my own: “Whether the motif [at m. 42ff.] can be considered a second subject is debatable....Bars 42–53 essentially prolong V/F, and are more memorable for their character of cadential closure...than for any specific secondary thematic function....[B]ar 54 sounds like a closing theme, although true ‘closure’ is withheld for some time yet” (*Mozart: The “Haydn” Quartets* [Cambridge: Cambridge University Press, 1998], 38). More pithily, Thomas F. Dunhill regards this ostensible second subject as “more a succession of glittering musical spangles than a definite theme”—though he has little to say about formal/functional ambiguity per se (*Mozart’s String Quartets*, Book II [London: Oxford University Press 1927], 6).

⁶ I return to the issue of continuous expositions in Part VII below.

movement, finding its MC suppressed, simply cuts its losses and moves to close prematurely, with the “caesura-fill” figure—and its attendant cadential progressions—still proliferating like so many brooms from *The Sorcerer’s Apprentice*. Only in m. 71 does Mozart finally (and graphically) apply the brakes, with a series of full-bar diminished seventh chords; these lead to a second closing zone, one that is finally free from the ad nauseam repetitions of motive *x*.

It is easy to hear the fallout of this staged medial caesura mishap echoing throughout the movement in fascinating ways. Above, we noted that the development started with a self-contained lyrical theme in the dominant key, contrasted to all that precedes. In light of our new insights about the exposition, this passage suddenly becomes more suggestive: might this be the “missing” secondary theme, the one that was nudged out of the exposition by the motive *x* debacle?⁷ (Example 1 re-imagines mm. 41–54 by restoring this dislocated secondary theme to its “proper” place.) No less striking is the fact that the development seems fated to play out this “debacle” a second time. At m. 106, a variant of motive *x* appears and, as if to mark that entrance with a note of foreboding, the key simultaneously collapses into the parallel minor. Predictably, motive *x* soon gains a toehold and overruns the texture, to the exclusion of all else, until the retransitional half-cadence in m. 134.⁸

Because Mozart’s recapitulation retraces the exposition almost exactly, it offers a third opportunity to hear motive *x* overtake the texture. But remarkably, the coda *also* follows suit: there, after a jubilant stretto on the sonata’s main subject (m. 240), motive *x* returns in full force to embroider repetitions of the tonic PAC in m. 257. It is only in the movement’s last bars that Mozart gives his listeners the impression of a reconciliation, with the primary theme and the motive *x* variants appearing side-by-side during two brief codettas in mm. 271 and 275. But this last-minute truce hardly offsets the striking fact that each of the movement’s four main sections begins with properly thematic material and concludes in tangles of the mischievous motive *x*.

⁷ Berger hints at a similar hearing, musing whether Mozart devised this cantabile theme “to make up for the lack of a strong subsidiary theme in the exposition” (292).

⁸ Though notice also how the motive snaps back to its original form when the major mode is reinstated in m. 126!

41

fp

"caesura fill" -----

V: HC MC

45

S

49

Example 1. Recomposition of Mozart, String Quartet in B-flat major, K. 458 (mvt. I), mm. 45–53, showing restoration of developmental “S-theme” to its “proper” position

This second reading of the quartet has attempted to make good on Hepokoski and Darcy’s vision of sonata form as an “expressive/dramatic” unfolding, one that is organized around the attainment of several “generically obligatory” cadences.⁹ Though its particular metaphorical flair is my own, its central conceit—that sonata form is a goal-driven process that can unfold either frictionlessly or with significant complications—is a direct import from Sonata Theory. The same is true of its many anthropomorphic elements. Sonata Theory explicitly encourages a volitional and psychodramatic

⁹ Hepokoski and Darcy, *Elements*, 13.

conception of musical form, inviting us at times to imagine individual sonatas or their themes as striving, sentient agents. And although one can hardly miss the proliferation of motive *x* in each of the form's sections, Sonata Theory helped us to establish a more nuanced link between those motivic processes and the formal processes at large; that is to say, it helped us to explain what the motives were *doing* there, by relating them to the staged mishap of the bungled MC. In sum, viewing the opening of the "Hunt" quartet through the lens of Sonata Theory helped attune us to the movement's deliberately Haydnesque wit, its knowing manipulation of convention, while also acting as a narrative catalyst, encouraging us to rationalize its events as stages within a dramatic musical plot.

As countless theory instructors know well, narrative/anthropomorphic analyses like this one can be a singularly effective way of engaging students. By assimilating a work's features into the framework of a coherent musical story, we give those details an expressive meaning they might lack on their own. And by encouraging students to hear pieces invested with intention and embroiled in struggle, we help them to foster a sense of identification with, and thus an investment in, the music at hand.¹⁰ As we move forward, then, two questions naturally arise. First, how can we get our students to a point where they could, with ease and gratification, follow their instructor on an analytical journey of this sort? More importantly, what kind of preparation, encouragement, and assistance do they require to come upon comparable musical plots through their own process of discovery? These are the questions the rest of this study sets out to answer.

II. WHAT IS "SONATA THEORY"?

We must first begin at the beginning, however, with the most basic of questions, since even professional music theorists can be unsure as to what Sonata Theory actually *is*. One reason is that its core text, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late Eighteenth-Century Sonata* (2006; henceforth just "*Elements*") was not so much the unveiling of a new theory as the culmination, consolidation, and enrichment of a partly familiar one. Aspects of

¹⁰ In his essay in this volume, Matthew BaileyShea makes an impassioned and articulate case for the role of narrative and agential analysis in the undergraduate classroom.

the theory, including many of its core concepts, appear in articles by Hepokoski and Darcy (alone or as co-authors) dating back to the early 1990s.¹¹ On the one hand, this piecemeal unveiling led to ambiguities between what was to be considered Sonata Theory proper and what was merely the idiosyncratic analytical style of its two highly visible author-practitioners. On the other hand, because certain key terms and aspects of their labeling system have been vernacularized for over a decade—"medial caesura," "EEC," and so forth—it is not uncommon to encounter studies that use the terminology of Sonata Theory while pursuing very different analytical ends than Hepokoski and Darcy's, further blurring the lines.

So to clarify, we must turn to the compendious *Elements* itself. There, we find Hepokoski and Darcy engaged with at least three interrelated—and decidedly ambitious—projects. At the heart of their tome is a far-reaching empirical/taxonomical study of musical style. Conceived as a kind of "research report" and grounded in the analysis of hundreds of individual movements, the text sets out in the most preliminary sense simply to understand what *happens*, rhetorically and harmonically speaking, in late eighteenth-century sonatas.¹² To this end, the authors develop an elaborate terminological apparatus—one that differentiates between five broad "types" of sonatas (each with numerous subtypes) and that provides helpful handles for many dozens (if not hundreds) of individual compositional scenarios, many of them never previously identified or codified.¹³ What is more, Hepokoski and

¹¹ See James Hepokoski and Warren Darcy, "The Medial Caesura and its Role in the Eighteenth-Century Sonata Exposition," *Music Theory Spectrum* 19/2 (1997): 115–154; James Hepokoski, *Sibelius: Symphony No. 5* (Cambridge: Cambridge University Press, 1993), "Masculine/Feminine," *The Musical Times* 135 (1994): 494–99; "Beethoven Reception: The Symphonic Tradition," in *The Cambridge History of Nineteenth-Century Music*, ed. Jim Samson (Cambridge: Cambridge University Press, 2001); "Back and Forth from Egmont: Beethoven, Mozart, and the Nonresolving Recapitulation," *19th-Century Music* 25/2/3 (2001–2): 127–154; "Beyond the Sonata Principle," *Journal of the American Musicological Society* 55/1 (2002): 91–154; and Warren Darcy, "Bruckner's Sonata Deformations," in *Bruckner Studies*, ed. Timothy L. Jackson and Paul Hackshaw (London: Cambridge: Cambridge University Press, 1997).

¹² Hepokoski and Darcy, *Elements*, v.

¹³ Randomly, one might cite such situations as the "dissolving P-codetta"-style transition (Hepokoski and Darcy, *Elements*, 102), the

Darcy are careful to situate many of these compositional options within informal hierarchies of ranked “defaults,” underscoring which procedures would have been so common in a particular historical moment as to be nearly “reflexive” (concluding the exposition with a perfect authentic cadence, for instance), which would have occurred less frequently, and which would have been “deformational” or decisively non-normative.¹⁴ Over time, they show, lower-level defaults and deformations often became standard options within the style, clearing the way for new sorts of expressive deviations and manipulations.¹⁵

On these grounds, the authors’ “research report” begins to shade into a broader theory of composition and style change. And indeed, the *Elements* concerns itself extensively with these and a host of other aesthetic and philosophical issues, including genre theory, phenomenology, and listener-response theory. As Hepokoski and Darcy write, “what at first may seem to be a work of music theory turns out in the end to be a set of reflections on what sonata form is and how it can be understood to mean anything at all.”¹⁶ The most concentrated expression of this, the book’s second broad agenda, is the formidable “Appendix One,” a rigorous exploration of these two key questions: what sonata form “is” (ontologically, socio-culturally, aesthetically) and how it can or should be understood to carry different kinds of meanings.

Third and most obviously, Sonata Theory is an analytical tool, a “medial caesura declined” (45), the “failed exposition” (177), the “coda rhetoric interpolation” (288), or the “recapitulation that appears to begin after P1.1” (256). Many of these rhetorical scenarios also break down into subtypes.

¹⁴ Hepokoski and Darcy, *Elements*, 10. Paul Wingfield has questioned the representivity of Hepokoski and Darcy’s core repertoire, believing Mozart to be overrepresented at the expense of other significant composers like Clementi (“Beyond ‘Norms and Deformations’: Toward a Theory of Sonata Form as Reception History,” *Music Analysis* 27/1 [2008]: 137–77, 141); William Drabkin voices a similar concern (“Mostly Mozart,” *The Musical Times* 148 [Winter 2007]: 89–101).

¹⁵ The use of the submediant for the secondary group in minor-key sonatas is a familiar example. Rare before 1800, this low-level default appears in a number of canonical early-Romantic works (including Beethoven’s Ninth and Schubert’s Eighth) and eventually became a standard, even preferred, option for later nineteenth-century composers.

¹⁶ Hepokoski and Darcy, *Elements*, vii.

system of categories and labels and concepts, many of which can be applied with algorithmic precision. But even in this regard Sonata Theory is unusual, since Hepokoski and Darcy maintain that their approach is more than a merely “mechanistic ‘system’ of labeling.” It is also, as they see it, an analytical “style,” a particular type of hermeneutic or interpretive “practice.”¹⁷ Clearly, such a claim opens the authors to charges of overreaching, since it is doubtful whether it really falls to Hepokoski and Darcy to prescribe the “style” of analysis (read: *their* style) that subsequent practitioners of Sonata Theory should assume. But for me this concern is beside the point, because my classroom successes with Sonata Theory owe a great deal to precisely the analytical style the authors advocate—one that is intensely narrative and teleological, concerned not just with musical process but with the long-range and moment-by-moment expressive ramifications of those processes.¹⁸ This, I believe, is the theory’s greatest asset: its capacity for sensitizing us to the drama that inheres in sonata forms and especially in those works in which the execution of sonata form itself seems to be a central dramatic or compositional “issue.” Our next step, then, is to investigate this teleological, cadence-oriented conception of the sonata genre in detail.

¹⁷ Hepokoski and Darcy, *Elements*, 59, 609.

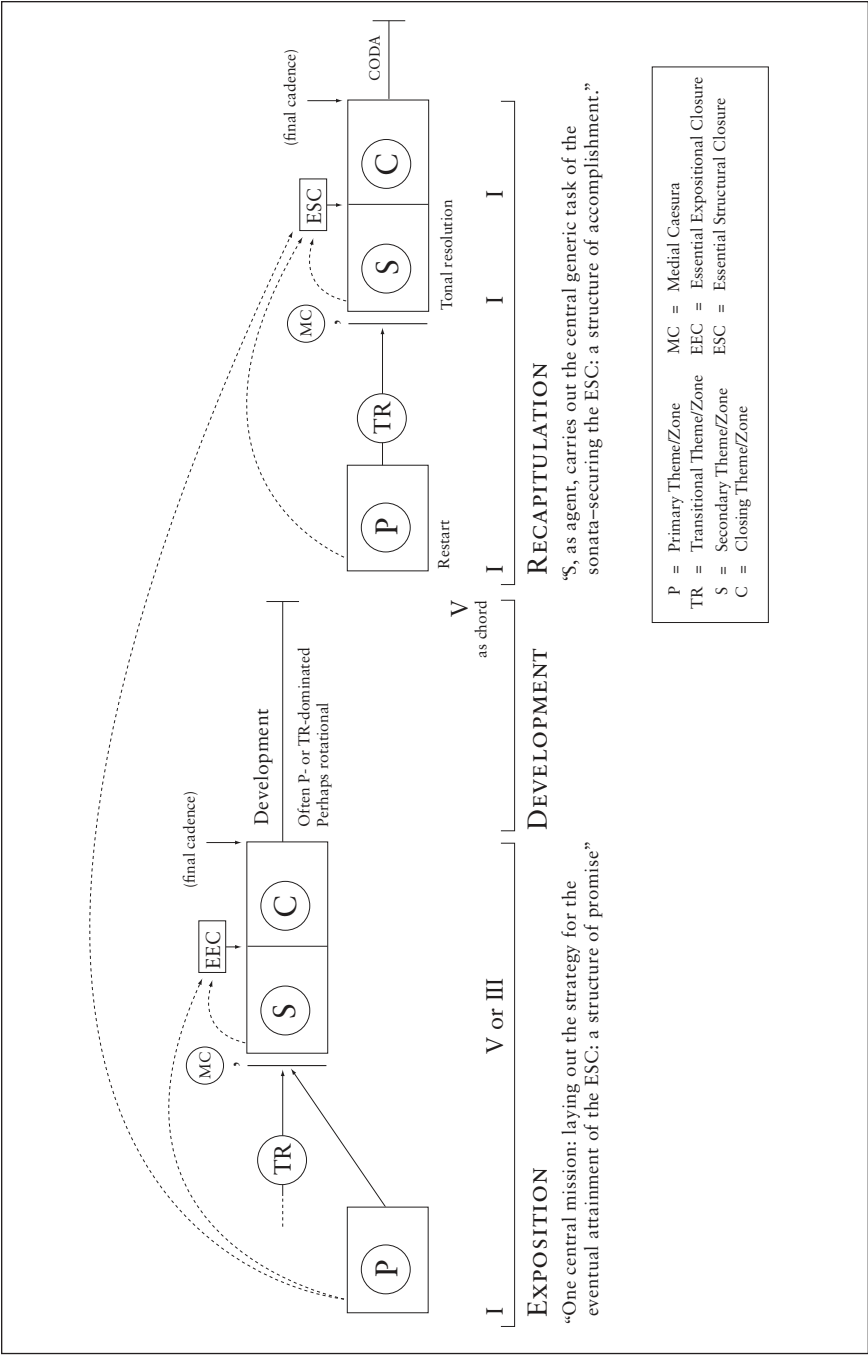
¹⁸ As the authors write, “the language and concerns of Sonata Theory lead to larger interpretive situations in which technical analysis and an artfully nuanced hermeneutics become different aspects of the same process. We encourage an intellectually and analytically responsible boldness in this regard, an interpretive flair that startles pieces awake as historical and cultural statements” (Hepokoski and Darcy, *Elements*, 253).

III. THE BASIC EXPOSITIONAL TELEOLOGY

Example 2 provides an overview of what Hepokoski and Darcy call the “essential trajectory” of the standard late eighteenth-century (“Type 3”) sonata.¹⁹ As the boxed legend indicates, the circled letters are mostly abbreviations standing for thematic “zones” or “action spaces.” (These same letters can also, less strictly, refer to the themes found within those spaces.) The expositional drama begins with a primary theme or themes (P), which proceed, typically through a transitional zone (TR), to that decisive (half-) cadential pause, the “medial caesura” (MC).²⁰ At this point the secondary thematic zone (S) opens, its themes tasked with proposing the new tonic key and then securing it with a decisive perfect authentic cadence. This cadence, the EEC, serves as the long-range goal of the entire exposition. (The closing zone [C] that follows tends merely to confirm this tonic arrival.)

¹⁹ The “Type 3” is congruent with what we typically call the “textbook” sonata—i.e., one that features an exposition, a development, and a recapitulation. Sonata Theory recognizes five “types” in all, four of which were already known to analysis. Types 1, 4, and 5 are, respectively, the sonata “without development,” the sonata rondo, and the concerto sonata. The Type 2, previously unrecognized (and rare after the mid-eighteenth century), features a normal exposition, a development that usually treats the primary theme and transition, and a “tonal resolution” that treats only the secondary and closing groups. See Hepokoski and Darcy, *Elements*, Chs. 16–19.

²⁰ Half-cadences in the primary or secondary key are common; perfect authentic cadences (PACs) in either of those two keys are less typical but still feasible options. It is worth noting that the prevalence of *tonic-key* medial caesuras gives the lie to the ubiquitous maxim that a sonata transition’s purpose is to modulate to (or “toward”) the secondary key; see for instance Cedric Thorpe Davie, *Musical Structure and Design* (New York: Dover Publications, Inc., 1966), 69; Douglass Green, *Form in Tonal Music: An Introduction to Analysis*, 2nd ed. (New York: Holt, Rinehart and Winston, 1979), 184; and Ellis Kohs, *Musical Form: Studies in Analysis and Synthesis* (Boston: Houghton Mifflin Company, 1976), 264. So pervasive is this truism that analysts sometimes speak of a transition as modulating “to the dominant key,” when in fact that music remains squarely within the tonic; see for instance Charles W. Walton’s analysis of the first movement of Beethoven’s Piano Sonata, op. 49 no. 2 (*Basic Forms in Music* [New York: Alfred Publishing Co., Inc., 1974], 168).



Example 2. The essential sonata trajectory to the ESC (adapted from Hepokoski and Darcy 2006, Figure 2.1b)

On the face of it, one might find little that is new here beyond a few of the labels. But the emphasis on musical process can make for a very different analytical and pedagogical experience. Obviously, at the very earliest stages, students will need simply to memorize the components of this “generic layout” just as they would the traditional schema (which they may or may not already know). But the next step, pedagogically speaking, is to focus on how that “layout” is actualized in real time—in other words, to shift from an architectural conception to a rhetorical one.

When it comes to cultivating a sense of sonata-as-process, we do well to follow Hepokoski and Darcy by focusing first on the attainment of the medial caesura (MC), the sonic cue that announces that the S-theme or themes are about to make their entrance. As these authors point out, medial caesuras are not only themselves aurally arresting moments; they are also typically prepared by one or more of the following rhetorical signals, in order: 1) a “lock” onto the structural dominant, often via a ($\hat{4} \rightarrow \sharp\hat{4} \rightarrow 5$ or $\flat\hat{6} \rightarrow \hat{5}$) bass motion²¹; 2) a prolongation of the half-cadential dominant, usually accompanied by an accumulation of energy (crescendos, increased figuration, and so on), which culminates in 3) a series of “hammer blows”—emphatic reiterations of the cadential chord.

The opening movement of Mozart’s Piano Sonata in A minor, K. 310 provides an excellent opportunity to hear these processes in action.²² The transition (TR) begins in m. 9 with an embellished re-launch of the sentential primary theme (P).²³ But it soon swerves toward the submediant F, preparing the imminent modulation to C; in m. 15, we hear the characteristic “dominant lock” ($\hat{4} \rightarrow \sharp\hat{4} \rightarrow \hat{5}$) bass motion in that key. As is typical, the moment of the dominant’s arrival is marked by an increase in figuration and a spike in dynamics; together, these effect the anticipated “energy gain.” And after six bars, the dominant prolongation arrives at the MC (m. 22),

²¹ Hepokoski and Darcy refer to the entire pre-MC dominant prolongation as the dominant “lock.” I tend to reserve the term for the gesture by which the prolonged dominant is attained; for me, this stays more faithful to the root metaphor as I understand it (i.e. one in which a transitional passage “locks onto” its desired cadential dominant just as an automated weapons system “locks onto” its desired target).

²² An annotated score of this movement is available on this journal’s website.

²³ Hepokoski and Darcy would call this a “dissolving consequent” transition; see their helpful taxonomy of TR-types (*Elements*, 93–112).

a half cadence in III punctuated with three quarter-note “hammer blows,” bringing the first half of the exposition to a close. From there, the S-theme commences in the relative major.

The exposition’s second crucial cadential juncture—the moment of EEC—is no less productive for guided listening. As Hepokoski and Darcy define it, the EEC is the first “satisfactory” perfect authentic cadence (PAC) in the sonata’s new key that moves on to new material—the premise being that by securing this new key unambiguously, the EEC declares that the most crucial “work” of the exposition is now done; what follows will by definition assume a closing function. However, to identify the moment of expositional closure requires close attention to the unfolding events within S-space, because a cadence that might seem at first to be the EEC can turn out to be otherwise. If themes from the S-zone return after a PAC (suggesting that their work is not in fact done), or if the newly attained key is somehow “lost” or destabilized, the prospective EEC is said to be “deferred” to some later point.²⁴ Deferrals can also occur if an attempted PAC falls short of being structurally “satisfactory,” as when a voice drops out or when the cadence is otherwise malformed.

Returning now to Mozart’s K. 310 sonata, we find several unambiguous instances of EEC deferral. Toward the end of its coquettish C-major S-theme, we arrive at a clear cadential progression, replete with a trill on scale degree $\hat{2}$ (mm. 33–34). But at the moment of the expected tonic, the right-hand voice drops out for a single sixteenth note, resulting in what Hepokoski and Darcy call an “attenuated” cadence and thus deferring the EEC forward to the next cadential attempt. But there, at m. 40, we find a deferral on two accounts: not only does a voice drop out, but the $\hat{7}-\hat{5}-\hat{1}$ motive first heard in mm. 35–37 returns (mm. 40–41), suggesting that S is still underway. (Recall that for an EEC, we need to move on to “new material.”) Thus it is only in m. 45, when the outer voices converge on an octave C-natural, that we encounter the EEC, making mm. 46–49 a very brief closing (C) zone, one that refers (as is often the case) back to the primary theme.

Mozart’s strategy in the A-minor sonata is a fairly common

²⁴ Hepokoski and Darcy point to the opening movement of Beethoven’s First Symphony as an example of both phenomena. There, what appears briefly to be a solid V: PAC EEC (m. 77) is rendered null by a sudden drop into the *minor* dominant and the resumption of the S-theme’s principal motive in the murky bass register (*Elements*, 125–28).

one: its chain of playful deferrals serves simply to extend and add interest to the exposition's cadential processes. By sensitizing students to this technique, to a composer's strategic thwarting of expectations, we can help them to understand musical closure as a rhetorical/dramatic *process* rather than just an attribute of some single Euclidian point in the musical timeline (i.e., "closure occurs at the PAC in m. 80"). However, EEC deferrals vary widely in character, and not all of them are so benign or "playful." In Section VII below, we will examine EEC deferrals of a more dramatic sort, ones having the character of a disruption or malfunction of the ongoing sonata process.

IV. DEVELOPMENTS AND RECAPITULATIONS

Not surprisingly, Sonata Theory makes comparably fewer predictions about how the typical eighteenth-century development section will play out; the degree of variance among individual works makes it all but impossible to map out a series of generic expectations or rhetorical norms. However, one is hardly obliged to fall back on the old unhelpful dictum that "anything can happen." Hepokoski and Darcy propose a four-stage rhetorical template that applies to many (though by no means all) eighteenth-century developments: 1) an optional "linking" passage; 2) an anticipatory "entry or preparation zone," often at a hushed dynamic; 3) a "central action" (or set of actions); and 4) the "exit" or "retransition."²⁵ They also insist on the primacy of so-called "rotational" procedures—the tendency for developments to cycle through the exposition's materials in their original order, though not necessarily comprehensively. (Thus we might expect a development to begin with some or all of the primary-thematic materials and then to move on to elements of the transition, and so on—though it is rare for the full selection of expositional materials to appear.²⁶)

²⁵ Though the authors might protest (see Hepokoski and Darcy, *Elements*, 229–30), the resemblance of this model (excepting its optional "link") to William Caplin's tripartite "pre-core / core / retransition" scheme is clear (*Classical Form*, 139–59).

²⁶ Although the rotational principle is central to Hepokoski and Darcy's concept of the genre, I tend to present it as a heuristic rather than as an axiom or presumed norm. To be sure, it can be very effective for uncovering the logic behind certain development sections—as, for instance, with the opening movement of Beethoven's First Symphony,

Once again, Mozart's A-minor sonata offers a clear illustration, as its development divides into three episodes whose thematic content is unambiguously rotational. The first episode (the *piano* "entry zone," mm. 50–57), reinstates the primary theme (P). The second episode (the *fortissimo* "central action" zone, mm. 58–69), unfolds a series of minor-key dominant pedal points using the fanfare motive from TR (cf. mm. 16, 18). And the final episode revives a weak-beat trill figure first heard toward the end of S (cf. mm. 42–43), locking onto a retransitional dominant in m. 74.

This schematic breakdown is only the first step, however. For Hepokoski and Darcy, it is equally crucial to fold the development's events into an overarching narrative design drawing on as many parameters (thematic, harmonic, textural, topical) as possible. As I teach it, the K. 310 development is implacably tragic: episode one depicts the corrosion of the secondary theme's sunny C major into the agitated dominant of F minor (m. 53), which Mozart reinterprets, under a furious cascade of sixteenth-notes, as the German augmented sixth of E minor (m. 57). The TR-based episode two brings to fruition a seed planted in the exposition: the modulation of the original transition to C *minor* rather than C major (mm. 16–22). But where the exposition's TR was able to lift the music through the medial caesura into the major-mode S-theme, here the TR music merely drifts from key to key (Em—Am—Dm), finding no cadential release and no escape from the oppressive minor mode. The retransitional episode merely ramps up this falling fifth sequence, eventually tracing a precipitous stepwise bass descent from D (m. 70) down a seventh to the dominant E (m. 74), where we prepare to loop back around to the primary theme again.

As might be imagined (and as Example 2 makes clear), the eighteenth-century recapitulation will tend to reinstate the same basic thematic/cadential trajectories as the exposition, albeit with adjustments to ensure that the secondary thematic group is in the home key, where it drives to the "ESC," or moment of *essential structural closure*, the tonic-key correlate of the EEC. For Hepokoski

where the composer builds entire episodes from motives selected, in order, from the pre-MC zones: episode 1 (m. 114ff.) draws from the first motive of P (mm. 13–14); episode 2 (m. 125ff.) sequences the second motive of P (m. 16); and episode 3 (m. 138ff.) uses the culminating motive of TR (m. 58). But there are other pieces that expressly defy any putative rotational ordering, like the virtually counter-rotational development of the first movement of Mozart's Piano Sonata in D, K. 311.

and Darcy, the ESC is a moment of singular import, the crowning moment (or “telos”) of the entire sonata process. This is a point that I must underscore often for my students, because in practice we spend the least time on recapitulations, and for fairly obvious reasons: unless there is significant recomposition, the thematic/cadential processes will be identical or similar to those we have already studied in the exposition. That being said, situations where the recomposition is indeed “significant” offer opportunities for rewarding study—both in terms of comparison (identifying which portions of the exposition have been preserved or altered) and of creative justification (speculating *why* the composer deemed such changes necessary). In the case of Mozart’s K. 310 recapitulation, I invite students to articulate how Mozart’s alterations (mm. 86–96 and 118–128) might serve to intensify the turbulent and troubled character of his all-minor-mode reprise.

It will come as no surprise that I have built this initial demonstration around Mozart’s A-minor sonata because I have found it to be very effective in the classroom. However, it is only one of many pieces that my students will encounter in their early study. In the next section, I will go into some detail about my broader pedagogical strategies, explaining how I structure our time and analytical focus during the weeks we spend engaging Sonata Theory.

V. PEDAGOGICAL CONSIDERATIONS (I): STRUCTURING THE SONATA THEORY UNIT

Before moving on to curricular specifics, a few words are in order on two preliminary issues: the positioning/duration of Sonata Theory in the curriculum and the baseline skills required of students. Regarding the first: my feeling is that an effective engagement with the theory requires a significant period of concentrated study—ideally, between four and six weeks of course time. I have learned that if one has time to deal with sonata form only glancingly (as in a history survey or a basic harmony course), a Sonata Theory-based approach offers few terminological or conceptual advantages over the standard “textbook” model. Therefore, my comments here will presume that instructors have enough curricular latitude for students not only to master the requisite terminology (which can be done in a few classes), but also to engage a breadth of repertoire and develop a deeper feel for the style of listening and analysis that

Sonata Theory encourages.

As for the skills a student needs to embark on such a unit: these are scarcely more than what would be needed to navigate sonata forms in any pedagogic context. A working grasp of tonal harmony is essential, though students need not have fully mastered more advanced chromatic topics. They will, however, need to be able to observe and track cadential processes as they happen, through bass-line cues and more general phrase rhetoric. They must also be able to determine the key of a passage without undue effort. (Although these skills will improve during the unit, students particularly challenged in these areas will quickly fall behind.)

The question of repertoire looms large, and requires considerable thought. As a rule, my aim is to expose students to as many pieces as possible in the time we have. If our purpose is to study sonata form as a cultural practice, then it is essential that students hear a broad sampling of representative works in a range of compositional styles, from galant keyboard trifles to symphonic tours de force. Needless to say, this strategy entails certain tradeoffs in terms of analytical depth; not every movement we examine can be dissected in terms of its every chord or contrapuntal nuance.

Indeed, not every movement will even be engaged from start to finish. Speaking broadly, my approach has two types of analytical encounters in store for students. When introducing a new concept or device (the medial caesura, for instance), I will look closely at an initial example and then lead students through a half-dozen or more excerpts chosen to reinforce that device's essential features while also highlighting the variety of its possible realizations.²⁷ (With larger, form-generating rhetorical strategies such as those discussed in Section VII below, we will often listen to a series of complete expositions.) However, this initial exposure period will then give way to the in-depth study of one or more complete movements. And while we will invariably discuss localized details—aspects of tonal syntax, phrase design, and so forth—the central focus in such exercises is always the movement's overall narrative arc. (So it is vital to choose movements that lend themselves to such an analysis, like Mozart's A-minor sonata.) If a class meets three times weekly,

²⁷ The use of audio editing software to pre-trim excerpts to the desired length is essential; cuing mp3s or CDs manually while students wait is distracting and consumes valuable class time. I recommend the free and user-friendly application Audacity for extracting excerpts and adding fade-ins and -outs.

we might only do one full-piece analysis per week—perhaps two if we use a wide zoom and focus mostly on large formal processes rather than details. But these are the moments of synthesis and culmination toward which the entire unit drives.

What is expected of students during these weeks? For most class sessions, I will have them study at least one piece (or a portion of a piece) in advance, with leading questions that serve as a springboard for discussion. The best results, in my experience, come from mixing fact-gathering questions—those with objectively right or wrong answers—with more open-ended hermeneutic queries. As the unit progresses, questions of the latter sort become more frequent, since students will have had an opportunity to see me model the kind of creative rationalization that allows one to develop a persuasive narrative interpretation. Thus, in the first or second week of the unit (after reading several excerpts from *Elements of Sonata Theory* and looking at upwards of a dozen expositions), students would grapple with the following set of questions to prepare for our first complete work, the opening of Mozart's A-minor sonata:

1. Where does the exposition's medial caesura fall? Is it prepared by any or all of the standard rhetorical signals (dominant "lock," prolonged V, energy gain, etc.)?
2. Are there cadences prior to the MC? If so, do they conclude any recognizable phrase forms (periods, sentences)?
3. Given what we know about the usual tonal goal for a minor-mode exposition, what might surprise us about the key of the transition in m. 16ff.?
4. Where does the EEC fall? Is it preceded by any "deferrals"?
5. How does Mozart modulate from the development's first episode (m. 50) to its second episode (m. 58)? What exposition theme(s) is episode two based on?
6. Does Mozart's recapitulation make any significant changes to the exposition's thematic/textural design? If so, do these changes affect the overall character of the reprise?

Compare these to the more challenging sorts of questions that students would get for the “*Hunt*” quartet in the fifth or sixth week of the unit:

1. Mozart’s strategy in this “continuous exposition” is different from what we saw in Haydn’s “*Joke*” Quartet, op. 33 no. 2, in that there *is* a single, clear medial caesura attempt, in bar 42. Be prepared to explain why it is that throughout all the music that follows we might not really imagine ever to have found an S-theme. Related here is the question of why, despite numerous V: PACs, we might say that we don’t get the “real” EEC until m. 77.
2. The development begins with a poised, self-contained, and “non-developmental” theme in F major. How might we hear this cantabile theme as a direct response to the unusual exposition just heard (at least as I’ve encouraged you to hear it)?
3. Two striking things happen in bar 106: one harmonic, one motivic. What are they, and how do you suppose, in the overall narrative of the work, might we imagine them to be related?
4. The exposition and development share a key feature: that they eventually become dominated by a single, excessively repeated motivic unit. (If you’ve been paying attention, you’ll know what it is!) The recapitulation is largely verbatim, so we see much the same there. How about the coda? How does it play into this movement-spanning narrative?

Questions like those above (in both lists) are similar to those that I use to motivate our discussion of pieces or excerpts introduced in class, without advance listening.

Throughout the unit, exercises in aural analysis offer a vital complement to score study and guided listening.²⁸ For these activities, I provide students with multiple-choice rubrics that

²⁸ For a more fully developed and illuminating perspective on aural sonata-form analysis, see Brian Alegant, “Listen Up!: Thoughts on iPods, Sonata Form, and Analysis without Score,” this journal 22 (2008), 149–76.

address key features of a given exposition; these rubrics get longer and offer more options as the unit progresses. In the second week, I might play a short exposition and ask students to determine after five listenings: (a) whether the transition was “independent” or an extension of the P-theme materials; (b) which, if any, of the standard features of MC-setup are present; and (c) what cadence-type serves as the MC (PAC or HC in the tonic or dominant).²⁹ A month later, the rubric will be much more complex and the repertoire slightly more involved; Appendix C shows the last and most complex rubric I used in the spring of 2011 with a group of honors freshmen theory students at the Eastman School of Music.³⁰ By posting mp3s, blank rubrics, and answer keys online, I also offer students the option for additional practice.

Through this coordination of aural and score-based analysis, students develop several key skills over the course of the unit, all of them hinted at above.³¹ Most obviously, they will become familiar with the basic rhetorical characteristics of eighteenth-century sonata forms. More broadly, they will develop a heightened sensitivity to

²⁹ When playing music on my laptop, I have found it helpful to use a digital projector to show the iTunes window as the excerpt plays, since this allows students to jot down the time of important events.

³⁰ Our final exam featured two aural sonata-form analyses: the expositions of the opening movements of Mozart’s Violin Sonata in A, K. 305 and Beethoven’s Piano Sonata in E, op. 14 no. 1. By the end of the unit, in-class and take-home exposition analyses were rather more challenging; pieces analyzed included the opening movements of Haydn’s Piano Sonata in C, Hob. XVI:35; Haydn’s Symphony no. 95 in C minor; Clementi’s Piano Sonata in C, op. 36 no. 3; and Mozart’s Symphony no. 21 in A, K. 134.

³¹ Though I have yet to fold compositional exercises into my Sonata Theory units, it is easy to imagine how creative activities would enrich the overall pedagogical experience—especially when students are capable enough to do substantial compositional work in a fairly short time (i.e. days rather than weeks). One could, for instance, give students the recapitulation of a simple keyboard sonata and ask them to rewrite the all-tonic transition so that it modulates to the dominant or relative major, effectively turning a reprise into an exposition. Or one could provide students with sectional templates in various stages of incompleteness (the harmonic/rhythmic skeleton of a TR without specific melodic content, an S-theme’s left-hand part without a right hand, and so on) to be fleshed out in a stylistically appropriate way, perhaps using a specified work as a model.

common-practice cadential processes and the rhetorical functions associated therewith.³² Another related (and highly transferable) skill is the ability to extract meaningful and musically relevant analytical data from a piece without taking ownership of every note or chord. In a perfect world, our sophomores would be able to accurately assess a work's harmonic design in a single pass, through a combination of strategic listening and bass-line study. But in reality, only the most experienced and committed students reach that level. For most, harmonic analysis remains laborious and time-consuming; this can lead to the mistaken impression that "analysis" itself is necessarily slow-going and unrewarding.³³

I have found that one can unseat such assumptions by shifting students' attention from syntactic analysis to rhetorical analysis—that is, by "zooming out" to a level where the privileged units are no longer individual chords or local prolongational idioms, but rather rhetorical structures of phrase-length or longer. In itself, this is hardly a novel strategy. Most of us have shown students how to make meaningful observations about small forms without taking inventory of every chord—as when we have them focus on phrase endings to classify a given period-form as interrupted, continuous, sectional, or progressive.³⁴ Students learn a similar type of strategic

³² Though students are often intuitively able to distinguish between "initiating," "continuational," or "closural" functions in the classical style, I make a point early on to ground those intuitions in analytical observables such as harmonic rhythm, phrase design/length, motivic activity, and so on. Tripartite classifications of formal functions—familiar from LaRue, Hatten, and others—are most extensively developed by Caplin; see Jan LaRue, *Guidelines for Style Analysis* (New York: W. W. Norton, 1970); Robert Hatten, *Musical Meaning in Beethoven: Markedness, Correlation, and Interpretation* (Bloomington: Indiana University Press, 2004); and William Caplin, *Classical Form* and "What are Formal Functions?" in *Musical Form, Forms, and Formenlehre: Three Methodological Reflections*, ed. Pieter Bergé (Leuven: Leuven University Press, 2009).

³³ Such a misconception often stems from what BaileyShea calls "analytical myopia"—an attention to local details (especially chord identification) so consuming that it overshadows a consideration of a work's expressive features. As theory instructors, he warns, we often "run the risk of missing the forest through the trees" ("Teaching Agency and Narrative Analysis," from BaileyShea p. 28, this issue).

³⁴ This typology of period types is from Laitz (which in turn borrows "interrupted" and "progressive" from Green); see Steven G. Laitz, *The Complete Musician*, 3rd ed. (Oxford: Oxford University Press, 2011) and

hearing on a larger canvas when studying Sonata Theory, by observing broad thematic and rhetorical features while targeting specific (especially cadential) moments for harmonic analysis.³⁵ Whether it be a whole piece or just a complete exposition, this “larger canvas” offers more fruitful opportunities for the kind of emergent narrative understanding—the assimilation of music’s salient features into a teleological utterance rich with human meaning—that is the ultimate goal of my Sonata Theory pedagogy.

Of course, before students can create responsible analytical narratives on their own, they first need to (a) master the prerequisite terminological/conceptual apparatus, (b) cultivate the kind of strategic listening that draws sustained interest out of music’s cadential processes, and (c) acquire, through imitation of their instructor’s example, a fluency with the kind of specialized narrative grammar that convincingly maps animistic or agential conceits onto “purely musical” processes. This is a tall order for a six-week unit, to be sure. But one can make significant strides in that time. Even if students are not fully independent at the unit’s end, they will hopefully have made an important discovery: that in its higher forms, music analysis is anything but a mechanical routine; it is a creative enterprise, one that brings pieces to life in our imagination—not unlike performance itself.

Green, 62.

³⁵ Because students do often take “analysis” to mean the same thing as “chord-by-chord analysis,” it is usually necessary to spell out what is meant by this kind of strategic listening, lest they become intimidated (indeed, even panicked) by the prospect of engaging an entire four- to six-page movement for a single homework assignment. This is why it is essential not only to provide leading questions, but also to make those questions fairly consistent from assignment to assignment, thus giving students a framework to help them to structure their listening and analytical habits.

VI. PEDAGOGICAL CONSIDERATIONS (II): CHOOSING REPERTOIRE / NORMS VERSUS DEVIATIONS

As this point, one vital curricular issue remains to be addressed. Having argued emphatically that students should be exposed to “as many pieces as possible,” I have neglected to specify *which* pieces. Before offering any specific suggestions, I should like to first lay out my general thinking on the matter.

One of the most admirable features of Hepokoski and Darcy’s project is its effort to rehabilitate the dramatic viability of even the most unassuming sonata form. We have all encountered twentieth-century critics who regarded sonata recapitulations as dramatically inert, owing to their redundancies with the exposition. Sonata Theory seeks to overturn that bias by inviting us (and our students) to hear *both* exposition and recapitulation alike as “expressive trajectories” toward key cadential junctures.³⁶ That being said, I have found that once students have mastered the theory’s basic precepts, pieces that unfold entirely by the book make for less engaging and exciting lessons than those that stage complications within those basic trajectories.

Thankfully, though, students are usually prepared to shift their focus from norms to exceptions after only a few lessons, since discussions of the latter will always entail continued review of the former. (To recognize and celebrate the atypical, one must know what is “typical.”) This principle—moving fairly swiftly from the paradigmatic to the unusual—underwrites my selection of all our classroom pieces, from excerpts to entire movements. Consider, for instance, the issue of normativity in the teaching of the medial caesura principle. After a class or two studying MCs that unambiguously offer the usual series of ordered rhetorical cues (see above), students are usually able to grapple with subtler situations, such as that shown in Example 3, the MC-setup of Beethoven’s “easy” Piano Sonata in G minor, op. 49 no. 1. Here, in keeping with the compact and unassuming nature of the work at large, Beethoven telescopes a number of the pre-MC markers while overriding others entirely. Though there is no prolongation of the

³⁶ This emphasis on the tonal drama of sonata forms echoes aspects of Charles Rosen’s well-known writings and reflects the wider shift toward a harmonic (rather than thematic) conception of late-eighteenth-century form that followed Leonard Ratner’s *Classic Music: Expression Form and Style* (New York: Schirmer Books, 1980).

9 (TR) (dissolving consequent phrase of opening period)

mf *fp*

15 *p* (dolce)

grace notes mark
"tripartite arrival gesture"
(hammer blow surrogates)

4 #4 5

Example 3. Beethoven, "Easy" Piano Sonata in G Minor, op. 49/1 (mvt. I), mm. 10–18, showing truncated MC preparation

dominant harmony (V / III) or increase in energy, the dominant itself is preceded by the characteristic $\hat{4} \rightarrow \# \hat{4} \rightarrow \hat{5}$ "dominant lock" gesture. And although hammer-blows seem to be absent, students will be intrigued to learn that they are not so much omitted as cleverly hidden; with an additional listening or two, many will intuit that the grace-note figures on each quarter note result in a three-part "arrival gesture" that is rhetorically quite similar to the standard hammer-blow figure. That is to say, the three hammer blows have been "absorbed" into the dominant lock figure itself.

From there, one can introduce even more sophisticated manipulations of the expected aural cues, like those in Beethoven's Piano Sonata in F Minor, op. 2 no. 1, shown in Example 4. Here, too, we encounter an emphatic "lock" onto the dominant of the second key—indeed, the $\hat{4} \rightarrow \# \hat{4} \rightarrow \hat{5}$ motion occurs three times. But when the dominant pedal (m. 20ff.) never yields to a fully-articulated MC pause, we face a conundrum: is there an S-theme here? On further discussion, many students will agree that we are meant to realize (but only in hindsight!) that the music over the pedal *was* the S-theme, and that the installation of the dominant in m. 20 was nothing less than the medial caesura itself, making the sustained

scale degree $\hat{5}$ a kind of bass-voice caesura-fill disguised as a pedal point. With these ambiguities sorted out, they are then ready to recognize that the thrice-iterated $\hat{4} \rightarrow \sharp\hat{4} \rightarrow \hat{5}$ bass motions (mm. 15–19) were themselves hammer blow surrogates, forming a “three-part arrival gesture” similar to the one in Example 3.³⁷

11 (TR) (*already in progress...*)

15 Thrice-reiterated “dominant lock” gesture (*surrogate hammer blows*)

20 Actual medial caesura (S) (*initially perceived as part of pre-MC dominant prolongation*)

Example 4. Beethoven, Piano Sonata in F Minor, op. 2/1 (mvt. I), mm. 11–23, showing extension of MC dominant pedal into S-space

³⁷ These “three-part arrival gestures” are quite common in lieu of proper “hammer blows” and just as easy to hear.

In my view, more involved examples like these are anything but optional additions to a curriculum mainly focused on the ordinary; they are essential complements to the paradigmatic cases, chosen specifically to illustrate that stylistic norms are not hard-and-fast “rules” and that a composer’s dialogue with those norms is flexible, non-binding, and often a matter of considerable ingenuity—more game-like than recipe-like.³⁸

Along similar lines, I believe it is important to include excerpts that invite students to pit their own musical intuitions *against* the theory at hand. With Sonata Theory, such situations arise most often during the placement of the EEC/ESC. While Hepokoski and Darcy’s guidelines (the first “satisfactory” PAC within S-space that moves on to new material) often yield satisfying results, there are quite a few works in which the ostensible EEC moment will strike many students as less than convincing—typically when the closing zone contains themes that do not sound sufficiently “closing” in character (i.e., tightly-knit forms like sentences and periods).³⁹ Such

³⁸ Indeed, to shield students from the atypical or unusual cases is arguably to disadvantage them in at least two respects. First, if students never learn the crucial distinction between “norms” and “rules”—if they are allowed to conceive of musical forms merely as prescriptive *formulas*—then they are more likely to use deviant or non-conforming works (when they do encounter them) as grounds to dismiss our teachings as overly narrow or even irrelevant. Second, students exposed only to paradigmatic cases are denied the gratification of seeing for themselves the breadth of creative responses to a genre’s constraining/regulating influence at a given historical moment.

³⁹ These include, for instance, the opening movements of Mozart’s Serenade in G, K. 525 (“Eine kleine Nachtmusik”) (the strict EEC is m. 35; students prefer m. 51) and Piano Sonata in B $\flat$ major, K. 333 (strict EEC in m. 38; students prefer m. 50 or 59). Hepokoski and Darcy allude to the issues I raise here and concede that the first PAC—the technical moment of EEC—may *not* be the most “fully satisfying” gesture of closure. That being said, their claim that this “first PAC” signifies the “attainment of an important generic requirement—nothing more, nothing less” (*Elements*, 124) rings a bit hollow, since to insist repeatedly that the EEC/ESC moments are the goals around which the *entire sonata* is organized is clearly to afford them a more profound and salient role than a mere “generic requirement.” The deeper issue, which Hepokoski and Darcy do not address, is that EEC and ESC are primarily *tonal* categories (i.e. largely agnostic to issues of rhetoric and formal function), which places them at odds with the rest of Sonata Theory, which is eminently rhetorical in its outlook.

instances offer wonderful pedagogical opportunities. For rather than quibbling about where the EEC/ESC “is” or “is not,” one can invite students to reflect on their own decision-making processes and to put a coherent, fact-based argument behind their sense of frustration: what about this or that moment seems to suggest that the music is either “done” or “not done”?⁴⁰ This invitation to challenge Hepokoski and Darcy’s interpretive guidelines serves a broader pedagogic purpose as well. By showing that we can selectively disagree with the authors of Sonata Theory without “invalidating” the Sonata Theory enterprise as a whole, one drives home the key point that music theories are not usually built from truth claims in the scientific sense; they do not exist simply to be falsified (or worse, endlessly and tautologically corroborated) by analysis. Rather, they are interpretive *tools*—tools whose purpose is to bring us into closer engagement with the music that we care about.

⁴⁰ Of course, by allowing students to invoke formal function as a deciding factor in EEC/ESC placement, one takes a decisive step away from Sonata Theory orthodoxy, toward a more catholic, common-sense, and *rhetorically*-oriented concept of “closure,” in the manner of William Caplin (who is similarly apprehensive about “tightly-knit” closing themes). Hepokoski demurs; see “Approaching the First Movement of op. 31 no. 2 through Sonata Theory,” in *Beethoven’s Tempest Sonata: Contexts of Analysis and Performance*, ed. Pieter Berge et al. (Leuven, Belgium: Leuven Studies in Musicology, 2009), 43. I see no problem with this. Indeed, I have found that students often invest more in their own analytical decisions when they discover that they are participating in disciplinary disputes that involve contention among living scholars. (The impression that the concepts of “music theory” are actually open to debate or change over time is understandably, if regrettably, rare among nonspecialists.) So if students feel—and they often do—that “tightly-knit” forms are poor candidates for closing themes, they will be pleased to know that prominent scholars share their opinion and enriched to understand the rationales on both sides of the debate. This liberal approach to the EEC/ESC question bears out Mary Wennerstrom’s insistence that “labels can be liabilities if they are considered a final answer; they can also be the starting point of stimulating discussions in which the teacher and students are both learners” (“The Liability of Labels,” this journal 22 [2008], 19).

VII. CULMINATING THE UNIT: THREE TYPES OF SONATA-FORM “PLOT TWISTS”

In addition to governing the presentation of individual topics, the progression from norms to deviations also determines the overall arc of my Sonata Theory unit. Once students have grown comfortable with the standard trajectory of the eighteenth-century two-part exposition (i.e., one with a single medial caesura and a clearly-defined S-zone), I structure our remaining time around one or more common manipulations of that generic template: 1) the “continuous” exposition (which features no medial caesura); 2) situations where a work seems to present *more than one* MC; and 3) what I call “digressive” EEC/ESC deferrals. These sonata-form “plot twists” occupy a curious gray area between norms and deviations. On the one hand, they can be found in hundreds of individual works and were clearly “available” to any eighteenth-century composer. On the other hand, each would seem to draw its dramatic potency from the assumption that listeners are *expecting* a glitch-free two-part exposition.

In what follows, I discuss each of these large-scale formal devices in turn, offering sample analyses as well. Readers will also want to consult Appendix B, which provides annotated repertoire lists for each of the three strategies, as well as a list of movements whose relative conventionality makes them ideal for use earlier in the Sonata Theory unit.

Plot Twist No. 1: “Continuous” Expositions and Recapitulations

One of the more novel ideas advanced by Sonata Theory is the notion that a dedicated secondary-thematic space is, despite its occurrence in a vast majority of pieces, still only an optional rather than obligatory element of sonata form. As my analysis of Mozart’s “Hunt” Quartet showed, it is possible to hear a movement’s transition spinning forward all the way to its closing space without the rhetorical break and thematic restart normally provided by the medial caesura. Hepokoski and Darcy call such expositions and recapitulations “continuous.” Their signature is the lack of a clearly-articulated medial caesura—the logic being that if the MC’s purpose is to announce the commencement of S-space, then

the absence of that marker usually means that there is no way to delineate where S-space begins.⁴¹

If this premise runs contrary to the entrenched assumptions that “all sonatas” have distinct P- and S-zones, it in no way implies that the concept of secondary-thematic space is irrelevant to these works. As Hepokoski and Darcy argue, the two-part expositional format is ubiquitous enough to be a regulating norm even with movements that do not outwardly conform to it. That is to say, our experience of a “continuous” exposition is likely to be shaped by the *expectation* that an MC and secondary thematic zone ought to materialize—a fact that composers seem eager at times to exploit. For this reason, the experience of such movements pivots on what Hepokoski and Darcy call the moment of “psychological conversion,” the point where one becomes aware “that the more standard, two-part form is not going to be realized”—i.e., that we are dealing with a continuous type instead.⁴²

My teaching focuses on two distinct types of continuous expositions: those that hint (falsely) at an impending medial caesura and those that do not.⁴³ With the latter type, which I call “run-on” expositions, our principal orienting clues are of two sorts. First, there is the harmonic perspective: all else being equal, the point of “conversion” will tend to occur when we realize that the secondary key area has been established long enough and securely enough to rule out that a pre-MC transition is still going on. (For students

⁴¹ All the same, Sonata Theory’s rule of thumb (“if there is no medial caesura, there is no secondary theme” [Hepokoski and Darcy, *Elements*, 52; emphasis original]) can give the false impression that S-themes are existentially dependent upon MCs. A better formulation might be, “when eighteenth-century expositions lack an MC, there is usually no convincing secondary theme or themes to be found and thus no *reason* to use those labels.” For as Hepokoski and Darcy themselves point out, it becomes increasingly common in the nineteenth century for composers to conjoin the halves of a two-part exposition (P/TR and S/C) without a clearly-articulated medial caesura.

⁴² Hepokoski and Darcy, *Elements*, 52.

⁴³ This typology differs from Hepokoski and Darcy’s, which distinguishes between continuous expositions featuring a run-on “expansion section” that extends, cadentially undivided, all the way from transitional space to the EEC (that is, for most of the exposition) and those that reach an “early” secondary-key PAC that is then repeated with variation until the exposition’s close (2006, 52, 60).

less accustomed to tracking modulations by ear, this may be more obvious in minor-mode sonatas, since the modulation will usually be accompanied by a change of mode.) Second, there is of course the *absence* of MC-preparation rhetoric itself, which can be both conspicuous and telling—especially for students who have spent several weeks focusing intently on these processes and who have likely developed an intuition for the typical proportions of sonata forms.

In class, I begin with an especially clear-cut example of this subtype, like the compact finale of Haydn's String Quartet in B Minor, op. 33 no. 1.⁴⁴ I begin by asking students first to analyze by ear 1) where the EEC is and 2) where it seems that the secondary theme should begin (the last of these obviously being a strategic "trick question"). When a second listening confirms that there is no medial caesura, despite a clear modulation to III, I pause to introduce the concept of the continuous exposition and then devote several more hearings—now with a score—to the question of where the so-called "point of conversion" falls. Although this conversion-point is subjective and may differ from listener to listener, experienced students will often come to a reasonable consensus as to where it lies. In the finale of op. 33 no. 1, transitional music begins in m. 13 (see Example 5) and unfolds a falling fifths sequence that arrives on the dominant of D major in m. 25. But rather than playing up this dominant—as he might were an MC forthcoming—Haydn extends his sequence to arrive on D major itself (m. 27) and then launches a new set of thematic modules that merely serve to prolong the new tonic. It is at this point (m. 33 or thereabouts) that students will often begin to sense that something in the expected sonata process has gone awry.⁴⁵

⁴⁴ Hepokoski and Darcy also discuss this movement (*Elements*, 54–55).

⁴⁵ When time permits, I like to invite students to locate the conversion point as precisely as possible—even down to a specific bar—since such an exercise encourages both a closer interrogation of their own hearing and also a more meaningful engagement with the nuances of the work's harmonic/melodic design.

TR (already in progress...)

17

modulation toward mediant begins...

21

arrival on tonic of secondary key...

25

new melodic material in D major: psychological "point of conversion" occurs roughly here

30

Example 5. Haydn, String Quartet in B Minor, op. 33 no. 1 (mvt. IV), mm. 17–47, showing continuous exposition and “point of conversion” (Example continued on next page)

Fortspinnung continues...

cadential modules repeat,
leading to EEC in m. 51...

III: PAC

Example 5. (*continued*)

More engaging still are those continuous expositions that lead us to believe that a medial caesura is forthcoming, only to drive forward without pause to the EEC. Hepokoski and Darcy colorfully call this a “bait-and-switch” maneuver—the implication being that this procedure decisively calls forth our expectation for a two-part expositional format, only to withdraw that option at a later point on the compositional timeline. This is precisely what we saw in my analysis of the “Hunt” Quartet in Section I above.⁴⁶

⁴⁶ Hepokoski and Darcy actually offer the opening of K. 458 as an example of their second continuous exposition subtype (i.e. one with an “early” secondary theme PAC followed by cadential reiterations; 2006, 54–55). However, it is clear that the “bait-and-switch” principle also applies.

Example 6 shows a more conventional instance of this “bait-and-switch” technique, from the first movement of Haydn’s String Quartet in G, op. 76 no. 1. Here, TR arrives at a strongly articulated dominant (m. 42) that is then prolonged under a chain of motivic repetitions, suggesting an imminent caesura. And at m. 47, over a stable dominant triad, the first violin breaks its prevailing melodic pattern to unfold a freer scalar gesture suggestive of caesura-fill. But ultimately there is no caesura to “fill”; rather than abbreviate the lower voices (as he might have with a true half cadence), Haydn sustains the remaining instruments throughout the bar and then *resolves* them to tonic in m. 48, setting in motion a new series of one-bar modules based on previous measure’s would-be “fill” gesture. And as often happens, this “near miss” non-caesura sets the exposition on a more troubled course than we might have foreseen. The placid tonic/dominant oscillations of mm. 47ff. are soon upset by a lapse into the dominant minor, culminating in dramatic *fortissimo* outbursts across three octaves (m. 56). The major mode is only really restored with the arrival of the EEC in m. 72.⁴⁷ (If time permits, it can be productive to compare this movement’s exposition to its recapitulation, since the latter replays these events with enough alterations to leave open the question of whether a “bait and switch” had really occurred; see especially m. 165ff.)

Appendix B includes brief descriptions of several more “run-on” and “bait-and-switch”-style continuous expositions by Haydn and Beethoven.

Plot Twist No. 2: “Double” Medial Caesuras

In precise distinction to the works just discussed, one sometimes encounters expositions that feature more than one potential MC. Such a scenario presents us with an apparent paradox: if the function of the MC is to signal the commencement of the secondary theme

⁴⁷ This exposition is related to Hepokoski and Darcy’s third “expansion-section” subtype, one in which an MC is “fully articulated” before “the plug is pulled on the two-part exposition.” Such situations, they explain, “involve undermining the caesura-fill that follows the MC, thus refusing to permit the caesura-fill to rest or anchor itself with an S-theme on its other side. Instead, the fill is reinvigorated into an expanded *Fortspinnung* or ‘thematic’ modular chain that takes on a life of its own” (2006, 55). Arguably, Mozart’s “Hunt” quartet is an even more dramatic instance of this technique.

TR 33

37

41

45

48

ger-6th "dominant lock"

prolonged dominant at climax of TR suggests impending MC

expected point of MC articulation overridden by sustained lower voices which resolve to tonic (!) in bar 48

ostensible eighth-note caesura fill becomes new Fortspinnung motive...

Example 6. Haydn, String Quartet in G, op. 76 no. 1 (mvt. I), mm. 33–49, showing “bait-and-switch” MC evasion

group, then in principle we cannot have two of them, since we can only truly enter S-space once. The resultant ambiguities—

which are easily grasped by any student with several weeks' experience—make for some fascinating analytical scenarios. Take for instance the opening movement of Beethoven's Piano Sonata in C, op. 2 no. 3—a *locus classicus* of the double-MC technique. Here, Beethoven's virtuosic TR culminates in an apparent I: HC medial caesura (m. 26; see Example 7). But the music that follows, though lyrical and contrasting, falls short of being a satisfactory S-theme, since it is in G *minor* rather than G major—an "expressive...flaw" that must be overcome.⁴⁸ And indeed, Beethoven quickly comes to treat this would-be secondary theme as an obstacle rather than a goal in itself; at m. 39 the music is abruptly energized, as if compelled to resume its search for a proper continuation. The effort is successful: at m. 45 we arrive at a clear half-cadential medial caesura, one that yields to the "true" (G-major) S-theme in m. 47.

Though clearly intended as a striking departure from the usual sonata story, Beethoven's strategy here is far from unique. Appendix B offers a list of works that present varied instantiations of the double-MC scenario.⁴⁹ In most, the potential MCs are not equally

⁴⁸ Hepokoski and Darcy, *Elements*, 172.

⁴⁹ Because such works tend to feature "extra" music between the first MC attempt and the entrance of what is ostensibly the "real" S—music that is not yet S but arguably not TR either—questions of terminology will naturally arise. Here, I advise a casual approach over strict adherence to Hepokoski and Darcy's own labels. To account for situations where the "extra" music makes a clear claim to secondary-theme status, they devise the three-part "trimodular block," or "TMB," labeling system: the "false S" is designated "TM¹," the revived transition is "TM²," and the "real" S is "TM³" (Hepokoski and Darcy, *Elements*, 170–77). Other cases fall into a broader category they call "medial caesura declined" (45–47). I find the "trimodular block" labels less than satisfying because they omit any reference to S—the music whose very identity is at stake in these situations. By contrast, "medial caesura declined" is an apt descriptor, but it refers only to the false MC itself, not the music that follows (unless the "declined" caesura clearly occurs *within* P or TR, a scenario I discuss below in reference to Beethoven's String Quartet in C minor, op. 18 no. 4). My own classroom terminology tends to be ad hoc and depends on the piece in question. In a case like Beethoven's op. 2 no. 3, I have found it adequate simply to refer to the music at m. 26ff. as a "false" or "would-be" MC and S. In works like op. 10 no. 1 (see Appendix B) or op. 18 no. 4 (discussed below), I prefer to call the "extra" music a "post-medial transition" or something similar, in an attempt both to capture its restless, searching quality and to underscore its implausibility as a true secondary theme.

TR (already in progress...)

tr 24

6

25

ff

first MC

first proposed S: tonally defective (minor dominant)

p

[TM¹]

28

31

consequent in minor v of minor v

34

Example 7. Beethoven, Piano Sonata in C, op. 2 no. 3 (mvt. I), mm. 24-49, showing “double” medial caesuras. “TM” labels beneath the score correspond to a “trimodular block” analysis; see note 31.
(Example continued on next page)

37 *abrupt energization: resumption of transitional rhetoric*

f

[TM²]

40 *get 6th "dominant lock"*

sf sf f sf sf

43 *prolonged dominant, leading to second MC attempt*

f sf sf

45 *second MC (w.caesura fill)*

p

47 *"real" S in dominant major*

dolce

[TM³]

Example 7. (continued)

weighted, as they are in Example 7; often, the second is weaker. Appendix B also features several movements whose recapitulation *omits* one of the two caesuras, thus seeming to declare the remaining one as the more “legitimate” of the two; these works are especially useful for full-piece narrative analyses.

Such a scenario is played out to fascinating effect in Beethoven’s String Quartet in C minor, op. 18 no. 4 (Example 8), a movement that makes clear early on that its arrival at a medial caesura will be fraught with complications. Although the first plausible MC arrives in m. 25, it comes after an especially graphic instance at a *failed* MC attempt—what Hepokoski and Darcy call an “MC declined”—in mm. 13–16. There, though the music seems intent on cadencing (first a i: PAC in m. 13, then a i: HC in m. 16), each beat-three cadential chord is dislodged by a strident, off-beat echo in the first violin.⁵⁰ At this impasse, the P-theme is reinstated (m. 17) to move the music forward to the second, more convincing MC attempt in m. 25. But what follows is a not S, but a seemingly transitional “scene-change” theme that tonicizes A♭ major and F minor before arriving at the second, attenuated medial caesura (m. 33) that leads to the “real” S, a periodic theme in the relative major that arrives at the EEC in m. 70.

The music after the repeat signs unfolds less like a “development” per se and more like a large-scale variation of the exposition.⁵¹ And tellingly, this exposition-variant omits both the “scene change” music heard in m. 26 and the second MC that emerged from it (cf. m. 33). Now, the “hiccupping” cadence figure from m. 13—the exposition’s declined caesura—proceeds directly to a statement of the “real” S-theme in the major subdominant (m. 113). The result, of course, is a normal two-part format—i.e., one with a single medial caesura. This omission is prescient, since the recapitulation follows the same course, making absolutely clear that the m. 35 theme was the “true” S and the m. 26 music an imposter.

⁵⁰ Each instance of this passage (cf. mm. 109 and 149) becomes longer and more harmonically confused, with the off-beat first-violin chords creating an increasingly insistent (and increasingly absurd) “hiccupping” effect.

⁵¹ This would therefore be a development that was “rotationally” related to the exposition. See note 26 above.

20 (TR) (already in progress)

24 proposed M.C. "post-medial transition" (would-be S-theme?)

27

30

sf *sf* *ff* *fp*

Hammer blows

Example 8. Beethoven, String Quartet in C Minor, op. 18 no. 4 (mvt. I), mm. 20–37, showing “double” MCs and post-medial transition music (Example continued on next page)

Listening ahead, however, we find that the excised “scene change” theme will not be so easily written off. By the end of the recapitulation, the movement would seem to have realized a familiar Beethovenian “tragedy-to-triumph” narrative, with the S-theme’s ringing C-major ESC (m. 195) announcing a decisive victory over

second, attenuated M.C.

Example 8. (*continued*)

the tumultuous minor mode of the movement's opening—a victory we may well attribute to the recapitulation's “correction” of the ambiguous and overlong exposition.⁵² But in the coda—indeed, just shy of the work's final bars—the exiled “scene change” theme springs back into existence. And at that very instant, the music collapses back into C minor (m. 209), where it will stay until its conclusion. The narrative implications of this critical moment are striking: the music that was streamlined out of the sonata process returns here to exact its bitter retribution, pulling the plug on the expected major-mode ending and ensuring a tragic outcome for the movement as a whole.

⁵² For Hepokoski and Darcy, minor-mode sonatas carry an additional “burden,” a kind of innate desire to break free from the expressively negative sphere of the minor mode into the parallel major (*Elements*, 306–17). Because relative-major S-themes can be recapitulated *either* in the minor tonic or the parallel major (both are generically “available” options), the question remains open throughout such sonatas as to which option a composer will choose. Thus, for these authors, the arrival of S in C major would mark the (apparently!) triumphant conclusion to a suspenseful movement-spanning narrative arc.

Plot Twist No. 3: “Digressive” EEC/ESC Deferrals

At the end of Section IV above, we observed a series of EEC deferrals in Mozart’s Piano Sonata in A minor, K. 310. At the time, I characterized those deferrals “benign,” since they posed only minor setbacks within an otherwise clear progression toward the cadential goal. However, some deferrals will undermine a movement’s cadential processes more profoundly, by dislodging the (ostensibly secure) tonic and sending the music on a wayward tonal digression at the moment of closure or shortly thereafter. These scenarios, a favorite of Haydn, are excellent classroom vehicles owing to their arresting aural profile and sophisticated manipulations of musical time.

Haydn’s String Quartet in C, op. 64 no. 1 offers an especially clear case. Although the “digressive” deferral is in the recapitulation, it is best understood in light of a curious feature of the exposition: the secondary theme’s striking aversion to local tonic harmonies. After only nine bars of proper dominant, the expositional S-space wanders into G minor (m. 35) and hovers on a strangely inert, nearly-tonicized D major triad before lapsing into focused cadential rhetoric (mm. 50–55). When we find that Haydn’s recapitulation has omitted S-space entirely—there is no medial caesura, and the former P-music proceeds directly to an attempted ESC (m. 129)⁵³—we might well take this as an attempt to sidestep such ambiguity. But ironing out one tonal wrinkle only creates another. Shortly before the would-be ESC, TR collapses briefly but ominously into the tonic minor (mm. 121–24; see Example 9). Then, just *after* the ESC attempt (m. 129), this flatward impulse reasserts itself more aggressively: at bar 133 (in what seems at first to be closing space), the music lurches up by half-step to the dominant of D $\flat$ major, sending us on a nineteen-bar digression wending its way through B $\flat$ minor and finally up to a half-cadence in C minor—a tonal correction that Haydn celebrates with a triumphant C-major fugato on the exposition’s headmotive in the tonic (m. 152). It is this second post-cadential digression that ultimately produces the *real* C-major ESC in m. 170. And tellingly, this ESC replays—now successfully—the music that followed the failed ESC attempt from m. 129. (Haydn will often dramatize the correction of tonal mishaps by “rewinding” the music to an earlier point, giving the impression that he is choosing, the second time around, a path not initially taken.)

⁵³ Note that this results in a “continuous” recapitulation.

TR (part of a "continuous" recapitulation; no S-space) collapse into minor...

117

fz

I: HC

121

dim. *cresc.*

cadential drive to ESC

126

molto cresc. *f* *ff* *p*

ESC

I: PAC

ESC notionally achieved: putative closing space No! C major dislodged...

130

fz *p* *fz* *p* *pp*

Example 9. Haydn, String Quartet in C Major, op. 64 no. 1 (mvt. I), mm. 117–70, showing deferral of EEC post-cadential tonal detour (Example continued on next two pages)

135 *tonicizing D-flat major...*

138

141 *...and B-flat minor...*

145 *...and C minor...*

150 *reinstatement and cadential affirmation of C-tonic triggers
"celebratory" stretto of P-theme headmotive*

i: HC

Example 9. (continued)

154

157 *cresc.* *f*

160 *f*

163

166

ESC ESC achieved; resumption of premature "closing" music from m. 129ff.

I: PAC *f* $\longrightarrow$ *p* *f* $\longrightarrow$ *p*

Detailed description: The musical score consists of five systems of piano accompaniment. The first system (measures 154-156) shows a treble staff with eighth-note patterns and a bass staff with a simple harmonic accompaniment. The second system (measures 157-159) begins with a 'cresc.' marking and a forte 'f' dynamic, featuring more complex sixteenth-note patterns. The third system (measures 160-162) continues with a sustained 'f' dynamic and includes a triplet in the treble staff. The fourth system (measures 163-165) shows a continuation of the melodic and harmonic ideas. The fifth system (measures 166-168) includes a boxed 'ESC' marking with the text 'ESC achieved; resumption of premature "closing" music from m. 129ff.' and dynamic markings of *f* and *p* with a hairpin. The piece concludes with 'I: PAC'.

Example 9. (continued)

In my experience, classes organized around these more complex analytical situations unfold most effectively if students have done the listening in advance—and always with guiding questions. While it is true that many of these post-EEC/ESC tonal ruptures are easy grasped on a first hearing, untangling the twisted timelines of Haydn's "rewind/redo" scenarios can be quite demanding and usually benefit from the synoptic distance afforded by solo study—to say nothing of the luxury of unlimited hearings.⁵⁴ That being said, there are other, even more drastic EEC/ESC complications that are quite easy to hear and well suited for spontaneous in-class listening: these are situations in which the EEC or ESC is omitted entirely, resulting in a "nonresolving" (or "failed") exposition or recapitulation.⁵⁵ Though they are beyond the scope of this essay, I would direct interested readers to Haydn's String Quartet in G minor, op. 20 no. 3—a work whose opening movement is well suited to wrap up a discussion of "closure complications," since its exposition (which begins earnestly enough) stages extensive, often hilarious, and ultimately insurmountable difficulties in finding a terminal cadence.

VI. CONCLUDING THOUGHTS

In many respects, the pedagogy of sonata form has changed very little over the past half-century. Despite ongoing shifts of professional opinion—including a number of pointed challenges to the status quo—undergraduates today can expect their textbooks to present them with more or less the same basic sonata form "recipe" that they would've encountered as English-speaking students in the 1950s (one that was itself not so different from the one known to German-speaking students in the 1880s).⁵⁶

⁵⁴ The same can be said for nearly any listening assignment that asks students to compare one of Haydn's expositions with its subsequent recapitulation, since the divergences are usually too extensive to track in real time.

⁵⁵ Hepokoski and Darcy, *Elements*, 177, 245.

⁵⁶ In itself, this is hardly a bad thing; the nuanced refinements of the academic status quo are not often suited to the core curriculum. Charles Rosen's challenge to the viability of any overriding schematic practice—his emphasis on sonata *forms* over "sonata form"—leads directly away from any tidy pedagogy (see *Sonata Forms* [New York: W. W. Norton and Co., 1988]). Similarly, Leonard Ratner's welcome restoration of an

In terms of its basic architectural layout, Hepokoski and Darcy's image of the sonata is often (though not always!) consonant with those traditional perspectives.⁵⁷ However, through a shift of interpretive emphasis—by focusing on the dynamic, processual aspects of the form—Sonata Theory lights the way to a new and reinvigorated engagement with the genre. My purpose here has been to show the benefits that this conception offers to instructors of undergraduates: a dramatic, expression-oriented model of the genre that appeals to the narrative sensibilities of performing musicians; a flexible and easily-mastered labeling system; a historically sensitive taxonomy of compositional procedures; and a broad compatibility with other analytical approaches. These advantages are hardly unknown in the field at large; I hear routinely from analysts who have turned to the *Elements* as a framework for their sonata-form pedagogy. Their anecdotal successes, like my own, confirm Hepokoski and Darcy's "expressive/dramatic" image of sonata form as both a welcome addition to the undergraduate curriculum and a springboard for any number of stimulating analytical adventures.

eighteenth-century (i.e. harmonic) conception of the genre did little to diminish the didactic value of thematic "contrast" for those navigating these larger forms for the first time. And it goes without saying that Heinrich Schenker's self-consciously esoteric take on sonata form offers little of use to the analytical novice (see *Free Composition*, trans. and ed. by Ernst Oster [New York: Longman Press, 1979]).

⁵⁷ The two most pronounced departures from the "traditional" perspective (and, not surprisingly, the two most debated schemata in Sonata Theory at large) are the continuous exposition and the "Type 2" sonata. On earlier scholarly acknowledgements of the continuous exposition type, see Hepokoski and Darcy, *Elements*, 51; for a critique of the "continuous" exposition as an analytical principal, see Caplin, "What are Formal Functions?," 60–61. For a critique of the Type 2 sonata, see Wingfield, 155–60.

APPENDIX A

The *Elements of Sonata Theory* as a Teaching Tool

A central challenge in writing this essay has been meeting the needs of two distinct audiences: 1) theory teachers who are professionally familiar with Sonata Theory but who have never considered its pedagogical use; and 2) teachers who are entirely new to Sonata Theory. While I hope that my study would generate interest for both groups, it would be unrealistic to suppose that it could serve the latter as a one-stop resource. Unexperienced instructors will almost surely want to peruse the *Elements of Sonata Theory* for themselves before debuting Hepokoski and Darcy's system in the classroom. My purpose here is to offer a few words of guidance for colleagues who may be looking to consult the *Elements* for the first time.

First and most importantly: to the question of what role the *Elements* ought to play in one's undergraduate teaching, it is important to recognize that Hepokoski and Darcy's tome is not a textbook. With six-hundred-twenty-two pages of miniscule type, most of them embroidered with discursive footnotes, it is closer to a medieval *summa*. And though its prose is crisp and lucid, its density and implacable pace may still challenge students unaccustomed to academic writing. Well-chosen excerpts can certainly be effective; I typically have my classes read Chapter Three ("The Medial Caesura and the Two-Part Exposition") in its entirety with guiding questions. But for the most part, this is a work whose benefits will come to nonspecialist students only indirectly, through the instructor's mediation.

Naturally, this mediation begins with the question with what to cover and what to leave out. Instructors with only a few weeks at their disposal will probably want to focus on Chapters One through Fourteen, which deal systematically with the various thematic spaces (or "action zones") of a typical "Type 3" sonata. The book's second half addresses more specialized concerns, including the other four "types" of sonatas. (The four chapters on the "Type 5," or concerto-sonata, are a 170-page book-within-a-book. Though richly developed, this material is also terminologically and conceptually cumbersome; I have only assigned it in graduate seminars.) Even within the book's first half, though, careful pruning is necessary; the level of detail may gratify experienced readers, but it would

quickly overwhelm undergraduates.⁵⁸

The question of whether to deal with the authors' extensive para-analytical/philosophical apparatus is also a pressing one. Merely assigning Appendix One as supplementary reading tends to be fruitless; students will tend to be either over- or underwhelmed, depending on whether they appreciate what is at stake. All the same, I believe that there is much to be gained by devising some way to address these crucial issues, even if only briefly. One effective strategy is to present the class with quotations selected for their potential to spur discussion on meta-analytical topics, like the following comments on the regulating function of genre in early nineteenth-century composition:

Beethoven was by no means the only composer of the *Eroica*: he cannot lay exclusive claim to the totality of the work's implications. Many of the compositional features of that piece are more accurately regarded as dramatizations of (or dialogues with) pre-existing, culturally produced norms that were external to Beethoven.... In any composition there are at least two voices: the composer's voice and the genre's voice. (*Elements*, 607)

When carefully unpacked, provocative statements like this can help to establish a richer conceptual foundation for one's analytical work in the classroom. In the case of the quotation above, few students will have considered the vital role that socially-produced conceptual structures such as genre play in much artistic production and reception (either in the past *or* the present). The idea that formal analysis might entail more than mere labeling—that it can endeavor creatively to reconstruct that enabling dialogue between the individual artist and the conventions of his/her time—can make the task of close reading more purposeful and engaging for many students.⁵⁹

⁵⁸ One might decide, for instance, that a discussion of primary themes need not to go into detail about the five "special P-types" Hepokoski and Darcy lay out: "P as Grand Antecedent"; "Mozartean 'Loops': A Specialized Variant of the Sentence"; "P⁰ and P^{1.0} Modules/Themes"; "The 'Circular' $\hat{8} \rightarrow \hat{7} - \hat{6} - \hat{7} - \hat{8}$ Pattern in P-Space"; and "P^{gen} and P^{tel} Themes" (*Elements*, 77–92).

⁵⁹ Although I tend to include more of this meta-analytical content when teaching Sonata Theory to DMA students, engaged undergraduates can also find much to ponder here.

Finally, the issue of repertoire: on this front the *Elements* can be a tremendous resource, albeit with one critical limitation. A glance through the “index of compositions” (pp. 639–48) shows that Hepokoski and Darcy discuss hundreds of major compositions in one capacity or another. Some of these are mentioned only briefly; others are discussed at length. But most of the pieces cited offer something that is inherently *interesting* from a Sonata Theory standpoint; even the most compressed citations can offer the seed of a rewarding full-piece analysis. That being said, one will search in vain for complete, detailed analyses of entire movements to work from. By and large, pieces are cited mainly as exemplars of one or another compositional technique.⁶⁰ This is ironic, since Sonata Theory specifically encourages us to think in terms of complete movements; its central concern is the long dramatic arc bridging the first bars and the last.⁶¹ And indeed, those who have seen Hepokoski and Darcy present their often riveting full-piece analyses in the classroom can attest that the *Elements*, for all its plenitude, falls short of conveying the method’s true analytical potency—a potency that arguably only emerges in an expert pedagogical performance. One can, I believe, infer the flavor of such performances from the vivid language in the authors’ many analytical vignettes. But the very need for such a reconstruction underscores that undergraduate instruction is, in certain respects, an “off-label” use for Hepokoski and Darcy’s tome. All the same, I would hope that the sample analyses provided above (along with those sketched below in Appendix B) might serve to bridge that gap and to provide interested instructors with a stable of pieces that can be especially gratifying to teach.

⁶⁰ Arnold Whittall concurs: Hepokoski and Darcy “provide a fair number of score extracts, as well as Figures in which the basics of the theory are given graphic representation. But the two types of material are not brought together, forcing the reader to wonder what an...analysis of a complete, large-scale sonata-type composition—say the ‘Eroica’ Symphony—would be like” (“Representing Sonatas,” *Journal of the Royal Musical Association* 133/2 [2008], 323). Michael Spitzer makes virtually the same point (“Sonata Dialogues,” *Beethoven Forum* 17/2 [Fall 2007], 176).

⁶¹ As its authors argue, the most convincing interpretations will be “closely congruent with every moment of the music” (Hepokoski and Darcy, *Elements*, 254).

APPENDIX B

Annotated Repertoire Lists

Formally / Rhetorically Straightforward Sonata Forms

Beethoven: "Easy" Piano Sonata in G minor, op. 49 no. 1 (mvt. I)

Beethoven: "Easy" Piano Sonata in D major, op. 49 no. 2 (mvt. I)

These compact sonatas adopt a rhetorical transparency to match their technical simplicity. (Essentially, these are the mature Beethoven's impersonation of middle-of-the-road Mozart.) Both movements are clear in their sonata outlines and both lean towards easily-recognizable phrase designs, mostly sentences and periods. The first features a brief, S-based development and a very unusual S-based closing theme. The second is noteworthy in that its recapitulation features no recomposition at all; the original I: HC MC is replayed at pitch and moves into an exact tonic-key transposition of S.

Mozart: Piano Sonata in C major, K. 545 (mvt. I)

This well-known work features a terse, lucid exposition (with a satisfying trill-cadence EEC), a brief, didactically useful sequential development, and perhaps the most famous instance of a recapitulation that begins in the subdominant. It is also useful for phrase-paradigm recognition, as both halves of the exposition (P→TR and S) are sentences.

Mozart: Piano Sonata in C major, K. 309 (mvt. I)

Though more ambitiously conceived than the C-major sonata just discussed, this movement is no less clear in its outlines. It features an independent transition, a multisectional S-theme, and a clear trill-cadence EEC. After a brief development, the recapitulation is mostly faithful, except for an outlandish tonic-minor detour within the P-theme.

Mozart: Serenade in G, K. 525 "Eine kleine Nachtmusik" (mvt. I)

This movement offers the advantage of asking students to reconcile a work they almost certainly know by ear with the rhetorical template Sonata Theory provides. The exposition is quite straightforward, except that Hepokoski and Darcy's guidelines would seem to place the EEC too early (m. 35); students will tend to prefer m. 51. The development is perfunctory and the recapitulation is by-the-book.

Haydn: Symphony no. 95 in C minor (mvt. I)

This minor-mode movement offers students a good introduction to more ambitious symphonic writing. (Unusually for Haydn's late symphonies, there is no slow introduction.) The transition moves abruptly into the relative major while using the P-theme headmotive in interesting contrapuntal ways. The ostensible EEC at m. 46 is deferred by an unstable chromatic digression; closure occurs in m. 58, after a dramatic return of the primary theme. The development is long; for less experienced students it might be challenging to analyze. But Haydn's drastically shortened reprise is a rewarding and straightforward study, as is the absorption of the recapitulation's opening headmotive into the retransition.

Mozart: Symphony no. 40 in G minor, K. 550 (mvt. I)

Like "Eine kleine Nachtmusik," this work offers the advantage of familiarity; it also presents students with a more grandly-conceived sonata design. The development is challenging; I tend usually to focus only on the exposition and recapitulation (which is rather extensively rewritten, especially for Mozart). Note the interesting issues toward closing space: the abrupt EEC deferral at m. 66 (actual EEC: m. 72); the extended closing space that repeatedly swerves from the relative major back into G minor (in conjunction with primary-theme outbursts!); and the appendage of a "closing zone to the closing zone" at m. 88.

“Continuous” expositions

Beethoven: Piano Sonata in F minor, op. 57 “Appassionata” (mvt. III exposition)

This whirlwind movement is a *locus classicus* of the “run-on” type of continuous exposition. Though the modulation to the secondary *key* is clear enough on paper (V7/V in m. 68), it emerges without so much as a pause in the manic sixteenth-note motion, and nothing like a proper secondary “theme” ever emerges. It is also useful in demonstrating the unsettling expressive negativity of minor-mode sonatas that modulate to the minor dominant, forgoing any passage into the major mode.

Haydn: Symphony no. 45 in F# minor “Farewell” (mvt. I exposition)

This movement adds a degree of narrative complexity to the “run-on” continuous exposition. Like the “Appassionata,” it drives along implacably, closing in the minor dominant (C# minor) without so much as a hint of a medial caesura. However, Haydn accentuates this tragic outcome by first modulating to the relative A major (m. 23)—only to have that optimistic music collapse dramatically into A *minor* (m. 38) en route to the real secondary key. (And like Mozart’s “Hunt” quartet, the development presents a conspicuously S-like, contrasting lyrical theme [m. 110].) The recapitulation—also continuous—is largely recomposed.

Beethoven, Piano Sonata in A major, op. 101 (mvt. I exposition)

Here we find a relaxed and singularly beautiful instance of the “run-on” type of continuous exposition, one that Tovey described as a “single stream of lyric melody.”⁶² More advanced students will be able to savor the exposition’s sophisticated harmonic ambiguities—in particular, the striking attenuation of the tonic A major.

⁶² Donald Francis Tovey, *A Companion to Beethoven’s Pianoforte Sonatas (Bar-to-bar Analysis)* (London: The Associated Board of the Royal Schools of Music, 1931), 205.

Not only is E major fully tonicized by the seventh measure, the emphasis on the dominant triad E is strong enough at the very opening that it might initially strike us as tonic.

Haydn: String Quartet in E $\flat$ major, op. 33 no. 2 “The Joke” (mvt. I exposition)

This is Hepokoski and Darcy’s canonical example of a “bait-and-switch” continuous exposition.⁶³ As with op. 76 no. 1 (discussed in the main body text), Haydn deliberately leads the listener to anticipate a medial caesura (most likely around mm. 18–19, at the end of the dominant-pedal liquidation), but then pushes the music forward with a burst of energy, derailing the prospects of any MC. This evasion of the expected MC seems then to unhinge the exposition for the rest of its course; its remaining bars trace a chaotic path—one that changes topics and affects nearly every measure—to the EEC in m. 28. Examples like this are well suited to aural analysis (“where *does* Haydn lead us to believe the MC will be?”).

Haydn: String Quartet in B $\flat$ major, op. 64 no. 3 (mvt. IV)

This more advanced example presents us with a “double” bait-and-switch scenario. Here Haydn gives us every reason to suppose that a bait-and-switch-style exposition is underway—a half-cadential MC is proposed in m. 35 but then its dominant is drawn out to absurd lengths, losing focus and energy, without ever pausing. But then, as we pass the psychological “point of conversion,” Haydn reinstates the half-cadential drive and arrives at a weakly articulated MC in m. 58. A comparison to the recapitulation is well worth one’s time: there, Haydn replays this same gambit with *increased* hyperbole: the drawing-out of the cadential dominant is longer and more diversion-prone, but now there is a strongly articulated MC (mm. 194–95) before the S-theme.

⁶³ Hepokoski and Darcy, *Elements*, 54–55.

"Double" MCs

Mozart: String Quartet in G major, K. 387 (mvt. III exposition)

In this sumptuous sonata-without-development (a "Type 1" in Hepokoski and Darcy's terms), the long, chromatic transition leads to a very unusual v: PAC MC (m. 25). The minor-dominant music that follows is a poor S-candidate; it feels more like an eerie no-man's land between thematic zones. But it leads to a second caesura, a V: HC MC, in m. 30. A more congenial, major-dominant S-theme follows.

Beethoven: Piano Sonata in C minor, op. 10 no. 1 (mvt. I exposition)

This movement is similar in many ways to op. 18 no. 4 (discussed in the main body text, pp. 108ff): between its C-minor P-theme and its relative major S-theme falls a submediant transitional passage that would appear to *follow* the medial caesura (now an unusual i: PAC at m. 30). This submediant passage has its own dominant buildup to the proper S-theme; is it merely a post-MC "transition"? Is it a plausible S-theme candidate? Unlike op. 18 no. 4, however, the entire complex returns, with only minor adjustments, in the recapitulation.

Beethoven: Violin Sonata in F major, op. 24 ("Spring") (mvt. I exposition and recapitulation)

After an apparent tonic-key HC MC in m. 25, the music lurches into an Ab-major transitional passage whose furious energy quickly dissipates, precipitating a tentative dialogue between the instruments in C minor. An abrupt burst of momentum (m. 34) drives to a second, dominant-key HC MC (mm. 36–37) that then announces the entry of a sentential C-major S-theme that shows itself repeatedly vulnerable to chromatic minor-mode digressions (mm. 46, 62), in what we might hear as echoes or after-effects of the earlier, wayward C-minor music. Curiously, the primary theme shows a similar vulnerability to chromatic corruption in the recapitulation (m. 134).

Beethoven: Piano Sonata in F major, op. 10 no. 2 (mvt. I exposition and recapitulation)

After seventeen bars of P-theme, there erupts an eccentric and intrusive MC in V/iii (!)—at which point a lyric-heroic dominant-key S-theme candidate enters. A second clear MC follows (m. 36), but the music it launches sounds more like pre-closing material. (Thus, the piece is unusual in that the more plausible S-theme candidate *precedes* the second MC.) The recapitulation is very sophisticated: a D-major false reprise (m. 119) leads to a reprise of the exposition's "irregular" MC, which now serves as a dominant (i.e., V7/F) retransition! The recapitulation proper lacks the original MC; does the old "S" now function as TR?

Haydn: String Quartet in C major, op. 20 no. 2 (mvt. I exposition and recapitulation)

In the exposition of this challenging movement, Haydn presents us with two potential MCs, both of them followed by plausible S-music in the dominant (mm. 21, 33; the second is more emphatic), creating a situation of great ambiguity. However, the truncated recapitulation eliminates the first MC-candidate and potential S altogether, as if to suggest that the second S was in fact the "real" one.

Haydn: String Quartet in F minor, op. 20 no. 5 (mvt. I exposition and recapitulation)

After a “fakeout” i: HC MC preparation (m. 13), Haydn moves to a seemingly legitimate III: HC MC in m. 18. But when the apparent P-based S dissolves into sequences, Haydn sets up a second III: HC MC and presents another, more successful (and non-P-based) S-theme candidate (m. 28; EEC in m. 46). As in op. 20 no. 2, the modified recapitulation discards the first, problematic MC, making for a much less ambiguous structure. (And just as in Beethoven’s op. 10 no. 2, the discarded first MC returns incognito as the retransitional figure [m. 82]!) The extended coda—suitable only for more advanced students—features a direct modulation to the key of the *minor flattened supertonic* (G $\flat$ minor).

“Digressive” EEC/ESC Deferrals

Haydn, String Quartet in G major, op. 76 no. 1 (mvt. IV EEC)

This movement’s garrulous P-based S-theme spends twenty-nine bars rummaging for a terminal cadence, only to have the fruit of its efforts promptly quashed. After only a beat, the cadential tonic of the putative B $\flat$ major EEC (m. 54) is elbowed aside by the stark *sforzando* of a pensive new theme in B $\flat$ *minor*, which quickly meanders to its own relative D $\flat$ major, the flattened dominant of the global tonic. It is a full dozen bars before Haydn relents and gives us the real EEC, which in an instant restores the genial world of B $\flat$ major and reboots the frenetic energy of the pre-digressional music. Here it can be helpful to ask students what kind of recomposition would be necessary to produce a perfectly normalized version of the exposition. (One needs only to jump directly from bar 53 to bar 76.)

Haydn, String Quartet in D minor, op. 76 no. 2 “Fifths” (mvt. I EEC)

This more involved example embarks on its tonal detour at the very moment of EEC: rather than the expected relative key (F major), the cadence is consummated by an unsettling F-minor triad, setting off a *Sturm und Drang* episode whose scurrying first violin leads the music on a frantic tonal detour through A $\flat$ major (once again the global tonic’s flattened dominant!) and then back to F for a second pass at the EEC. Note also the fascinating manipulations of musical time: as if to “correct” this S-space anomaly, Haydn leads his post-deferral digression into a new dominant lock (mm. 41–43) and then produces a second, “replacement” MC (m. 44). The post-caesural music in bars 45ff. then returns to *pre*-deferral elements of the S theme (m. 45 = m. 15, etc.), which are now given a second, successful chance to produce a viable EEC (m. 51).

Haydn, String Quartet in C major, op. 76 no. 3 (mvt. I EEC)

Here Haydn offers a “rewind/redo” situation comparable to op. 76 no. 2—only this time Haydn recycles the music just *after* the EEC rather than before. After only three bars, the ostensible closing zone swerves into the minor dominant (G minor, m. 29), opening the door to a subdued contrapuntal episode in the flattened mediant (E $\flat$ major, m. 33). When Haydn at last reveals E $\flat$ to be the submediant of G major, the music quickly arrives at an eruptive C-major PAC identical to the original, faulty EEC (m. 38 = m. 26), and from there the closing music proceeds as it surely would have liked to the first time. (Here too, one can ask students to propose a normalized, glitch-free recomposition merely by eliminating certain measures.)

APPENDIX C
Aural Analysis Rubric

This rubric was used with advanced second-semester freshmen, for analyzing expositions at the end of a six-week Sonata Theory unit. Expositions were typically played five times, with the iTunes window shown on an overhead projector so students could jot down timings as necessary.

1. Overall Exposition Type (circle one):

Two-Part (w /MC)

Continuous (no MC)

2. Primary Theme Phrase Design (circle one).

Period

Sentence

Sentential Period

None/Other

3. Transitional Theme (circle one):

Independent

Continuation of P

Begins as post-cadence
codetta to P

None

4a. Medial Caesura Prep (circle all that apply):

Energy gain

Dominant "lock"

Prolonged Dominant

"Hammer Blows"

General Pause

Caesura-fill

4b. Second Medial Caesura Prep (circle all that apply, if "double"
MCs are present):

Energy gain

Dominant "lock"

Prolonged Dominant

"Hammer Blows"

General Pause

Caesura-fill

5. "False" Medial Caesura Preparations (circle one, including for
"bait-and-switch" continuous exp.):

Yes (give number) _____

No

6. Secondary Theme (circle one if appropriate):

New Material P-based None
(continuous exposition)

7. Secondary Theme Key (circle one if appropriate):

Dominant Mediant Minor Dominant Other

8. Secondary Theme Phrase Design (circle one if appropriate):

Period Sentence Sentential Period None/Other

9. EEC Deferrals (circle one):

List in order by type/reason. Reasons include...

S material returns New Tonic Destabilized

Evaded Cadence Attenuated Cadence Other

[then describe]. Please include *clock times* for all EEC deferrals!

10. Closing Space (circle one):

P-based Not P-based None (EEC is final cadence)

11. Closing Space (circle one):

Harmonically closed Ends with retransitional dominant

12. Issues in Proportions:

Note whether any section of the sonata seems conspicuously longer or shorter than would be expected, based on the overall size/scope of the movement)

13. Other Issues or Challenges Worth Noting:

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Upon Further Reflection: Teaching Inversion through Jean Papineau-Couture's *Nuit*

PHILIP STOECKER AND BRIAN ALEGANT

I. INITIAL CONSIDERATIONS

Pitch and pitch-class inversion is a core concept in the pedagogy of post-tonal music. There have been many theoretical and analytical studies on this topic, beginning half a century ago with the writings of Milton Babbitt, George Perle, and David Lewin.¹ These publications inspired many subsequent articles and model analyses of octatonic, atonal, and twelve-tone compositions.² This essay

¹ Babbitt outlines the inversional properties of symmetrically related twelve-tone rows in *The Musical Quarterly* 46/2 (1960), 245–59; “Twelve-Tone Rhythmic Structure and the Electronic Medium,” *Perspectives of New Music* 1/1 (1962), 49–79; and “The Structure and Function of Music Theory,” *College Music Symposium* 5 (1965), 49–60. Lewin describes a contextually-defined approach to inversion in “Inversional Balance as an Organizing Force in Schoenberg’s Music and Thought,” *Perspectives of New Music* 6 (1968), 1–21; “A Label-Free Development for 12-Pitch-Class Systems,” *Journal of Music Theory* 21/1 (1977), 29–48; and *Musical Form and Transformations: 4 Analytic Essays* (New Haven: Yale University Press, 1993). Perle explores symmetrical properties in his own “twelve-tone tonal” works and the works of other composers, notably Berg, in “Symmetrical Formations in the String Quartets of Béla Bartók,” *Music Review* 16 (1955), 300–12; *Serial Composition and Atonality* (Berkeley: University of California Press, 1962); and *Twelve-Tone Tonality* (Berkeley: University of California Press, 1962).

² Textbooks include Allen Forte, *The Structure of Atonal Music* (New Haven: Yale University Press, 1973); Stefan Kostka, *Materials and Techniques of Twentieth-Century Music*, 2nd ed. (Englewood Cliffs, NJ: Prentice Hall, 1998); Joel Lester, *Analytic Approaches to Twentieth-Century Music* (New York: W. W. Norton & Company, 1989); Robert Morris, *Composition with Pitch-Classes: A Theory of Compositional Design* (New Haven: Yale University Press, 1987); John Rahn, *Basic Atonal Theory* (New York: Schirmer Books, 1980); Miguel Roig-Francolí, *Understanding Post-Tonal Music* (New York: McGraw-Hill Higher Education, 2008); Joseph N. Straus, *Introduction to Post-Tonal Theory*, 3rd ed. (New Jersey: Pearson Education Inc., 2005); and J. Kent Williams, *Theories and Analysis of Twentieth-Century Music* (Orlando, FL: Harcourt Brace & Company,

outlines a self-contained module on axial symmetry that is intended to culminate with an analysis of *Nuit*, a solo piano composition by Jean Papineau-Couture.³ The module, which could be part of second-year undergraduate course, is designed to teach students to hear, recognize, and model the properties of symmetrical designs.⁴ Several factors make *Nuit* a strong teaching piece, among them intriguing timbres, with striking and strumming on the strings⁵,

1997). Analyses include Brian Alegant, "When Even Becomes Odd: A Partitional Approach to Inversion," *Journal of Music Theory* 43/2 (1999), 193–230; Jonathan Bernard, "Space and Symmetry in Bartók," *Journal of Music Theory* 30/2 (1986), 185–201; Michael Cherlin, "Dramaturgy and Mirror Imagery in Schönberg's *Moses und Aron*: Two Paradigmatic Interval Palindromes," *Perspectives of New Music* 29/2 (1991), 50–71; Lora L. Gingerich, "Explaining Inversion in Twentieth-Century Theory," *Journal of Music Theory Pedagogy* 3/2 (1989), 233–42; Philip Lambert, "On Contextual Transformations," *Perspectives of New Music* 38/1 (2000), 45–76; Stephen Peles, "'Ist Alles Eins': Schoenberg and Symmetry," *Music Theory Spectrum* 26/1 (2004), 57–86; Larry J. Solomon, "New Symmetric Transformations," *Perspectives of New Music* 11/2 (1973), 257–64; and Philip Stoecker, "Studies in Post-Tonal Symmetry: A Transformational Approach" (PhD diss., City University of New York, 2003).

³ Papineau-Couture (1916–2000) was a Canadian composer who spent the majority of his life in Montreal.

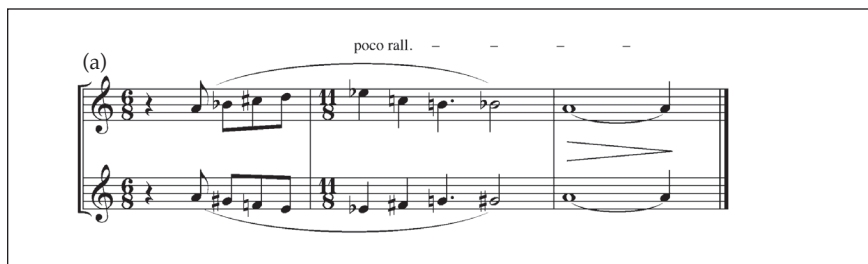
⁴ Our assumptions are that the undergraduate course would meet three times a week for an hour while a graduate analysis course would meet once a week for two hours and twenty minutes. Ideally, the undergraduate course would be joined with an aural skills class devoted to post-tonal music whereas the graduate course might incorporate ear training in the manner of Michael Friedmann's *Ear Training for Twentieth-Century Music* (New Haven: Yale University Press, 1990). Additionally, we have chosen not to include biographical or historical background on the composers we discuss for two reasons: we are concerned primarily with the theoretical/analytical angle of inversion, and this information is readily obtainable through on-line databases (and Wikipedia of course). We should also point out that symmetrical designs are not a 20th-century invention; we can find palindromes and inversional designs in Renaissance and Classical works. See Robert P. Morgan, "Symmetrical Form and Common-Practice Tonality," *Music Theory Spectrum* 20/1 (1998), 1–47, for a treatment of symmetrical structures and palindromes in common-practice music.

⁵ According to Papineau-Couture, "[i]n it I have made use of various techniques of vertical symmetry but the structure is extremely free. My challenge was to integrate with the normal playing on the keyboard the many diverse timbres of direct striking on the strings, this in a

and an inventive and sophisticated set of inversional techniques. In addition, it is an extended work that lasts approximately 16 minutes, and thus rewards a variety of approaches. Below, we review four basic types of pitch and pitch-class symmetries, and briefly define even and odd index numbers. We then illustrate the common axial techniques from the literature, and show how these techniques inform various organizational levels of the work.

II. FOUR TYPES OF INVERSIONAL DESIGNS

Example 1(a) shows the conclusion of the first movement of Bartók's *Music for Strings, Percussion, and Celeste*.⁶ This brief codetta illustrates what is perhaps the clearest inversional design for students to recognize aurally and visually: *vertical symmetry*. The two melodic lines begin on a unison A4, wedge outward by a tritone, and return to A4, which functions as a *pitch axis*. Each pitch above A4 occurs with its inversional partner in a one-to-one correspondence. Here, all twelve pitch-classes are accounted for. Using a system where pitch-class C = 0, the pitch classes of the upper and lower lines sum to index number 6.⁷



Example 1(a). Conclusion of the first movement of Bartók's *Music for Strings, Percussion, and Celeste*.

homogenous and non-stop discourse. The form was spontaneously born from this marriage of colours." Véronique Robert, *Jean Papineau-Couture*, Centredisques CMCCD 6499.

⁶ Bernard, "Space and Symmetry in Bartók," 186–88, discusses this passage and the large-scale symmetrical design of the pitch and pitch-class axes in this piece.

⁷ The term "index" number first appears in Babbitt's "Twelve-Tone Rhythmic Structure": "... the sums of the pitch numbers of each pair are equal. This unique (for each equivalence class) number is called the 'index' of the equivalence class." (57)

As is well known, an even index number partitions the total chromatic, or *aggregate*, into five different pitch-class pairs—in this case, G $\sharp$ /B $\flat$, G/B, F $\sharp$ /C, F/C $\sharp$, and E/D—and two pitch-class singletons that map *into* themselves (i.e., A/A and E $\flat$ /E $\flat$). These axes are equal to half of the index number and half of the index number plus six. The singletons in any even index number are related by a tritone. Harmonically, even index numbers produce only even interval classes—0, 2, 4, or 6. If the index number is odd, the axes occur between two pairs of notes. For example, consider the index number 9. 9 divided by two is 4.5; thus the axes lie between 4 and 5, and t and e. Example 1(b) shows a realization of vertical symmetry with an odd index number, 11; the excerpt is the conclusion of Schoenberg's Piano Concerto, op. 42. Odd index numbers generate six different pitch-class pairs and no singletons, which is to say that no pitch class is able to map into itself. Harmonically, odd index numbers generate only odd interval classes—1, 3, or 5.⁸

(b)

rit. - - - - - Lento

490

piano

f

orch.

ff

P3: < 3, t, 2, 5, 4, 0, 6, 8, 1, 9, e, 7 >
 I8: < 8, 1, 9, 6, 7, e, 5, 3, t, 2, 0, 4 >

Index number: 11, 11, 11, ...

Example 1(b). Conclusion of Schoenberg's Piano Concerto, op. 42, iv.

⁸ Babbitt, "Twelve-Tone Invariants," 254, discusses the intervallic types that result from either an odd or even index number. For a more recent discussion of odd and even textures (analytically and aurally) see Alegant, "When Even Becomes Odd."

We use the term *inversional canon* to describe a vertical design that is “asynchronous,” which is to say that it is not presented in note-against-note fashion. With inversional canons, one melodic line leads while its reflection follows.⁹ The voices can be close together (an eighth or sixteenth note apart) or quite remote (at a distance of five, ten, or more measures). Example 2 shows an inversional canon from Bartók’s “Subject and Reflection.” In mm. 47–50 the right and left hands mirror each other about an imaginary C#5 axis and project index number 2. The left-hand is consistently an eighth

Allegro $\text{♩} = 138 - 144$

f *ben ritmato*

15 *Più mosso*, $\text{♩} = 156$

p

23 *Tempo I*

mf

30 *Vivacissimo*, $\text{♩} = 164$

p *legato*

Meno mosso, $\text{♩} = 150$

40 *f*

47 *Vivacissimo*, $\text{♩} = 164$

p

63 *Tempo I*

f

dissonance is introduced, and strict symmetry is disrupted

Overview of the even index numbers

Section:	I	II	III	IV	V	VI	VII
Index number:	8	10	4	6	0	2	8
Transpositional “move”:	+2	+6	+2	+6	+2	+6	(which takes us back “home”)

Example 2. An inversional canon from Bartók’s “Subject and Reflection.”

⁹ Cherlin, “Dramaturgy and Mirror Imagery,” 52–53, uses the term “successive mirrors” to describe what we call inversional canons.

note behind the right-hand, realizing an inversive canon. In m. 63, another inversive canon occurs, but now the left hand is delayed two eighth notes, and the index number is 8.¹⁰

"Subject and Reflection" is an excellent stepping stone for *Nuit*. Bartók uses *every* even index number in the work. He does so by transposing the index numbers by $<+2>$ and then $<+6>$ until he reaches the original setting, which we might construe as "home." Two other structural features of "Subject and Reflection" are worth noting. First, the work occasionally deviates from strict inversive canons; for instance, in mm. 63–66, the left hand's E3 and A3 can be perceived as "dissonant" notes that disrupt or offset the mirror symmetry.¹¹ Second, Bartók periodically moves from strict one-to-one vertical correspondence to inversive canons, and back. Measures 23–25 and 40–42 illustrate two (of many) instances of changing alignment; such deviations are easily heard.

Palindromic symmetry is another important technique—especially in twelve-tone music. An inversive design with palindromic symmetry is a "temporal, horizontal" structure: it is organized around a midpoint on a horizontal plane, or time line, so that the first note is paired with the last note, the second note is paired with the penultimate note, and so on. Composers frequently employ two types of palindromes: pure retrogrades, which are R-symmetrical, and retrograde inversions, which are RI-symmetrical.¹² Example 3 provides an intriguing instance of horizontal symmetry in Luigi

¹⁰ Bernard, "Space and Symmetry," 188–91, addresses the large-scale symmetrical design of the pitch and pitch-class axes in this piece.

¹¹ The piece provides students with opportunities to hear "modulations" among and between inversive centers. Bartók uses different tempi to help listeners hear the progression of axes that unfold in the piece. In addition, the piece presents occasions to hear, model, and discuss disruptions of rhythmic canons and "pure" inversive designs. Such disruptions create an opportunity for students to notate the "correct" inversive partner for the right and left hands.

¹² Cherlin, "Dramaturgy and Mirror Imagery," 53, provides an extensive discussion of this mirror type. He calls this an interval palindrome, which "focuses upon the symmetrical display of ordered pitch intervals (or ordered pitch-class intervals, as the case might be) as they radiate out from some central axis." He then states that this mirror type "is normally the most difficult to perceive"

The musical score is for Dallapiccola's *Cinque canti*, iii. It features a vocal part and several instrumental parts. The vocal part consists of two staves, each with a treble and bass clef. The lyrics are "A - che - ron - te, A - che - ron - te...". The instrumental parts include fl. (flute), fl. in G, cl. in A, b. cl. in Bb, harp, piano, vla. (viola), and vcl. (violin). The score is written in 2/4 time and includes dynamic markings such as *ff* and *sf*. The vocal parts are marked with *ff* and *sf*. The instrumental parts are marked with *ff* and *sf*. The score is divided into two systems. The first system shows the vocal parts and the fl. and fl. in G parts. The second system shows the cl. in A, b. cl. in Bb, harp, piano, vla., and vcl. parts. The vocal parts are marked with *ff* and *sf*. The instrumental parts are marked with *ff* and *sf*. The score is written in 2/4 time and includes dynamic markings such as *ff* and *sf*. The vocal parts are marked with *ff* and *sf*. The instrumental parts are marked with *ff* and *sf*.

The two vocal presentations of "Acheronte" are palindromes with respect to their durations and their interval class profiles:

< Eb, D, G#, B, A >	< F#, E, G, Db, C >
ics: 1, 6, 3, 2	2, 3, 6, 1

Example 3. Horizontal (R1) symmetry in Dallapiccola's, *Cinque canti*, iii (1955-56)

Dallapiccola's *Cinque canti*. This cruciform structure is based on a row that is RI-symmetrical, which is to say that the row can be mapped onto itself under retrograde and inversion (under an odd

index number).¹³ The back-to-back statements of “Acheronte” create a palindrome with respect to duration, meter, and melodic profile. This palindromic symmetry is reflected in the voice’s pentachords, as the interval class succession <1, 6, 3, 2> is answered by <2, 3, 6, 1>.

In addition to vertical symmetry, inversive canon, and horizontal symmetry, students need to recognize a fourth type of symmetry: the *spiral*. A spiral is a configuration in which the inversive pairings between two lines alternate back-and-forth in register, creating a compound melodic line that incrementally wedges inward or outward. Example 4 highlights two inversive spirals from Bartók’s *Bagatelle*, op. 6, no. 2. Beginning with an A♭4/B♭4 dyad, the music in mm. 1–5 wedges outward, alternating between pitches above and below the fixed dyad. In m. 3, B4, which lies a semitone above the A♭4/B♭4 dyad, is answered by its partner G4, which lies a semitone below. The music then leaps to C5, two semitones above the fixed dyad, which is then answered by G♭4, and so on. We would want students to note three other aspects of the passage. First, the A4 axis is conspicuously absent. This is an important observation, because an axis need not be present (or audible) in a symmetrical context. Second, the leap to the half note E♭♭4 in m. 5 disrupts the symmetry: the E♭5 at the end of m. 4 is not immediately followed by its inversive partner, E♭4; instead the spiral overshoots to E♭♭4, which receives the duration of a half note.¹⁴ (We would argue that this substitution of E♭♭4 for E♭4 has far-

¹³ Dallapiccola referred to this design as an “ideogram.” He explained: “It is probably the case that I had chosen a series of this kind because of the need that I felt to draw the Cross on the score in musical notes, and at the same time to be able to show graphically the idea of the arms attached to the Cross by means of two other lines.” Variations of this ideogram appear five times in the central song, which serves as the dramatic core of the cycle. It is also worth noting that Dallapiccola insisted that these ideograms be reproduced faithfully in the score. This has been noted by many scholars, including Ann Phillips Basart, “The Twelve-tone Compositions of Luigi Dallapiccola” (PhD diss., University of California, 1960); Roberto Zanetti, *La musica italiana nel novencento* (Busto Arsizio: Bramante, 1985), 1174, n. 44; and Rosemary Brown, “Continuity and Recurrence in the Creative Development of Luigi Dallapiccola” (PhD diss., University of Wales, 1977).

¹⁴ It would be worthwhile to explore the role of the “missing” E♭4 here, discussing not only how Bartók saves this pitch for a later moment, but also addressing when it actually arrives and how it relates to the form of the piece. Another avenue of discussion would be to talk about

Allegro giocoso $\text{♩} = 76$

The musical score is for Bartók's Bagatelle, op. 6, no. 2, in 3/4 time, key of B-flat major. It is marked 'Allegro giocoso' with a tempo of quarter note = 76. The score is divided into three systems. The first system shows the right hand playing a continuous eighth-note spiral starting on B-flat, while the left hand is silent. The second system shows both hands playing a more complex rhythmic pattern. The third system shows the right hand playing a spiral starting on D-flat, while the left hand plays a continuous eighth-note pattern. The score is marked with a piano (p) dynamic and includes a fermata over the final measure.

Example 4. Two inversions spirals from Bartók's Bagatelle, op. 6, no. 2.

reaching implications for the deep-level pitch organization, which offers many subtleties upon closer inspection.) Third, the pitches of the right hand in mm. 19–21 are now symmetrically organized about $E\flat 5$ while the left hand $D\flat 4/E4$ dyad is symmetrically spaced about $E\flat 4$. Though the pitch axis has shifted a tritone away—to both $E\flat 5$ and $E\flat 4$ —the index number is still 6.

the rhythmic structure of the opening, or of more of the piece; for instance, one might imagine that m. 4 could be a basic idea repeated, leading to a sentence, but this realization is thwarted. A good model for a similar (analytical) application of pulse streams in a syncopated *Mikrokosmos* piece appears in John Roeder, "Rhythmic Process and Form in Bartók's 'Syncopation'," *College Music Symposium* 44 (2004), 43–57.

III. SOME OBSERVATIONS ON *Nuit*

Once students have become familiar with the four basic types of symmetrical designs and have explored longer, more challenging works in order to gain practice hearing, identifying, and modeling inversive settings (see Section IV of this article), they are ready to explore *Nuit*'s abundance of palindromic, vertical, and spiral designs that are governed by even and odd index numbers. As a detailed analysis of this work would far exceed the scope of this essay, we will examine a few excerpts to suggest the variety of symmetrical designs and to detail the structural shifts in axes. Those looking to engage more closely with the axial landscape will find that entire passages are inverted around different axes, bringing to light multiple, simultaneous points of reference.

The excerpt in Example 5 is emblematic: it features all four types of symmetry—vertical (both one-to-one and canonic), palindromic, and spiral—and it realizes these symmetrical designs with both even and odd index numbers (specifically 10, 7, and 0). This passage includes distinctive transitions among inversive settings that shift axes. Indeed, Papineau-Couture employs many strategies for moving among different pitch axes. One strategy involves single notes or dyadic “pivots” that provide gateways into new inversive settings (just as a pivot chord in tonal music can function simultaneously in two keys.) For instance, m. 27 projects a spiral design that is governed by the index number 10; the pitch axis is F4. The pitch realization highlights the pitch-class invariance—retained pitches or pitch classes after transpositional or inversive operations—between the initial gestures of the right and left hands, which share a (012) trichord, {A#, B, C}. The tempo of the spiral begins to slow upon the last iteration of A#1; there follows an even whole-tone collection (the one that includes the even-numbered pitch classes: A#1, C2, E2, F#5, D3, G#3) and a subset of the odd collection (the one that includes the odd-numbered pitch classes: C#4, A4, G4, D#4, F4). In m. 28, after the spiral finally attains the F4 axis, it is immediately followed not by D#4 and G4, the expected partners under index number 10, but rather by D#4 and E5. The tremolo, then, effectively modulates to index number 7. The shift from an even to an odd index number is striking, because the whole-tone sonorities in the inversive spiral are banished in favor of “crunchier” odd intervals comprising 13, 7, and 1 semitones (the midpoint A4/Bb4).

(a) Inversional spiral, index number 10, convergence on F#4

Vertical symmetry, index number 7, axis A4/B#4

Vertical canon, index number 0, axis F#4

palindromic realization of vertical symmetry

una corda

Example 5(a). *Nuit*, mm. 27–30

A similar modulation occurs in m. 29. The music at the beginning of m. 29 is governed by index number 7. After the second fermata, we have every reason to expect that the repeated C#5 in the right hand will be followed by F#4; instead it is answered by B3, which modulates to index number 0. From another perspective, F#4, the

(b) **Horizontal and vertical symmetry, with index number 0 and an axis of F#4**

vertical ← horizontal → vertical horizontal begins anew →

31 *poco rubato* *mf* *f* *mf* *p* *f*

tre corde

Horizontal symmetry continues

32 *tempo* *mf* *mf* *pp* *f*

horizontal midpoint *poco rubato* horizontal ends with verticality

senza ped. senza ped.

I0 symmetry continues

33 *mf* *cresc.*

senza ped.

(c)

Examples 5(b). *Nuit*, mm. 31–33; and 5(c), *Nuit*. Pitch summary of the acceleration in m. 33, situated about the F#4 axis.

lower note of the fermata, becomes the new axis, while C#5, the higher note, initiates a new idea. (The change in tempo is also significant: specific tempos are matched to distinct index numbers and thus different inversive designs.)

Example 6. The culmination of *Nuit*.

The culmination of *Nuit*, shown in Example 6, weaves together a number of previous configurations. The pitch material in mm. 46–48 (reproduced on the bottom staff) and mm. 49–51 (on the top staff) is reflected about an F#4 axis, thus enforcing a large-scale projection of index number 0. The passage features four instances of vertical symmetry governed by odd index numbers (7 and 5) and two instances of palindromic symmetry governed by index number 0. In addition, this passage contains brief sections of free, atonal music. For example, the transitional material between indexes 7 and 5 unfolds three trichords, each a member of set class (016). Analysis of these three collections reveals that the second (016) trichord is inversionally (not transpositionally) related to the first and third under T_2I and T_5I respectively. The strumming on the strings at the end of m. 49 (notated with squiggly lines) signals that the pitch material in mm. 46–48 will now be reflected about F#4, beginning with index 7 in m. 49. (As an aside, strumming is routinely used in the work to “re-set” the pitch surface and erase or obscure pitch axes. This mode of articulation thus serves as a formal marker, or punctuation device.)

There is a great deal more to say about this intriguing and intricate composition, including the use of derived aggregates, (ordered) twelve-tone strings, and systematic relationships among timbres and rhythms. One might use *Nuit* as the focus of a midterm or final project. We might ask students to choose a brief passage from the piece and explore it in depth or write on the variety of inversive patterns; or even write a “model composition” that exploits the four types of symmetries. We might also ask students to create a *road map* of the work that would annotate what they see and hear in the work. The road map might be literal or abstract; it might focus on gestures, pitch and pitch classes, or axes; in short, a road map could take on a number of forms.

Example 7 offers such a road map of *Nuit*, one that highlights some of its salient characteristics. This reduction reveals associations among vertical, palindromic, and spiral configurations. It also provides an overview of the underlying pitch structure, which covers the entire range of the keyboard. On a first or second hearing the pitch structure and the proliferation of axial designs might seem bewildering and complex. However, repeated hearings (reinforced by a close reading of the score) reveal just a handful of symmetrical axes, chief among them repetitions about F4 (mm. 22–27 and 34–35) and F#4 (mm. 29–34 and 46–50), and collisions of A4/B♭4 (mm. 2–9, 21, 28–29, 49, and 51). Such changes in the background axial organization signal important melodic, harmonic, and formal events. Notice, for instance, that the music at the very end of *Nuit*, mm. 50–51, flashes back to the first two measures (and the initial axis of symmetry, too). In a sense, the strumming at the end of m. 50 and the vertical symmetry in m. 51 create a structural frame: these two gestures appear at both the beginning and the end of the piece. This framing technique is a deep-level manifestation of horizontal symmetry.

A deeper analysis of *Nuit* will uncover many variants of the procedures just discussed, some obvious and others subtle. To explore further the counterpoint of inversive designs an instructor might adopt a “pair, share, and compare” strategy. First, divide the piece into discrete sections, parse the class into groups, and encourage each group to explore a section in as much detail as possible. Then re-convene the entire class, and ask one member from each group to join another group so that each person takes turns teaching his or her section to the rest of the students. A second class

(or third) could then ask the original (or newly formed) groups to put the pieces together and find deeper connections among formal elements and, of course, inversive designs.

The musical score for "Nuit" is presented in a single system with measures numbered 2 through 53. The score is divided into several sections, each with specific musical and structural annotations:

- Measures 2-16:** Labeled "V (vertical)" and "H (horiz.)". Measure 2 has a box containing the number 2. Measure 4 has a box containing the number 3. Measure 5 has a box containing the number 4. Measure 6 has a box containing the number 5. Measure 7 has a box containing the number 6. Measure 8 has a box containing the number 7. Measure 9 has a box containing the number 8. Measure 10 has a box containing the number 9. Measure 11 has a box containing the number 10. Measure 12 has a box containing the number 11. Measure 13 has a box containing the number 12. Measure 14 has a box containing the number 13. Measure 15 has a box containing the number 14. Measure 16 has a box containing the number 15. Annotations include "Small notes indicate axial boundaries" and "last note trails off".
- Measures 17-25:** Labeled "S (spiral)". Measure 17 has a box containing the number 17. Measure 18 has a box containing the number 18. Measure 19 has a box containing the number 19. Measure 20 has a box containing the number 20. Measure 21 has a box containing the number 21. Measure 22 has a box containing the number 22. Measure 23 has a box containing the number 23. Measure 24 has a box containing the number 24. Measure 25 has a box containing the number 25. Annotations include "last note → new axis".
- Measures 26-33:** Labeled "Spiral". Measure 26 has a box containing the number 26. Measure 27 has a box containing the number 27. Measure 28 has a box containing the number 28. Measure 29 has a box containing the number 29. Measure 30 has a box containing the number 30. Measure 31 has a box containing the number 31. Measure 32 has a box containing the number 32. Measure 33 has a box containing the number 33. Annotations include "D# = pivot to new axis" and "bottom note (F#) becomes new axis".
- Measures 34-45:** Labeled "Spiral". Measure 34 has a box containing the number 34. Measure 35 has a box containing the number 35. Measure 36 has a box containing the number 36. Measure 37 has a box containing the number 37. Measure 38 has a box containing the number 38. Measure 39 has a box containing the number 39. Measure 40 has a box containing the number 40. Measure 41 has a box containing the number 41. Measure 42 has a box containing the number 42. Measure 43 has a box containing the number 43. Measure 44 has a box containing the number 44. Measure 45 has a box containing the number 45. Annotations include "bottom note → new axis" and "boundary notes → top of axis".
- Measures 46-53:** Labeled "V summary: note-against-note, imitation, and nestings". Measure 46 has a box containing the number 46. Measure 47 has a box containing the number 47. Measure 48 has a box containing the number 48. Measure 49 has a box containing the number 49. Measure 50 has a box containing the number 50. Measure 51 has a box containing the number 51. Measure 52 has a box containing the number 52. Measure 53 has a box containing the number 53. Annotations include "structural frame (echo of m.2)".

Example 7. A "road map" of *Nuit*.

IV. WRITING/ANALYTICAL EXERCISES

Example 8 lists a handful of octatonic, atonal, and twelve-tone compositions that are well suited for a module on inversion. This list represents just a fraction of the symmetrical repertoire, of course. Some of the works exhibit transparent realizations of inversive symmetry; others are rather complex and could certainly be the focus of several class meetings. We endorse these pieces for several reasons: we have used them with a degree of success, scores and recordings are relatively easy to obtain, and we are confident that they will provide students with the skills to confront *Nuit* (or another composition worthy of a capstone project).

Vertical symmetry. Bartók's *Mikrokosmos* contains many instances of vertical symmetry in note-against-note and canonic formations. Suitable candidates include:

# 105 ("Game," mm. 10–18)	easy
# 109 ("Isle of Bali")	easy
# 142 ("From the Diary of a Fly")	medium
# 141 ("Subject and Reflection")	medium
# 144 ("Minor 2nds, Major 7ths")	medium
# 140 ("Free Variations")	harder

More extensive inversive designs can be found in Bartók's larger pieces, such as *Music for Strings, Percussion, and Celesta*, the Fourth and Fifth String Quartets, the scherzo movement from the *Suite*, op. 14, and the Sonata for Two Pianos and Percussion. "Song of the Harvest," for two violas, features a straightforward use of vertical symmetry with invertible counterpoint in an octatonic context. See also Webern's Canons, op. 16. Analyses of these pieces include (among others): Elliott Antokoletz, *The Music of Béla Bartók: A Study of Tonality and Progression in Twentieth-Century Music* (Berkeley: University of California Press, 1984), Antokoletz, *Twentieth-Century Music* (Englewood Cliffs, NJ: Prentice Hall, 1996); Jonathan Bernard, "Space and Symmetry in Bartók," *Journal of Music Theory* 30/2 (1986), 185–201; Richard Cohn, "Inversive Symmetry and Transpositional Combination in Bartók," *Music Theory Spectrum* 10 (1988), 19–42; Edward Gollin, "Some Unusual Transformations in Bartók's 'Minor 2nds, Major 7ths,'" *Intégral* (1998), 25–51; Robert Katz, "Symmetrical Balancing of Local Axes of Symmetry in Bartók's Divided Arpeggios," *International Journal of Musicology* 2 (1993), 333–347; George Perle, "Symmetrical Formations in the String Quartets of Béla Bartók," *Music Review* 16 (1955), 300–312; and Leo Treitler, "Harmonic Procedures in the Fourth Quartet of Béla Bartók," *Journal of Music Theory* 3/2 (1959), 292–298.

Example 8. Examples of symmetry from the literature. (*continued next page*)

Inversional canons in twelve-tone settings:

Webern, Op. 27/ii	easy
Dallapiccola, <i>Quaderno musicale di Annalibera</i> , iii and v	easy
Carter, <i>Canon for 3</i>	medium
Webern, Op. 21, i and Op. 22, i	medium

Representative analyses include Brian Alegant, *The Twelve-Tone Music of Luigi Dallapiccola* (Rochester, NY: University of Rochester Press, 2010); Kathryn Bailey, "The Twelve-Note Music." *Canadian University Music Review* 9/1 (1988), 83–103; Bailey, *The Twelve-Note Music of Anton Webern: Old Forms in a New Language* (Cambridge: Cambridge University Press, 1991); Thomas DeLio, "Spatial Design in Elliott Carter's *Canon for 3*," *Indiana Theory Review* 4/1 (1980), 1–12; Andrew Mead, "Webern, Tradition, and 'Composing with Twelve Tones'," *Music Theory Spectrum* 15/2 (1993), 173–204; Catherine Nolan, "Structural Levels and Twelve-Tone Music: A Revisionist Analysis of the Second Movement of Webern's Piano Variations opus 27," *Journal of Music Theory* 39/1 (1995), 47–76; and Peter Westergaard, "Webern and 'Total Organization': An Analysis of the Second Movement of Piano Variations, Op. 27," *Perspectives of New Music* 1/2 (1963), 107–120.

Palindromic (retrograde and retrograde-inversional) symmetry is found in:

Webern, Op. 27, i	easy
Dallapiccola, <i>Goethe-Lieder</i> , ii	easy
Crumb, <i>Madrigals</i> , Book IV, i ("¿Por qué nací ...")	easy
Dallapiccola, <i>Sex carmina alciae</i> , i, ii	easy
Webern, Op. 21, i (middle section), ii (all)	medium
Babbitt, <i>The Widow's Lament in Springtime</i> (vocal lines)	difficult

More extended examples of palindromes are found in Berg's *Lulu* (mm. 656–718, the heart of the "film" scene); *Der Wein* (mm. 112–172); and (though less strict) the *Lyric Suite*, iii, and Chamber Concerto, ii. Another extended instance of palindromes is found in Dallapiccola's *Commiato*, whose first and fifth and second and fourth movements are near exact palindromes with respect to pitch and rhythm. See Thomas DeLio, "Spatial Design in Elliott Carter's *Canon for 3*," *Indiana Theory Review* 4/1 (1980), 1–12; Catherine Nolan, "New Issues in the Analysis of Webern's 12-Tone Music," *Canadian University Music Review* 9/1 (1988), 83–103; George Perle, *The Operas of Alban Berg: II: Lulu* (Berkeley: University of California Press, 1985); Perle, *Style and Idea in the Lyric Suite*, 2nd ed. (Hillsdale, NY: Pendragon, 2001); and Mark Starr, "Webern's Palindrome," *Perspectives of New Music* 8/2 (1970), 172–42.

Example 8. Examples of symmetry from the literature. (continued)

As a supplement to the pieces listed in Example 8, the brief exercises in Example 9(a) can help students explore various realizations of inversional symmetry. To begin, we might ask students to identify the inversional type (spiral, palindrome, etc.), label the index number, show the pitch-class mappings, and specify the pitch and pitch-class axes. We might then ask them to re-notate each canonic passage as a note-against-note design, and to realize the design on the keyboard or another instrument. They could then transform each design from an even context to an odd one, or vice versa, to hear (and feel) the latent harmonic differences of even and odd configurations. Then we might ask students to react to the surface: Is the axis present? How is it emphasized? Are there irregularities in the realization of the design? What do you *hear*? And finally, a bit of speculation: based upon your understanding of the opening, what might you expect to happen in the remainder of the movement?

Once students are comfortable analyzing inversional settings, they can begin to create their own inversional designs. Initially, we would give them fragments or melodies, such as those shown in Example 9(b), which they could manipulate under even and odd index numbers, in staggered imitation, in note-against-note formations and inversional canons.¹⁵ Eventually they could create their own designs and model compositions from scratch, and have them perform their realizations on the piano or another instrument. These performances can be performed on pairs of like instrumentation (e.g., strings) and unlike instrumentation (e.g., oboe and cello). A performance with varied instrumentation would work best, for students can then hear the different timbres and effects. More ambitious students could fashion palindromic melodies and utilize different inversional contexts, rather than employing a single index number for the entire piece. Such activities would provide many opportunities for feedback and discussion.

¹⁵ Having students successfully create spiral designs from a given melody depends on the structure of the melody; thus this exercise is more abstract in design. For instance, we would ask students to create an inward or outward spiral based on an even or an odd index number. We would then instruct them to freely swap any notes with its neighbor. So an outward index-2 spiral could jump back and forth from <1 (axis) 2 0 3 e 4 t 5 9 6 8 7> to <1 (axis) 0 2 e 3 4 5 t 9 8 6 7>. Students could realize this design in pitch space, either “rhythmicized” or in even note values. They could then harmonize each note, or pairs of notes, of the scale with trichords or other collections.

(a) For the following passages, please provide the axis of symmetry (there may be more than one), the index number, and the inversional type (vertical, horizontal, spiral, or inversional canon). Also, write a brief response to each passage. You can focus on rhythm, texture, and the presence (or not) of the axis pitch.

Webern, *Symphonie*, op. 21, first movement, mm. 1–6

2 Horns

Bartók, "Chromatic Invention," Mikrokosmos, no. 91, mm. 11–15

Perle, *Modal Suite* (mm. 5–6 and 11–12)

(b) For the following melodies, create your own compositional designs, manipulating these tunes under even and odd index numbers, in staggered imitation (inversional canons), note-against-note formations, and spirals.

Dallapiccola, *Sex Carmina Alcaeï*, mm. 2–5

Voice

Lass dein - nen sis - sen Ru bi - nen - mund -

Schoenberg, *String Quartet no. 4*, first movement, mm. 1–2

Violin I

Examples 9(a) and 9(b). Exercises to reinforce inversional concepts.

We hope to have achieved two aims with this essay. The first is to give instructors a head start on devising a self-contained unit on inversion. These exercises will help students learn to successfully hear, identify, and write about the different types of inversional contexts that they are likely to encounter in the literature. By the time students create their own inversionally organized realizations, they will be able to analyze the varied inversional contexts in *Nuit*. Our second goal is to further the conversation on teaching inversion in post-tonal music and to suggest that *Nuit*, with its bewildering variety of symmetrical designs that interact on local and large-scale levels of organization, is indeed a composition worthy of study and reflection.

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A Revised Taxonomy for Music Learning

DEBORAH RIFKIN AND PHILIP STOECKER

INTRODUCTION

A mong college music teachers, it is commonly lamented that ear-training skills develop more slowly than other kinds of musical knowledge, such as written theory skills. Informally, the “ear” develops more slowly than the “mind.” Intrigued by this phenomenon, which suggests that the learning process for aural skills could be different compared to other types of knowledge, we have evaluated our students and our own pedagogy for years with the intent of developing a learning taxonomy for aural development. That is, we sought adaptations that catered specifically to music learning by accommodating the time-sensitive nature of performed arts, rather than the more spatial emphasis that we believe persists with most prior learning theories. This article has two goals: the first goal is to present our revised taxonomy of learning for music classes; the second goal is to demonstrate how our taxonomy can be used to design classroom activities for both tonal and atonal aural skills courses.

A learning taxonomy classifies learning objectives and identifies different levels of learning, which are typically arranged from low-order objectives on the bottom to higher ones at the top. Why develop a new learning taxonomy? It can help a teacher design effective lesson plans and coursework, and it can also inform decisions about better ways to evaluate and assess student learning. One thing that differentiates a good aural-skills teacher from an excellent one is the ability to diagnose a problem in class and improvise an impromptu exercise to address it. A learning taxonomy can help a teacher with this formidable task because it provides categories for types of problems and a framework for advancing learning. A learning taxonomy can also help students by making them self-aware of their own learning process. For example, when a student comes to our office hours for a problem they are having in an aural skills course, it is not uncommon for them to begin the conversation with a self-assessment of the challenge, including which stage of the taxonomy they believe it resides in. This kind of introspection

makes it easier for them to self-diagnose and to come up with their own strategies for success.

Although there have been some notable exceptions in the last few years, aural skills pedagogy has been a woefully neglected area of study in modern American colleges, universities, and conservatories. Consider the question: how many music theory textbooks can you name? Now, how many aural skills textbooks? Do you consider the books you named for aural skills as actual textbooks? Some of the most widely used aural skills texts—e.g., Ottman and Roger's *Music for Sight-Singing*—are essentially anthologies.¹ Although there is a pedagogical impetus behind the organization and chronology of excerpts within these texts, the guidance is hidden—implicit, rather than explicit. With the rise of comprehensive musicianship curricula, recent college textbooks take a more integrative approach, providing more structured guidance on aural skills development within theory courses.² Our taxonomy is intended as a continuing step toward a pedagogical method for an essential, yet elusive, part of every musician's undergraduate experience—ear training.³

¹ Robert W. Ottman and Nancy Rogers, *Music for Sight Singing*, 8th ed. (Upper Saddle River, NJ: Prentice Hall, 2010); Gary Karpinski and Richard Kram, *Anthology for Sight Singing* (New York: W.W. Norton, 2007); Thomas Benjamin, Michael M. Horvit, and Robert Nelson, *Music for Sight Singing*, 4th ed. (Belmont, CA: Thomson/Schirmer, 2005); Bruce Benward and Maureen A. Carr, *Sightsinging Complete*, 7th ed. (Boston, MA: McGraw-Hill, 2006); Sol Berkowitz, Gabriel Fontrier, and Leo Kraft, *A New Approach to Sight Singing*, 5th ed. (New York: W.W. Norton, 2011); David Damschroder, *Listen and Sing: Lessons in Ear-Training and Sight-Singing* (New York: Schirmer Books, 1995).

² Steven G. Laitz, *The Complete Musician: An Integrated Approach to Tonal Theory, Analysis, and Listening*, 3rd ed. (New York: Oxford University Press, 2011); Jane Piper Clendinning and Elizabeth West Marvin, *The Musician's Guide to Theory and Analysis* (New York: W.W. Norton, 2nd ed., 2010); Michael R. Rogers discusses the advantages and disadvantages to integrated approaches to theory and aural skills. See the second chapter ("Philosophical Orientations," pp. 15–30) of Michael R. Rogers, *Teaching Approaches in Music Theory: An Overview of Pedagogical Philosophies*, 2nd ed. (Carbondale: Southern Illinois University Press, 2004). In this chapter he discusses the strengths and weaknesses of the comprehensive musicianship approach to teaching.

³ Although we use the word ear training, other terms that could be used interchangeably include aural skills, sight singing, and musicianship.

In 2000, Gary Karpinski published a seminal guide entitled *Aural Skills Acquisition: The Development of Listening, Reading, and Performing Skills in College-Level Musicians*.⁴ This book launched aural skills pedagogy to new heights by basing its recommendations on experimental studies in music cognition and perception. His central tenet, grounding aural skills pedagogy with our knowledge of perception and cognition, has been the driving force behind our taxonomy. A few years later, Karpinski published a *Manual for Ear Training and Sight Singing*, which is an aural skills textbook designed according to the research, techniques and philosophies in his first book.⁵ This resource demonstrates how to incorporate the abstract principles of *Aural Skills Acquisition* into pedagogical practice. The text is comprehensive, but also linear in its design, which makes it somewhat challenging to use if your school does not adopt the curriculum wholesale.⁶ Our taxonomy provides a generalized learning theory based upon Karpinski's recommended techniques. In other words, it provides a framework for designing and implementing best practices in aural skills pedagogy that can be adopted to suit any curricular needs. With the aid of our taxonomy, teachers can develop their own teaching strategies geared for their specific students. In the following paragraphs, we will introduce our taxonomy, comparing it to prior learning taxonomies and describing the evidence-based cognition studies that inspired our revisions for music learning.

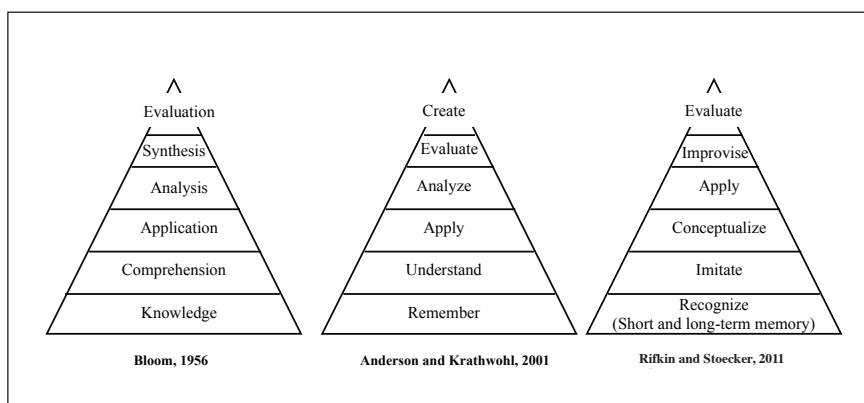
⁴ Gary Karpinski, *Aural Skills Acquisition: The Development of Listening, Reading, and Performing Skills in College-Level Musicians* (New York: Oxford University Press, 2000).

⁵ Gary Karpinski, *Manual for Ear Training and Sight Singing* (New York: W.W. Norton, 2007).

⁶ For instance, Karpinski's text assumes a four-semester tonal sequence, yet many schools use a three-semester tonal sequence with the fourth semester devoted to atonal music.

TAXONOMIES

In 1956, Benjamin Bloom edited a handbook titled *Taxonomy of Educational Objectives: The Classification of Educational Goals*, which became a seminal document for assessing pedagogical efficacy.⁷ In the original conception of the taxonomy, Bloom identified three domains: cognitive (i.e., mental skills), affective (i.e., emotional areas), and psychomotor (i.e., physical skills). Beginning with the cognitive domain, Bloom provided a list of educational objectives or goals followed by a later publication of the educational goals for the affective domain.⁸ Taxonomies for the psychomotor domain were completed by other scholars.⁹



Example 1. Comparison of Learning Taxonomies

Our interest is in Bloom's taxonomy for the cognitive domain. As shown in Example 1, Bloom identified a sequence of six cognitive

⁷ Benjamin S. Bloom, *Taxonomy of Educational Objectives: The Classification of Educational Goals*, 1st ed. (New York: Longmans, Green, 1956).

⁸ Benjamin Bloom, Anderson Krathwohl, and Bertram Masia, eds., *Taxonomy of Educational Objectives: The Affective Domain*, vol. 2 (New York: David McKay, 1964).

⁹ Ravindrakumar Dave, "Psychomotor Levels," in *Developing and Writing Behavioral Objectives*, ed. Robert Armstrong (Tucson, AZ: Educational Innovators Press, 1970); Anita Harrow, *A Taxonomy of the Psychomotor Domain: A Guide for Developing Behavioral Objectives* (New York, NY: David McKay, 1972); Elizabeth Simpson, *The Classification of Educational Objectives: The Psychomotor Domain*, vol. 3 (Washington, DC: Gryphon House, 1972).

levels that lead from basic to advanced stages of learning. For Bloom, the beginning stages of learning include *knowledge* (recalling specific bits of information), *comprehension* (understanding the meaning of communicated material), and *application* (the use of learned material in different, concrete situations); his later stages are *analysis* (ability to break down material into its component parts to understand its patterns), *synthesis* (the ability to put parts together to form a new whole), and *evaluation* (the ability to judge the value of a product for a given purpose). Although Bloom's *Taxonomy of Educational Objectives* has been translated into 22 languages and is one of the most widely applied and most often cited references in education, the taxonomy was intended for general, traditional classrooms, not necessarily for the specific needs of music students.

In the past decade, there have been numerous revisions of Bloom's taxonomy based on research in cognitive development and educational psychology. Arguably, the most famous of these is a publication edited by Anderson and Krathwohl (2001), which was the culmination of six years of collaboration between cognitive psychologists, curriculum theorists, instructional researchers, and assessment specialists.¹⁰ The middle column of Example 1 illustrates the changes recommended by Anderson and Krathwohl.¹¹ One of their most significant revisions is the emphasis on active learning, represented by a switch from nouns, originally listed by Bloom, to verbs in their taxonomy. In addition, Anderson and Krathwohl reverse the order of the last two stages so that *create* becomes the highest learning level above *evaluate*.¹²

In our music taxonomy, shown on the right of Example 1, we have re-ordered and re-named some of Anderson and Krathwohl's learning stages to better represent our understanding of how

¹⁰ Lorin W. Anderson and David R. Krathwohl, eds., *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives* (New York: Longman, 2001).

¹¹ The Anderson and Krathwohl revision had two significant components. The first was to redesign Bloom's original taxonomy; the second was to distinguish between different kinds of knowledge, which they described as factual, conceptual, procedural, and metacognitive. Example 1 only references the first part of Anderson and Krathwohl's revisions.

¹² For an excellent review of Anderson and Krathwohl's revisions of Bloom's taxonomy and its implications for national standards in music education, see Wendell Hanna, "The New Bloom's Taxonomy: Implications for Music Education," *Arts Education Policy Review* 108, no. 4 (2007), 7–16.

information is processed when it is presented aurally. For us, the beginning stages of music learning include *recognize* (remember previous music events), *imitate* (recall and repeat previous music events), and *conceptualize* (analyze and concretize in one's mind); our later stages are *apply* (the use of learned material in different, musical environments and contexts), *improvise* (create music within temporal constraints), and *evaluate* (the ability to judge the value of a product for a given purpose). In each case, our new name for the learning level changes the general verb in Anderson and Krathwohl's taxonomy to a more specific term that accounts for an ephemeral, aural source stimulus. For instance, we have renamed their *remember* stage to *recognize*. When a listener recognizes or recalls that a musical pattern has repeated, this cognitive act is a specialized type of remembering that centralizes the aural event.¹³ Our new label emphasizes the idea that there are different types of remembering.¹⁴ We base this revision on experiments that confirm, for example, that the contour of a melody is remembered independently and more accurately than specific pitches.¹⁵ Thus, a contour is recognized, before the pitches of a melody are remembered.

¹³ Several experiments support the idea that music training affects some kinds of memory and not others. Specifically, studies suggest that musicians have better verbal memory, not visual memory. See, Michael Franklin et al., "The Effects of Musical Training on Verbal Memory," *Psychology of Music* 36, no. 3 (2008), 353–65; Yim-Chi Ho, Mei-Chun Cheung, and Agnes S. Chan, "Music Training Improves Verbal but Not Visual Memory: Cross-Sectional and Longitudinal Explorations in Children," *Neuropsychology* 17, no. 3 (2003), 439–50.

¹⁴ For another implementation of Bloom's taxonomy, see James Caldwell, "Using Bloom's Taxonomy to Develop an Approach to Analysis," *Journal of Music Theory Pedagogy* 3, no. 2 (1989), 223–32. He includes a list of related verbs for each stage. For example, the verbs listed under Bloom's "Knowledge" stage include "list, recall, remember, define, identify, label, [and] recognize."

¹⁵ W. Jay Dowling, "Melodic Contour in Hearing and Remembering Melodies," in *Musical Perceptions*, eds. Rita Aiello and John Sloboda (New York: Oxford University Press, 1994), 173–90; W. Jay Dowling, "Scale and Contour: Two Components of a Theory of Memory for Melodies," *Psychological Review* 85, no. 4 (1978), 341–54.

In addition to modifications at the first level, we have also made changes to higher levels. For example, we have changed Anderson and Krathwohl's *understand* stage to *imitate*. In the earlier study, the *understand* phase includes the ability to classify, identify, or describe events. In music, the main method for classifying, identifying, and describing events is to perform them back, to imitate them. Last, we re-named Anderson and Krathwohl's *create* stage to *improvise*, which is creating music within a time constraint. Our term emphasizes the performance-based context of creating.

One of our significant ordering revisions is shifting the *apply* stage toward a more advanced stage of learning, as a synthesizing level, which is similar to Bloom's original version. This alteration attends to the ephemeral nature of a musical stimulus. *Applying* occurs when a student uses the information in a new way or in a new context. Music students often need some sort of conceptual map, usually a visual or kinesthetic representation before they can apply and synthesize a new musical concept.

To conceptualize a musical event is to analyze it and create a way to concretize it in one's mind.¹⁶ Often, this type of conceptualization is built around musical expectations. In tonal music, pitch expectations are commonly modeled by scale-degree function (e.g., moveable do solfège).¹⁷ Many cognitive studies indicate that expectations play a significant role in musical conceptualization.¹⁸ An especially well-designed experiment was published in 1988 by Yoko Oura and Giyoo Hatano, which not only compares children to young adults, and musically experienced versus inexperienced, but also musical memory versus verbal memory. The study confirmed that knowing what to expect musically was much more important for melody recall than general cognitive development or age.¹⁹

¹⁶ We have not eliminated *analysis/analyze* from our taxonomy but placed it under the umbrella of *conceptualize*.

¹⁷ It is much harder to process, recognize, and recall atonal melodies since musical *expectations* are much less circumscribed.

¹⁸ For a summary of cognitive studies supporting the role of expectation in musical conceptualization, see Lyle Davidson and Patricia Welsh, "From Collections to Structure: The Developmental Path of Tonal Thinking," in *Generative Processes in Music: The Psychology of Performance, Improvisation, and Composition*, ed. John Sloboda (New York: Clarendon Press/Oxford University Press, 1988), 261.

¹⁹ Yoko Oura and Giyoo Hatano, "Memory for Melodies Among

According to Oura and Hatano, grade-school children who had musical experience—years of music study—tended to remember and process melodies better than college-aged students who had considerably better cognitive skills and memory capabilities. Because of studies like this one, we place conceptualization in the middle of our taxonomy; conceptualization affects both low and high stages of learning. Upon reflection, we believe conceptualization plays a role in transferring knowledge from short- to long-term memory. Looking forward, our classroom experience tells us that the mindful mapping of the conceptualize stage needs to happen before a student can “apply” their knowledge to new situations.²⁰

Another reason for the centrality of *conceptualization* is that it is the stage that has the most potential for improving real-time sight-singing. When a student sings an unknown pitch pattern, rhythm pattern, or melody for the first time and produces an error, that error can often be corrected by some *conceptual* guidance from the teacher. Indeed, many of the tools used by sight-singing teachers, (e.g., pitch and rhythm solfège, harmonic analysis, registral connection of anchor pitches, resolution patterns, sequential patterns, etc.,) are effective because they encourage some form of conceptual mapping. Often, sight-reading errors can be corrected by simply encouraging an alternate conceptualization of musical events.

Finally, we consider the pinnacle of the learning triangle to be *evaluate*, similar to Bloom’s original conception in 1956. We advocate this arrangement because students need to examine and judge their own creative output in order to reinvigorate the learning process for the next learning task. Placing *evaluate* at the top of the taxonomy encourages a circular process in which a student uses the insights from their evaluation stage as the starting point for their next learning objective. In other words, having improvised a musical event a student can advance their learning by identifying its strengths and weaknesses and then *use* these results to inform their next attempt.

Subjects Differing in Age and Experience in Music,” *Psychology of Music* 16, no. 2 (1988), 91–109.

²⁰ For an experimental study that supports a correlation between solfège instruction and successful application in sightreading, see Michele Len Henry, “The Use of Targeted Pitch Skills for Sight-Singing Instruction in the Choral Rehearsal,” *Journal of Research in Music Education* 52, no. 3 (2004), 206–17.

Not coincidentally, the reader will notice a strong correspondence between the learning stages of our taxonomy and Karpinski's stages of dictation. Table 1 summarizes the correlations.

Karpinski's Dictation Stages	Our Corresponding Taxonomy Levels
Hear	n/a
Remember	Recognize
Understand	Conceptualize
Notate	Apply

Table 1. Correlations between Karpinski's stages of dictation and our stages of learning.²¹

By designing a learning taxonomy similar to Karpinski's outline of the dictation process, we aim to generalize his pedagogical principles so that they can be applied to other pedagogical pursuits in the aural skills classroom.

We end this introduction to our taxonomy with a brief note on implementation. With the immense amount of data confirming the importance of active learning, we retain Anderson and Krathwohl's use of verbs throughout the taxonomy. When using this taxonomy to develop pedagogical strategies, there should be a strong emphasis on active and cooperative learning. We will now turn our discussion to the role of memory in music learning, a topic that motivated our changes to the bottom stages of our learning taxonomy.

THE ROLE OF MEMORY IN MUSIC LEARNING

Karpinski writes that musical memory seems to be different than other types of brain functions.²² Similarly, Howard Gardner classifies musical intelligence separately from other kinds of intelligences,²³ and Diana Deutsch has shown that pitch memory

²¹ Karpinski, *Aural Skills Acquisition*, 62–103.

²² Karpinski, *Aural Skills Acquisition*, 37.

²³ Howard Gardner, *Multiple Intelligences: The Theory in Practice* (New York: Basic Books, 1993).

is coded in a nonverbal way.²⁴ From a neuroscience perspective, Marin and Perry's findings suggest that musical working memory may be a specialized subsystem of general working memory.²⁵ Our revisions of the learning taxonomy were motivated by the distinctive role memory plays in music learning. Whereas Anderson and Krathwohl describe their first *remember* stage as extracting information from long-term memory, we include short-term memory in our first stage because it is an essential step leading toward long-term memory for musical information perceived in time. As we will demonstrate, memory is *the* primary element of the learning process for music because without it there is no retention of the stimulus. To emphasize the importance of memory for music learning, we have provided three rhythmic excerpts in Example 2. Consider each of the rhythmic patterns and assess how easy or difficult it would be to memorize the pattern from a *heard* stimulus, i.e., without reading notation.

First pattern

Second pattern

Third pattern

Example 2. Rhythmic patterns

According to George Miller's seminal article in 1956, an average person can retain five to nine discrete items in short-term memory.²⁶

²⁴ Diana Deutsch, "Tones and numbers: Specificity of interference in immediate memory," *Science* 168 (1970), 1604–05.

²⁵ Oscar S. M. Marin and David W. Perry, "Neurological Aspects of Music Perception and Performance," in *The Psychology of Music*, 2nd ed. (San Diego, CA: Academic Press, 1999), 653–724.

²⁶ George A. Miller, "The Magical Number Seven, Plus or Minus Two:

In the first pattern there are 16 attacks, which is beyond what most can retain in short-term memory. However, one probably would not have trouble remembering what to clap. There might be trouble knowing when to end the pattern, but using Gestalt principles one would probably recognize that there is a very consistent pattern. In fact, every clap lasts the same duration.

The second pattern has more diversity of rhythmic figures and has a higher number of attacks, but it would probably be easier to remember when to end. The differentiation between long and short notes helps a listener segment the pattern into larger chunks. Karpinski names this cognitive task, appropriately enough, *chunking*.²⁷ Depending how large a chunk one chooses the second pattern could be conceptualized as three repetitions of a six-note pattern or six repetitions of a three-note pattern. In fact, introducing students to *chunking* strategies like this is one way to help students improve their musical memory. The third pattern uses the same rhythmic figures as the second one and has fewer attacks, yet it would probably be harder to memorize. Because the pattern of long and short notes is not consistent, it is harder to chunk the rhythm into a memorable sequence.

This experiment highlights the close association that exists between our *recognize*, *imitate*, and *conceptualize* stages. The conceptual process of *chunking*, which provided a hierarchy of rhythmic proportions and metrical grouping, helped organize musical entities so that they would be easier to recognize and imitate. Similarly, in the pitch realm *melodic anchoring* can work in conjunction with *chunking* to organize sounds into memorable units. *Melodic anchoring* is a conceptualizing activity that processes melodic pitches into hierarchical relationships according to their relative stability, which is assessed by their consonance-dissonance

Some Limits on Our Capacity for Processing Information," *Psychological Review* 63 (1956), 81–97.

²⁷ Karpinski, *Aural Skills Acquisition*, 73–78. Karpinski is not the first to use the term *chunking*. Generally, George Miller is attributed with coining the term in his 1956 article, "The Magical Number Seven." In the 1970s, Herbert Simon and W. Jay Dowland refined the concept through cognitive experiments. Some of their most-often cited references include the following: Herbert Simon, "How Big is a Chunk?" *Science* 183, no. 4124 (1974), 482–88; and, W. Jay Dowling, "Rhythmic Groups and Subjective Chunks in Memory for Melodies," *Perception and Psychophysics* 14 (1973), 37–40.

status, temporal order, and relative duration.²⁸ In other words, how one conceptualizes a pattern can influence how one imitates and remembers it. And, vice versa: how one retains information in short-term memory can effect how one conceptualizes the pattern.²⁹ In music learning, we find that our students do not necessarily progress in a linear fashion through the learning stages. Instead, adjacent (and even non-adjacent) stages can affect one another. This association between conceptualization and memory is strengthened by several studies that show that musical context is an important factor for memory.³⁰ In sum, a conceptual map can be important for promoting long-term memory retention, as well as serving as the foundation for the next learning level—*applying* musical knowledge to new situations and contexts.³¹

²⁸ J. J. Bharucha, "Anchoring Effects in Music: The Resolution of Dissonance," *Cognitive Psychology* 16, no. 4 (1984), 485–518; Bernice Laden, "Melodic Anchoring and Tone Duration," *Music Perception* 12, no. 2 (1994), 199–212.

²⁹ For experimental support of this claim, see Nancy Rogers, "Solmization Expertise Correlates with Superior Pitch Memory," *Em pauta: Revista do curso de pós-graduação mestrado em música* 18, no. 30 (2007), 131–52.

³⁰ For a summary of studies showing the effect of context on memory, see Eric G. Freedman, "The Role of Diatonicism in the Abstraction and Representation of Contour and Interval Information," *Music Perception* 16, no. 3 (1999), 365–87; John Sloboda, *The Musical Mind: The Cognitive Psychology of Music* (Oxford: Clarendon Press, 1985); Kathryn M. Dewar, Lola L. Cuddy, and Douglas J. K. Mewhort, "Recognition Memory for Single Tones with and Without Context," *Journal of Experimental Psychology* 3, no. 1 (1977), 60–67; Lola L. Cuddy, Annabel J. Cohen, and Janet Miller, "Melody Recognition: The Experimental Application of Musical Rules," *Canadian Journal of Psychology* 33, no. 3 (1979), 148–57; Carol L. Krumhansl, "The Psychological Representation of Musical Pitch in a Tonal Context," *Cognitive Psychology* 11, no. 3 (1979), 346–74.

³¹ One notable study that links conceptualizing processes to knowledge application is Philip A. Fine, Anna Berry, and Burton S. Rosner, "The Effect of Pattern Recognition and Tonal Predictability on Sight-Singing Ability," *Psychology of Music* 34, no. 4 (2006), 431–47.

MELODIC APPLICATIONS OF THE TAXONOMY

The following discussion will demonstrate how our taxonomy provides a pedagogical framework for an activity in an aural skills class. This activity was designed for a first-semester undergraduate course, and the goal of the lesson plan was to provide students with the skills to understand neighbor notes. To achieve this goal the students were given the seven brief pitch patterns, shown in Example 3. Since the learning objective for this exercise focuses on pitch, we have minimized rhythmic considerations by using the same rhythm for every pitch. This activity works best if the last pitch pattern, (e.g., #7 of Example 3) is revealed only at the end of the activity. Each successive melody is slightly different, and through a process of incremental changes the first pitch pattern gradually morphs into a short excerpt from the music literature.³² As shown in the example, the exercise concludes with a familiar folk tune that consists of various types of neighbor motion—upper, double, and small and large-scale neighbors. To ensure that the students grasp the neighbor concept, the lesson was coordinated to traverse through our taxonomy of learning. Below is a detailed discussion of each pitch pattern of Example 3 and how it relates to our new taxonomy.

Pitch Pattern #1

- The first, three-note pitch pattern includes an upper neighbor. We have the students sing this pitch pattern and use this opportunity to define the concept of an upper neighbor note.

Pitch Pattern #2

- The lowest stage of our taxonomy, *recognize*, is invoked when students recognize that the upper neighbor note that they sang from the first pitch pattern is included here.
- *Imitate*, our second stage, occurs when students sing the upper neighbor note, thus imitating the first pitch pattern.

³² Our pitch pattern exercises are similar to David Damschroder's "Quick Switches" in his textbook *Listen and Sing*. Unlike our approach, Damschroder does not end his exercises with music from the literature. Additional differences between our pitch patterns and Damschroder's Quick Switches will become more apparent as our discussion unfolds.

Example 3. Pitch patterns

Pitch Pattern #2 (continued)

- *Conceptualize*, our third stage, occurs when students grasp the concept of a neighbor note and then generalize this idea to include lower neighbors. *Conceptualize* occurs when a student analyzes and organizes the musical material in his/her mind. Some students will learn neighbor notes visually by analyzing the notation, taking into consideration the contour, harmony, and meter. Other students may *conceptualize* by listening,

singing the neighbor motion, or even using a kinesthetic approach, such as hand gestures, to physically show the neighbor motion.

Pitch Pattern #3

- The lowest stage of our taxonomy is invoked when students recall that both the upper and lower neighbor notes they sang from the first two pitch patterns are also included here.
- Our second stage occurs when students *imitate* and sing the upper and lower neighbor notes.
- *Conceptualize*, our third stage, occurs when students comprehend the concept of a neighbor note and then generalize this idea to establish the double neighbor note that appears in this exercise.

Pitch Pattern #4

- Like the previous pitch patterns *recognize* and *imitate* are invoked here. By introducing the idea of a compound melody, the students must analyze and organize the material on their own, using the best strategy that works for them, such as singing the music, using a visual cue, or a kinesthetic hand gesture to show the different registers.
- Once the students feel comfortable with the idea of a compound melody, we then ask them to transpose this melody to different keys or modes. By asking the students to produce the same melodic shape in a different context—e.g., minor instead of major—they are invoking our *apply* stage.

Pitch Pattern #5

- Again, the lower and middle stages of our taxonomy are invoked here when the students recall previous material.
- Once the students sing this pitch pattern, we then ask them to *improvise* by adding the lower pitch anywhere in this pitch pattern.
- Next, we ask them to *improvise* neighbor notes of their choice—upper, lower, or double—to the pitch in the lower register.

Pitch Pattern #6

- This pitch pattern may resemble an improvisation performed by a student.
- We have added upper neighbors to the lower voice, but the student could have used lower or double neighbors.

Pitch Pattern #7

- The final pitch pattern is the familiar tune “Happy Birthday.” Here, students see the context of the resultant pitch pattern in a score from music literature, incorporating other musical parameters such as meter and rhythm. In our exercises, the final pitch pattern will always be a passage of music from the literature or a folk tune, which we reveal only after students have navigated the prior patterns. Ending with an excerpt from the literature is important: it is essential for students to make a connection from the abstract pitch-pattern exercises to real music, and it is crucial for students to realize that an infinite number of melodies can be derived from a few melodic gestures.
- We now ask our students to *evaluate* by comparing their own improvised melodies to the Happy Birthday tune.
- In our taxonomy of learning, *evaluate* is the highest of our learning stages. Once a student performs their improvised melody, they do not walk away. They will *evaluate* by comparing their improvised melody with the folk tune. Some of the questions they may ask themselves during the evaluation stage include: “Did I actually sing neighbor notes?” or “Did I add too many neighbor notes?” or even “That was really cool, how I added a double neighbor that began with the lower neighbor note before I sang the upper neighbor note.” And so on.

After singing and discussing the pitch patterns and the structure of the folk tune, we provide students with a new pitch pattern, “Twinkle, Twinkle, Little Star.” This familiar folk tune includes an upper neighbor note pattern ($\hat{5}-\hat{6}-\hat{5}$) and contains a new musical device, passing tones. We then ask the students to create their own pitch patterns that they will share with their peers for the next class session. By creating their own pitch patterns, students will *evaluate* their processes, and, as a result, our learning taxonomy begins again.

HARMONIC APPLICATIONS OF THE TAXONOMY

We now turn to the harmonic realm, demonstrating how our taxonomy can provide a pedagogical framework for harmonic activities in an aural skills class. This exercise is designed for a second-semester aural skills course, and the goal of the lesson plan is to provide students with the skills to understand pre-dominant seventh chords.

We begin with the *recognize* stage: A teacher establishes a key and then plays a root-position pre-dominant seventh chord, such as ii^7 . Next, the instructor plays a series of four-chord progressions (T-PD-D-T, which we refer to as “paradigms”), which may or may not include the ii^7 chord. For each paradigm that includes a ii^7 , the student writes a tick mark on their page. The teacher then describes the quality of the pre-dominant seventh chord, which in this case is a minor-seventh harmony, and the solfege/scale degrees affiliated with the bass note of each inversion of the supertonic seventh chord. On the second round of recognition of the paradigms, students are asked to recognize whether the ii^7 chord is present in either root-position or inversion. Throughout this phase of the exercise, students not only learn to recognize the ii^7 chord, but they also recognize the typical context of the pre-dominant chord as a connecting harmony between tonic and dominant. A similar procedure can be used to introduce the IV^7 chord. In the last part of the recognition exercises, a teacher plays paradigms with ii^7 , IV^7 , their inversions, or none of the above. Students are asked to determine whether a pre-dominant seventh chord was used and to recognize whether it was a supertonic or a subdominant harmony.

Moving on to the *imitation* stage of our harmonic activities, the teacher plays an isolated pre-dominant seventh chord on the piano, and students sing it back on a neutral syllable. When arpeggiating chords in this call-and-response activity, students should imitate the bass note as played by the teacher and then fill in the rest of the chord in singing the next closest note of the harmony. For instance, if the teacher plays the chord in Example 4(a), students would sing C-D-F-A as shown. This method of arpeggiation preserves the proper inversion of the chord, but minimizes the difficulty of hearing the exact register of the inner voices that a teacher performs. Next, the teacher performs a four-chord paradigm, pausing after each chord for the students to respond with their arpeggiations. Example 4(b) shows what one round of this activity would look like.

(a) *Imitate* stage of the taxonomy



C: ii^4_2 teacher plays: students sing

(b)



C: I ii^6_5 V I

(c) *Conceptualize* stage of the taxonomy: Call and Response



C: I ii^6_5 V I

(d)



C: I ii^6_5 V I

(e)



C: I vii^o6 I^6 IV^7

Example 4. Harmonic applications

(f) *Apply* stage of the taxonomy

C: I ii₅ V I

teacher plays

students sing

(g) *Improvise* stage of the taxonomy

C major: T PD D T T PD D T

(h)

C: I ii₅ V I

teacher plays

students sing

Example 4. Harmonic applications (*continued*)

The *conceptualize* stage is where students analyze information and organize it into a conceptual map. For harmonic purposes, chord quality and solfège are important components of the *conceptualize* stage because they are both means of analyzing and organizing musical relationships into a useful framework. To begin this stage, students sing back the chord qualities of each harmony they had just finished imitating in the previous exercise, as shown in Example 4(c). Continuing, the students are asked to assign solfège syllables to the paradigm, as shown in Example 4(d). By assigning scale-

degree function to notes within each chord, students build a map of how the chords function within the tonal system. For example, they may discover that *fa* and *la* (or $\hat{4}$ and $\hat{6}$) are shared between most pre-dominant-seventh chords. If students have difficulty assigning solfège syllables from an aural stimulus in this call-and-response fashion, an easier, intermediary *conceptualize* exercise would be to provide Roman numerals and figures of various paradigms that include pre-dominant seventh chords. While reading Roman numerals and figures, students can arpeggiate the chords on solfège.

Another useful exercise for the *conceptualize* stage is for the teacher to play a bass line and ask students to identify the most likely Roman numerals and figures that could harmonize that bass line. For pre-dominant harmonies, a teacher might play *do-fa-sol-do* ($\hat{1}-\hat{4}-\hat{5}-\hat{1}$) bass line and students could identify ii^6 , ii^6_5 , IV, or IV^7 as the likely pre-dominant choices for the second chord. One positive outcome of this exercise is that students realize for themselves the limited harmonic possibilities, constrained by a well-formed syntax. Alternatively, a teacher could play the beginning part of a progression, but stop midway through a harmonic succession. After the abrupt stop, the teacher would call on an individual student to arpeggiate the next chord, making sure it preserves a well-formed syntactic flow. For example, a teacher might perform the incomplete progression shown in Example 4(e), and then call on a student to arpeggiate the next chord after the IV^7 . In this case, a student might choose to prolong the pre-dominant function by arpeggiating a IV^6_5 chord, or they could move on to the dominant function of the phrase. In either case, the student had to *conceptualize* the proper function of the IV^7 chord in relation to its context. Class discussion might revolve around metric considerations, for example how a prolongation of the pre-dominant function across the next bar line from weak to strong beat would be contrary to common-practice principles.

The *apply* stage involves utilizing concepts in new environments, *applying* them to new situations. Typical exercises for this stage involve re-contextualizing prior material, such as converting a paradigm that had been sung in major to the minor mode. After playing the major-mode progression in the first four measures of Example 4(f), students would respond with the minor-mode version shown in the next four measures. Thus, a student would navigate the different chord qualities found in the minor mode. Not only does this activity invoke the *apply* stage, but it also relies

heavily on *imitation* because students would *imitate* all the scale degrees inflected by modal mixture. This kind of interconnection between taxonomy levels is not uncommon.

A more complex activity within the *apply* stage would entail asking students to identify pre-dominant seventh chords within a longer harmonic progression, one that included nested T-PD-D-T progressions, e.g., i-iv⁷-V-i-ii^{Ø7}-V-i. In this progression, the iv⁷ is part of the first T-PD-D-T, which prolongs the initial tonic. The ii^{Ø7}, on the other hand, is the structural pre-dominant of the phrase.³³ Understanding both of these chords as pre-dominant sevenths that have different contexts, and thus different meanings, within the phrase would fall within the *apply* stage of our taxonomy.

Dictation is another common tool for the *apply* stage of our taxonomy because it involves translating an aural stimulus (one form of information) to a written configuration (a different form of the same information). Thus, the typical harmonic dictation exercises used in aural skills classes, in which students write outer voices, Roman numerals and figures of a performed progression are instances of *applying* knowledge.

Improvising is a high-order learning stage in which students build facility by spontaneously creating musical utterances that feature their new knowledge, in this case the new harmonic category of pre-dominant seventh chords. For this stage to be productive, students need clear constraints on their improvised compositions so that they focus on the topic at hand and so that the teacher can know for certain that they are pre-planning their work and not just haphazardly coming upon a possible solution. For instance, a teacher could ask a student to improvise a four-chord arpeggiated progression that includes a pre-dominant seventh chord and that ends with a half cadence. These specific directions will lead to better results compared to more general directions, such as, “include a predominant-seventh chord in an improvised phrase.”

One improvisation exercise that is very effective, which students enjoy because they can see the real-world relevance of the endeavor, is to ask for improvised bass lines to a given melody. The melody itself provides the necessary constraints to the creative process, with its defined cadence points, established harmonic rhythm, and

³³ Laitz would refer to the opening T-PD-D-T progression at the beginning of this phrase as an “embedded phrase model,” which prolongs the tonic before the structural pre-dominant (ii^{Ø7}) and dominant (V) arrives. See Laitz, *The Complete Musician*, 251–54.

a sketch of harmonic options. For example, if students were asked to improvise a bass line to the melody in Example 4(g), they would first need to know that there are two cadences (an IAC in m. 4 and a PAC in m. 8), that the harmonic rhythm is likely to be one-chord per measure, and that the melody traverses a predictable T–PD–D–T progression. When first attempting improvisatory exercises like this one, it is useful to allow students time to analyze the melody and write out their own framework, such as identifying locations of tonic, predominant, and dominant structural harmonies. Once a harmonic framework is agreed upon by the class, the teacher can sing the melody as all students try out their improvised bass lines simultaneously. While everyone is busy improvising, students feel less self-conscious about their individual attempts, and all of the improvisations are likely to sound consonant with one another due to the shared framework. After several run-throughs, it can be useful to have the class sing the melody and call upon individuals to improvise a bass line, which allows students to share their accomplishments.

The last step of our taxonomy is the *evaluate* stage, in which students examine and judge their own creative output. A good evaluative exercise is to notate on the board some of the improvised bass lines just performed by the students and to discuss their qualities. Example 4(h) compares two possible bass lines. Whereas the first bass line conforms to harmonic expectations and syntax, it is repetitive and the downbeats in mm. 2–3 and mm. 6–7 introduce parallel octaves between the bass and melody. In the second improvisation, the student implies an inverted dominant in m. 3, creating a smoother, more melodic bass line. Also, the increased rhythmic activity in the consequent phrase avoids the parallels, helps build momentum towards the PAC, and incorporates a rhythmic motive from the antecedent. By evaluating these options, students will be better prepared to improve their next attempts, which will be informed by the harmonic, melodic, and rhythmic considerations deliberated upon at the *evaluation* stage.

In summary, we have provided examples of both melodic and harmonic activities that traverse the six stages of our taxonomy. Although you may find these specific exercises helpful in your classroom, it is hoped that the reader will extrapolate from them to create one's own activities according to the taxonomy. Put another way, we hope the reader aspires to the later stages of learning, beyond recognition and imitation, and *applies, improvises, and evaluates* new exercises uniquely suited to their teaching needs.

POST-TONAL APPLICATIONS OF THE TAXONOMY

The lag between the “mind” and the “ear” (or visual vs. aural learning) is most pronounced with post-tonal repertoire, which many students find challenging to perform as the resources and tools from their tonal aural-skills classes become less relevant.³⁴ One of the objectives in our post-tonal aural-skills course is to provide students with strategies to better familiarize them with 20th-century music and techniques. An effective way to accomplish this goal is to use repeated pitch patterns. These exercises are designed to lead students from the familiar (diatonicism) toward the unfamiliar (post-tonal music) in a gradual and systematic fashion.³⁵ In addition, the pitch patterns include sight-singing, transcribing melodies, detecting pitch errors, and improvising melodic fragments.

³⁴ To cite just one example, Karpinski’s methodology in his *Manual for Ear Training and Sight Singing* assumes a four-semester tonal sequence and does not address post-tonal music.

³⁵ This procedure of starting from a diatonic melody and incrementally changing pitches to create extended chromatic and then atonal patterns is similar to a technique used in Ronald Herder, *Tonal/Atonal: Progressive Ear Training, Singing and Dictation Studies in Diatonic, Chromatic and Atonal Music* (New York: Continuo Music Press, Inc., 1973). Although the concept of using short pitch patterns that progress gradually from the familiar to the less familiar is the same, the conceptual reasoning behind the transformations from one pattern to the next is very different. Herder’s pedagogy is founded on isolated intervallic relationships, (e.g., he organizes his exercises from small intervals to large ones), and he recommends deriving dissonances from projected consonances. In contrast, our transformations are designed to encourage melodic chunking, pitch-class set identification and manipulation, and the use of anchor pitches. Another distinction is that Herder begins with a tonal excerpt from music literature and then “breaks down” its diatonicism, while we start with a diatonic pattern and move toward the post-tonal excerpt from the literature.

(a)

Eight staves of musical notation, numbered #1 through #8. Staves #1 through #6 are in bass clef, and staves #7 and #8 are in treble clef. The notation shows a sequence of notes across the staves, with some notes marked with accidentals (sharps, flats, naturals) and a final note on each staff marked with a fermata.

(b) Béla Bartók, "From the Island of Bali," *Mikrokosmos* vol. 4, no. 109

Andante, ♩ = 134

Musical notation for Example 5(b), showing a piano part from Bartók's "From the Island of Bali." The notation is in 6/8 time, marked "p, dolce". It features a complex melodic line in the right hand and a more rhythmic line in the left hand, with large leaps and dissonant clashes.

Example 5. Pitch pattern exercise

This exercise was designed for a fourth-semester or upper-level undergraduate course solely devoted to post-tonal music. The goal of the lesson plan is to help students sing Bartók's "From the Island of Bali," which appears in the fourth volume of *Mikrokosmos*, given in Example 5(b). Without question, the large leaps, non-functional melodic design, and the dissonant clashes between the right and left hands are challenging to sight-sing. Students are given the

seven brief pitch patterns shown in Example 5(a). Once again, each successive melody is slightly altered, and through a process of incremental changes the first pitch pattern gradually morphs into the opening of Bartók's piece. In other words, the repeated pitch patterns are designed to make the challenge of sight-singing post-tonal music less daunting by leading a student from the familiar (tonal) toward the unfamiliar (post-tonal) in a gradual and systematic fashion. Below is a detailed discussion of each pitch pattern of Example 5(a) and how it relates to our new taxonomy.

Pitch Pattern #1

- The first pitch pattern is a straightforward, diatonic melody that begins on scale-degree $\hat{5}$ of A minor and descends by step to the leading tone before concluding on the tonic.
- We start diatonically to build associations from familiar territory.

Pitch Patterns #2 and #3

- The lowest two stages of our taxonomy—*recognize* and *imitate*—occur when students recall details from previous melodies and sing the new pitch patterns.

Pitch Pattern #4

- This pitch pattern includes a tritone (D4/G#3), which is a structural element of the piece.
- Our third learning stage, *conceptualize*, occurs when we highlight the presence of the tritone (ic6) and the [016] trichord (D4, A3, G#3).

Pitch Pattern #5

- This melody, which begins with a chromatic pitch (D#4) and is less tonally stable, is saturated with [016] trichords.
- *Conceptualize* and *apply* are invoked even more when the students are asked to identify and discuss instances of [016].

Pitch Pattern #6

- This pitch pattern is the opening phrase for Bartók's "From the Island of Bali."
- A different kind of *conceptualize* occurs here with an orthography switch; D#4 is now notated as E $\flat$ 4.

Although the sixth pitch pattern is the last exercise given, we now ask the students to *apply* and *improvise*, thus reaching the upper-level stages of our taxonomy. To begin the *application* stage,

we invite students to transpose the final pitch pattern by a semitone (T1) and a perfect fourth (T5); these transposition levels are derived from the intervals within the [016] collection, which helps students move from *conceptualization* toward *application*. We also require students to invert this pitch pattern about its initial pitch. In anticipation of Bartók's passage, we have our students transpose the inverted form down four semitones.

Before the students are exposed to Bartók's score, we ask the students to *improvise* their own pitch patterns, requiring them to use their own versions of [016]. Some students will sing the inverted form while others favor transposed forms of the original. And some students will improvise a version of [016] that begins with the middle pitch of the collection, rather than singing high to low or low to high. The blank staves of Example 5(a) are provided for students to dictate some of their peers' improvised melodies. Once the students evaluate their own dictations and improvisations, the students then sing "The Island of Bali," tying together all the learning stages by performing the music.

We would like to mention a few points about this particular pitch pattern exercise as it relates to Bartók's melody. Notice that the opening motive consists of a [0167] tetrachord that highlights a perfect fourth (A–D) with neighboring notes. Thus, one may hear the D as the pitch center for this gesture with A–D functioning as scale-degree $\hat{5}$ to $\hat{1}$. (Compare this to the A centrality of the six pitch patterns presented in Example 5.) We can certainly create a different set of pitch patterns that lead toward the left-hand Bartók melody with D as the pitch center. It can also be argued that the tonal references within Bartók's melody stem from the octatonic collection that is used to organize the pitch material. Thus, another repeated pitch pattern to consider here is the octatonic scale. As will be shown in the next example, these repeated pitch patterns can be based on collections other than diatonic, major and minor scales.



(b) Béla Bartók, “Whole-Tone Scale,” *Mikrokosmos* vol. 5, no. 136



Example 6. Pitch patterns based on the even whole-tone scale.

MORE POST-TONAL EXAMPLES

The pitch patterns shown in Example 6 are slightly different from our previous examples in that we use a whole-tone scale—not diatonic—as the underlying pitch pattern. Our pedagogical approach is the same as before—sight sing, dictate, detect pitch errors, and improvise—with the goal of eventually singing Bartók’s “Whole-tone Scale,” shown at the bottom of the example. While we started “The Island of Bali” with diatonic pitch patterns, we would not necessarily recommend the same strategy for this whole-tone

piece. The octatonic subset within “The Island of Bali” contains more tonal references, which are absent from Bartók’s “Whole-Tone Scale.”

(a)

(b) Béla Bartók, “Chromatic Invention (2),” *Mikrokosmos* vol. 3, no. 92

Allegro robusto, ♩ = 138

92 *f, marcato*

Example 7. Pitch patterns based on ics 1, 2, and 5 only.

Once the students were relatively comfortable with exercises that contain six or seven pitch patterns, we provided more complicated versions. Example 7 offers a more complex pitch pattern, and the composition from which the exercise is derived is shown in Example 7(b). In this exercise, the number of pitch patterns has increased to 16. In addition, some of the two-measure motives are left blank for dictation or improvisation, and we use completed pitch patterns for error detection. This particular pitch pattern exercise is restricted to major and minor seconds and perfect fourths.³⁶ In addition to an intervallic approach to this exercise, we encourage the students to focus on a number of strategies that might help them sing these post-tonal pitch patterns, such as anchor pitches, a diatonic background (in this case E major), and compound melodic lines.³⁷

After a few weeks of using our pitch patterns we have found that our students were able to quickly advance through an entire exercise. The advantage to using a larger number of pitch patterns (16, 17, even 18) is to give *each* student within a single class session an opportunity to sing or improvise a brief motive in front of their

³⁶ The intervallic impetus for this pitch pattern follows the pedagogical framework of Lars Edlund, *Modus Novus: Studies in Reading Atonal Melodies* (Stockholm: Nordiska musikförlaget, 1964). At the beginning of his text, he restricts his focus to major and minor seconds and the perfect fourth. He then introduces the perfect fifth followed by major and minor thirds, the tritone, minor and major sixths, minor and major sevenths, concluding with compound intervals.

³⁷ In addition to an intervallic-based approach and a diatonic framework to learn post-tonal music, Michael Rogers also suggests using “trichords,” “recurrent nontonal patterns” and modes. According to Rogers, the “recurrent nontonal patterns” can be “memorized, transformed, varied, inverted, displaced by an octave, elided, and combined in limitless ways to cover most atonal possibilities” (140). See Rogers, *Teaching Approaches in Music Theory*, 138–43. William Thomson, *Advanced Music Reading* (Belmont, CA: Wadsworth Publishing Company, Inc., 1969) advocates the “... need for referring pitches to a contextual [tonal] frame—either a frame that is made explicit by the patterns of the melody itself or ... a frame that is imposed by the reader when the melody does not clearly project its own.” (x) For Thomson, using a framework approach to sight sing chromatic and modulating melodies is more helpful than relying on an intervallic based approach. Thomson suggests that for atonal melodies where the tonal framework approach is not the most appropriate, it is helpful to “... improvise your own set of relationships as a guide to accurate pitch recall.” (160)

peers. As a class, dictation and error detection can be successfully and quickly implemented. We also found that the students enjoyed having the opportunity to improvise their own pitch patterns; oftentimes, the improvisations lead to spirited class discussions about what did or did not work. And the students were generally excited to find out which piece each exercise was based on. Because of the repeated pitch patterns, the students were able to better perform the *entire* composition that was linked with each exercise. Overall, we were pleased with the engagement, the participation, and the amount and depth of learning that took place when we used these pitch-pattern exercises.

As is obvious from our examples in this essay, many of the pieces from Bartók's *Mikrokosmos* can easily serve as the foundation for a number of different pitch patterns. We have successfully used many songs from Schoenberg's *Book of the Hanging Gardens*; the post-tonal melodies found in *Modus Novus*; and the chromatic, atonal, and twelve-tone melodies found in the later chapters of Ottman's *Music for Sight Singing*. Designing pitch-pattern exercises is a matter of identifying the key characteristics of a musical passage and composing different motivic and melodic patterns that incrementally exploit those characteristics.

It has been our experience that these pitch-pattern exercises, both tonal and post-tonal, are effective because they include a lot of imitation and recall of musical material. Consequently, students use the lower end of our learning stages—*recognizing* and *imitating*—for much of the exercise. Higher stages of learning are invoked only for new musical events. This isolates the new issue, allowing students to focus their attention on *conceptualization* and *application* only for the new event. In sum, our use of recurrent pitch patterns promotes development of a variety of musical skills by traversing deliberately through a well-planned progression of learning stages.

CONCLUSION

In this article, we have introduced a taxonomy of learning for college music classes and demonstrated how it can be used to design effective aural-skills exercises. We want to stress that the pitch-pattern exercises we describe above are not prescriptions of what needs to happen in an aural skills class. Instead, we offer these exercises as one possible way to implement and think critically and thoughtfully about our taxonomy. Or to put it another way, we offer a music learning taxonomy as a pedagogical framework to help re-think and re-evaluate the learning process that unfolds in a music class.

Having demonstrated how our taxonomy can be applied to design in-class activities, we would also like to encourage some more global interpretations. Our taxonomy can also be used to promote more in-depth learning for goals spanning a week, a module or unit, and even an entire semester. We hope our approach will help us, as instructors, to continually explore and evaluate our educational goals.

Finally, though our revised taxonomy might be considered as a pedagogical mold or a set of stair steps on a triangle to get from bottom to top, there is a great deal of flexibility built into our framework. We like to think of it as a teaching and learning *cycle* that ends precisely where it begins—imagine the triangle shown in Example 1 wrapping around onto itself to create a kind of spiral. Because each student has his/her own individual strengths and weaknesses, we find that we constantly traverse the different stages at different times to address the many different needs of our students. There is a continuous ebb and flow, which creates a dynamic means of assessing, teaching, evaluating, and, most importantly, enhancing student understanding and learning.

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The Condition of Graduate Theory Review: Multilevel Analysis and the Pedagogy of Chord and Line

JOHN S. COTNER

“When we pay attention to something or someone, we observe, analyze, interpret, and decide whether (or how) to act. These actions are based on our abilities, our experience, our traditions, and our knowledge.”

Steven G. Laitz and Christopher Bartlette

Courses in graduate theory review vary considerably due to the diverse goals of music departments at national and regional institutions, degree programs, requisite knowledge and skill of students, as well as training and experience of instructors, among other reasons. The scope of theory review can be viewed along a continuum. At one extreme we might focus solely on basic tonal grammar through short drills in writing and conventional harmonic analysis, with little if any full score analysis. At the other extreme, student skill sets and engagement might open the way to more accelerated learning. Among upper-tier schools, this kind of course is often required of incoming students who fail an entrance exam in music theory. On the other hand, at lower-tier schools all incoming students might be required to complete theory review as a prerequisite to further studies in their discipline. Into such an imbalanced educational milieu, *Graduate Review of Tonal Theory: A Recasting of Common-Practice Harmony, Form, and Counterpoint* by Steven G. Laitz and Christopher Bartlette emerges as a rare commodity: A textbook specifically designed for graduate-level review of tonal materials, structures, and forms of European common practice (ca. 1600 – 1900).¹ Given the academic diversity of graduate programs across the country, instructors charged with teaching graduate theory review will have unique concerns about the effectiveness and practicability of GRTT in their classes.

¹Steven G. Laitz and Christopher Bartlette, *Graduate Review of Tonal Theory: A Recasting of Common-Practice Harmony, Form, and Counterpoint* (New York and Oxford: Oxford University Press, 2010). Forthwith, the textbook is abbreviated GRTT.

In the Preface, Laitz and Bartlette quickly point up the need for such a textbook, citing the cumbersome task of coordinating mismatched sources and materials in order to customize “theory review” for students with potentially disparate prior training. They also point out the related difficulty of adapting undergraduate texts to the needs of graduate students, many of whom come to theory review with broader skill sets, and a greater sense of commitment due to clearer career goals. A more general concern is the inevitable challenge of unpacking conditioned notions of what music theory is, as a musician’s discipline, and the role of music analysis in abstract, critical, and practical terms.

In many respects, *GRTT* represents a concentrated version of Laitz’s formidable theory and aural skills text entitled *The Complete Musician: An Integrated Approach to Tonal Theory, Analysis, and Listening*.² The two publications correspond in philosophy, prose, terminology, method, examples, and exercises. *GRTT* builds on theoretical and analytical content of the former; and like its progenitor inspires students to connect practical skills with critical thinking skills.³ The concentrated organization and accelerated pace of *GRTT* challenges students to reevaluate assumptions and biases about the role theory and analysis play in music-making.

As an extension of Laitz’s philosophy in *The Complete Musician*, *GRTT* reflects the gradual emergence within the arena of theory textbook publishing since the late 1990s of forward-looking integrated approaches combining theory and analysis with musicianship and aural skills. Moreover, the triune set of publications by Roig-Francoli, Clendinning and West-Marvin, and Laitz acknowledge the essential contribution of Schenkerian thought in what is now loosely called “linear analysis.” I agree with Hali Fieldman that, collectively, their methods signify a paradigm

²Steven G. Laitz, *The Complete Musician: An Integrated Approach to Tonal Theory, Analysis, and Listening* (New York and Oxford: Oxford University Press, 2011; originally published in 2003).

³*GRTT* focuses mainly on analysis, composing, and part writing skills. Although it does not include an aural skills component – an understandable omission in light of the complete supporting program already contained in *The Complete Musician* – the workbook contains a sophisticated collection of keyboard exercises. These exercises are invaluable as a means of bridging abstract and empirical dimensions of musical understanding. Even so, abridged aural skills drills would complement analytical studies.

shift, a “new vision” in theory pedagogy, the result of incremental and ongoing convergence of scholastic discourse and the objectives of theory instruction, as well as bold commitment to meet the changing needs of our students.⁴ *GRTT* extends this relatively new model, and is poised to influence future direction, scope, and growth of both the academic and industrial standard of graduate-level theory review textbooks.

On the other hand, *GRTT* is distinctive in a number of important ways. For example, its academic tone, while similar to that of the undergraduate text, is nuanced differently due to the accelerated organization of the whole. Additionally, instructors will find that *GRTT* is not only designed to provide review of core skills and concepts of tonal theory, but does so self-consciously by describing how musical processes, patterns, and structures demonstrate basic principles of cognition and perception. Throughout the textbook Laitz and Bartlette appeal to psychological principles in order to bridge students’ learning of theoretical and analytical methods with their internalized experience, prepared through listening and performance.

Since the authors’ audience is comprised largely of graduates enrolled for the sole purpose of overcoming deficiencies in tonal theory, the introductory chapter, “Setting the Stage,” all the more importantly establishes the relevance and applicability of theory

⁴Hali Fieldman, review of *Harmony in Context* by Miguel Roig-Francoli, *The Complete Musician: An Integrated Approach to Tonal Theory* by Steven G. Laitz, and *The Musician’s Guide to Theory and Analysis* by Jane Piper Clendinning and Elizabeth West Marvin, *Music Theory Spectrum* 30/2 (2008), 382. Fieldman attributes this “explosion of new textbooks” in part to the fact that students have changed tremendously in recent generations. Most notably, Fieldman identifies a lack of musical training and general decay in critical thinking skills among students entering music programs at the post-secondary level. The review is an excellent comparison of the three theory texts, and concepts of applicability, fluency, and literacy are particularly insightful.

and analysis for the aspiring professional musician. "Analysis encourages us to attend actively to the music; we reflect and then make choices based on our reflection, which we then apply to performance."⁵ Yet the influence runs both ways: "In music performance, many choices are made every second, most of which are subconscious, but plenty of which are conscious."⁶ Aside from the vast array of technical and aesthetic decisions performers make instantaneously, they must also learn to decode and interpret the score, "in order to consider the relationship between individual parts and the overall structure, as well as historical context and style, performance practice, and so on."⁷ Thus, performance informs analysis. That is, the authors draw on performers' learned, acute capacity to group and categorize patterns when memorizing a score, as well as their ability to judge the "logical shape" of a melody when sight-reading. Because sight reading and score memorization are themselves acts of observation and evaluation, Laitz and Bartlette can appeal to the psychological dimension of the performer's musical experience. From the outset, then, the concept of analysis is unpacked and redefined as a constellation of activities bridging skills of introspection and evaluation with those of intuition and experience.

⁵ GRTT, 2. Currents of research in the cognitive psychology of music wind throughout the text. Among numerous outstanding sources in the related fields of music psychology and cognition, consult *Psychology of Music: From Sound to Significance* by Siu-Lan Tan, Peter Pfordresher, and Rom Harré (Hove and New York: Psychology Press, 2010). Chapter 7, "Analysis and cognition of musical structure," includes a useful comparison between Schenkerian theory, Lerdahl and Jackendoff's *Generative Theory of Tonal Music* (1983), and Eugene Narmour's (1990, 1992) implication-realization models of structure. The chapter also explores empirical evidence to support the validity of both reductive and non-reductive representations of musical structure. Laitz and Bartlette weave principles of psychology into the pedagogical method in subtle and effective ways. The extent to which recent studies in cognitive psychology impact theory pedagogy is a subject beyond the scope of this article; however, such research marks a significant stage in the ongoing development of instructional philosophies of music.

⁶ GRTT, 1.

⁷ GRTT, 1.

Four reflective axioms are presented, which in concert represent a fresh intellectual tone regarding the role of analysis in formal music studies.

- 1) The more we know about a musical work, the more we understand its context, narrative, and meaning;
- 2) Composers can create countless artworks based on just a few underlying structures;
- 3) Something we do not expect can lead us to investigate whether events are part of a larger compositional process; and
- 4) Attending to the way the musical elements of melody, harmony, and motive converge - even in a commonplace musical passage - can reveal elegant subsurface structures.⁸

A series of brief analytical vignettes follow, which address these axioms in turn, and together describe how local musical patterns coordinate with large-scale relationships of both a linear and harmonic nature. Indeed, throughout the textbook Laitz and Bartlette explore how tonal works are structured according to temporal and spatial relationship of part-to-whole, closely attending top-down and bottom-up orientations to micro- and macro-levels of musical structure.

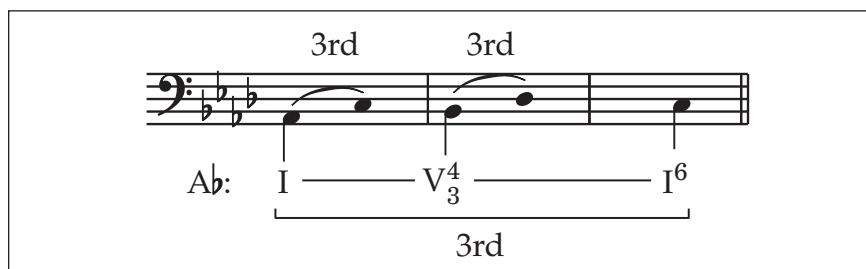
The fourth introductory vignette, titled “Elegance in the Commonplace: A Deeper level of Melody, Harmony, and Motive in Beethoven’s op. 110,” is a good example and model of the authors’ comprehensive analytical approach. Example 1 gives the opening statement of Beethoven’s Piano Sonata in A $\flat$ major, Op.110, which is the basis of the lesson.



Example 1. Ludwig van Beethoven, Piano Sonata No. 31 in A $\flat$ Major, Op. 110, Mov't 1, mm. 1 – 4; “Setting the Stage,” Example 7, p. 7.

⁸ GRTT, 2.

Write Laitz and Bartlette, “The highest and lowest ‘voices’ in the excerpt – which we will label the soprano and bass voices, respectively – present the interval of a third as the main motive.”⁹ Some students might not identify the shape in Example 2 with the concept of motive, as it is often interpreted to simply mean a surface-level phenomenon of no particular deep structural significance.¹⁰ The A $\flat$ -C third motion in the bass line of Example 2, expands sequentially. Notice, however, that their explanation of the bass motive is presented in the context of the outer voice contrapuntal frame: “The underlying bass line for the first three measures is the ascending line A $\flat$ -B $\flat$ -C; at the same time, the soprano melody ascends from C to E $\flat$.”¹¹



Example 2: Laitz and Bartlette, *Graduate Review of Tonal Theory*, “Setting the Stage,” Example 8, page 7.

As Example 3 shows, consonant leaps by thirds in the outer voices unfold in conjunction with ascending stepwise parallel tenths; thereby evincing explicit 1:1 counterpoint beneath the immediate surface. Furthermore, this quasi-middleground graph conveys the prolongational and motivic structure of the outer-voice frame by means of voice exchanges. Analysis of the underlying progression is given below the staff, and coordinates harmonic rhythm with outer voice counterpoint. These layered patterns,

⁹ GRTT, 7.

¹⁰ Such a commonly held view of motive is reflected by this definition: “A brief melodic figure, too short to be called a theme, but often a fragment of a theme (of a sonata, fugue, etc).” Willi Apel and Ralph T. Daniel, *The Harvard Brief Dictionary of Music* (Cambridge, MA: Harvard University Press, 1960), 184.

¹¹ GRTT, 7.

projected temporally in the context of the form-building phrase, serve to introduce elemental concepts of motivic parallelism and variation technique; not only in this short passage, but also as it relates to the final movement of the sonata.¹²

The image shows a musical score for a short passage in A-flat major. It consists of a treble and a bass staff. The notes are connected by lines, and there are 'X' marks indicating specific intervals or relationships. Below the staff, the chords are labeled: Ab: I, V₃⁴, I⁶, V⁸⁻⁷, and I. The notation is enclosed in a rectangular box.

Example 3: Laitz and Bartlette, *Graduate Review of Tonal Theory*, "Setting the Stage," Example 9, p. 8.

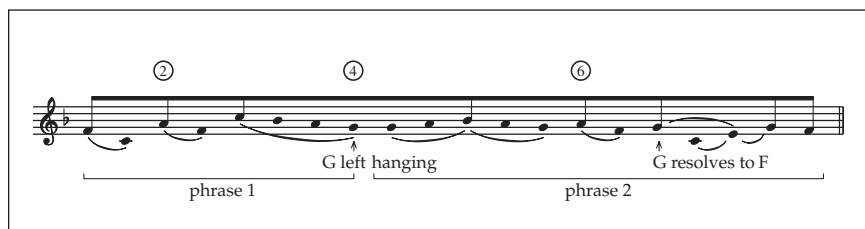
For students, this kind of learning is formative, and leads to higher-order understanding and interpretation of tonal works. The teaching strategy guides us to recognize the hierarchic qualities of musical experience, and correspondingly, the layered, hierarchic principles of tonal structures. "Chapter 15: Ternary and Sonata Forms" brings this teaching style to culmination with close study of the Allegro from Mozart's Piano Sonata in B-flat Major, K. 333. This analytical extension focuses on motivic parallelism in the context of sonata form, drawing connections on a broad scale, and demonstrating a view of form aligned closely with generative as opposed to conformational theories.¹³

¹² Motivic parallelism is an exceedingly important concept, one which Laitz and Bartlette address without terminological diversions. Interested readers may wish to consult Charles Burkhart's seminal article "Schenker's 'Motivic Parallelisms,'" *Journal of Music Theory* 22 (1978): 145-175 for further background.

¹³ See Mark Evan Bonds, *Wordless Rhetoric: Musical Form and the Metaphor of the Oration* (Cambridge: Harvard University Press, 1991).

MELODIC FLUENCY

Write Laitz and Bartlette, “melodic fluency refers to underlying scalar patterns that support the infinite variety of melodic embellishments that lie on the music’s surface.”¹⁴ Consider the melody of “Clementine” shown below in Example 4.



Example 4. Steven Laitz and Christopher Bartlette, *Graduate Review of Tonal Theory*, “Setting the Stage,” Example 2, p. 4.

“Clementine” demonstrates basic precepts of tonal melodic design in relation to a simple harmonic framework, and illustrates the influential role melody plays as an agent of large-scale linear structure in tonal works. The composite rhythmic-metric and harmonic scheme of “Clementine” also affords uncluttered exploration of linear design and reductive procedures.¹⁵ Stemmed notes are structurally prominent because of their metric placement, unstemmed notes are subordinate metrically, and slurs connect hierarchically related tones. By means of this simplified stem-and-slug notation, the analysis draws-out compelling features of melodic design, such as the relation between phrase endings, and the implied resolution of G in m. 4 to F in m. 8. Phrases like “G left hanging” and “G resolves to F” emphasize the sense of psychological expectancy tied-up with long-range resolution of $\hat{2}$ to $\hat{1}$, as harmonic tension built-up by dominant harmony midway is resolved simultaneously to tonic at the end of the phrase.

Laitz and Bartlette are sensitive not to overburden students with too many overlapping concepts at the same time, and instructors will notice the progressive layering of skills and procedures. For instance, not only is “Clementine” an effective example of structural melody, but the linear expansion of tonic F harmony

¹⁴ *GRTT*, 42.

¹⁵ “God Save the King” is used alongside “Clementine” as examples of basic melodic structures in tonal music.

also demonstrates prolongation by means of *horizontalization*.¹⁶ Like the concept of motivic parallelism, complex topics are developed progressively in later chapters through strategies of spiral learning.¹⁷

In Chapter 3, Laitz and Bartlette further develop the idea of melodic fluency in order to reveal how an underlying structural line aligns with an underpinning harmonic progression. This linear perspective also enables students to effectively grasp the purpose of 1:1 and 2:1 counterpoint exercises, which train musicians to recognize and perceive both vertical and horizontal controls of consonance and dissonance beneath the musical surface. As a result, students better understand the syntactic interdependence, or synthesis, of linear, harmonic, and temporal dimensions of musical space.

¹⁶ The concept of horizontalization is associated with types of prolongation as developed by Felix Salzer and Carl Schachter in *Counterpoint in Composition: The Study of Voice Leading* (New York: McGraw-Hill, Inc., 1989). Refer to the section titled "Two Major Influences on Contrapuntal Texture" on pages 144-152. Laitz's teaching strategies surrounding Schenker's concept of melodic fluency are highly imaginative and accessible. For detailed explanation of melodic fluency refer to Chapter 2, "Melody and Counterpoint," in *Analysis of Tonal Music: A Schenkerian Approach*, 3rd ed. (New York and Oxford: Oxford University Press, 2011) by Allen Cadwallader and David Gagné.

¹⁷ Spiral learning is addressed in Michael Rogers, *Teaching Approaches in Music Theory: An Overview of Pedagogical Philosophies*, 2nd ed. (Carbondale: Southern Illinois University Press, 2004). On this topic, Rogers writes: "Each new accomplishment leads to yet more sophisticated and more challenging levels of investigation and perception that were never even imagined before. The helix is never completed which is why music theory, in this sense, is endlessly intriguing" (12).

EMBELLISHMENT AND REDUCTION

The concept of melodic fluency also offers insight into the dynamic relation between composing-out (what Laitz and Bartlette term “embellishment”), and procedures of reductive analysis:

A given melody (e.g., a cantus firmus) or harmony provides a standard against which we can measure dissonance and consonance. Such a structural foundation allows us to embellish the melody or harmony with both consonant and dissonant tones of figuration. Conversely, by pruning away, or reducing, these embellishing pitches we discover structural lines, and these nonadjacent stepwise pitches provide an underlying skeleton for the piece. Stepwise motions occurring below the embellished surface of a melody are central to tonal music; such embellishments reflect a larger human preoccupation to elaborate and dramatize forms of discourse and communication.¹⁸

While the concept of reduction is addressed in the vast majority of undergraduate textbooks, rarely is it introduced by exploring long-range melodic structure. Furthermore, reductive analysis and composing-out are rarely taught simultaneously, as two sides of the same coin, so to speak. In fact, instructional resistance to reductive analysis can be overcome by attending to the compositional perspective that composing-out infers.¹⁹ As shown previously in Example 4, the methodology of embellishment, or composing-out, persuades students to conceive tonal hierarchy both deductively and inductively. *GRTT* demonstrates that these important ideas can be expressed without relying on loaded, easily misconstrued notions of structural levels (e.g., foreground, middleground, or background). Topics of embellishment and reduction lead directly to the teaching strategy of multilevel analysis, to which our attention now turns.

¹⁸ *GRTT*, 42.

¹⁹ Interpreted in a less value-laden and idealistic way, Schenker's concept of composing-out (*Auskomponierung*) suggests that the inspired, mature composer crafts surface patterning of musical ideas by first designing the large-scale, deep-level structure of a piece.

MULTILEVEL ANALYSIS

Today, Schenkerian concepts of melodic fluency, motivic parallelism, prolongation, composing-out, linear intervallic patterns, and the hierarchic nature of tonal structures are widely considered indispensable for advanced musical understanding.²⁰ On a pragmatic level, pedagogical resistance to Schenkerian thought is understandable given its terminology and symbolic intricacies, which often lead to both conceptual and graphic ambiguities if handled inefficiently. Furthermore, reductive analysis is viewed by some theory instructors as an unnecessary enterprise that diverts attention away from mastery of fundamentals such as chromatic chord grammar, functional harmonic syntax, and forms. Not surprisingly, because the analytical tools of orthodox Schenker theory can be quite complex and unwieldy, its use in undergraduate theory is often viewed as a source of potential confusion and frustration for students and instructors alike. Inevitably, objections to Schenker at the undergraduate level filter into courses such as graduate theory review; where, as mentioned earlier, instructional goals vary widely; and where the tendency to follow the path of least resistance might seem advantageous.

Published in 1997, Robert Gauldin's *Harmonic Practice in Tonal Music* represents the first undergraduate theory textbook to pursue an explicitly Schenkerian methodology.²¹ Roig-Francoli's *Harmony in Context*, first published in 2003, is also overtly Schenkerian in tone and scope. Whereas their approaches are highly effective and unique in many respects, Gauldin's and Roig-Francoli's methods reveal potential pedagogical hazards for many incoming graduates unfamiliar with concepts like structural hierarchy and prolongation.²²

Notwithstanding the exceptional qualities of Edward Aldwell and Carl Schachter's *Harmony & Voice Leading*, prior to publication of Laitz's *The Complete Musician* (2003) and Clendinning and West

²⁰ Consult William Drabkin, "Heinrich Schenker," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 812-843.

²¹ Robert Gauldin, *Harmonic Practice in Tonal Music*, 2nd ed. (New York and London: W. W. Norton & Company, 2004).

²² Although *GRTT* avoids orthodox Schenkerian analytic notation as a specific method of textural reduction, students can benefit from a more thorough explanation of how the symbolic notation is implemented.

Marvin's *The Musician's Guide* (2005), the field of music theory pedagogy lacked fully-developed teaching strategies to help students link conventional harmonic thinking with principles of counterpoint and prolongation needed to distinguish structural harmonies from contrapuntal chords. For many students, the descriptive mode of harmonic analysis represents the extent of their experience. Consequently, the process of differentiating some sonorities as *progressional* from others as *prolongational*, involves a radical change of perspective. Therefore, an added series of learning stages are needed in order for students to conceptually bridge morphological and syntactic dimensions of musical structure. Laitz's multilevel analytical approach provides precisely the kind of practical tools students require.²³ Example 5 illustrates a simple strategy from Chapter 4 that does not take for granted the preliminary steps one climbs, conceptually, in order to learn the more complex diatonic and chromatic types of contrapuntal expansion developed in later chapters.

The teaching strategy is cogently expressed as follows:

We can stabilize these tones of figuration by harmonizing them with chords that render them consonant. . . While it's true that each soprano pitch is now consonantly harmonized, we can still distinguish aurally between the more important melody notes that are members of the tonic triad (the soprano C and E) and the subordinate tones of figuration (the soprano B and D). This is because both the contour of the soprano line and the weak metric and rhythmic placement of the dominant harmony strongly prioritize the tonic. Indeed, these less important melodic and harmonic events allow us to hear the underlying tonic harmony.²⁴

²³ Roig-Francoli's *Harmony in Context* (2003; 2011) illustrates aspects of a multilevel analysis; however, his usage of the technique is not refined as a teaching strategy. In particular, Roig-Francoli's method of bass line reduction, while weighed down by Schenkerian symbols, does provide a means of relating progressional with prolongational thinking. In my graduate courses, various strategic combinations of bass line and multilevel analysis have been explored with positive results.

²⁴ *GRTT*, 53.

Example 5 consists of five musical examples (A-E) in 4/4 time, each with a treble and bass staff. Below each staff is a Roman numeral analysis (C:).

- A.** Treble staff: whole note C4, whole note D4. Bass staff: whole note C3, whole note C4. Analysis: C: I I
- B.** Treble staff: quarter note D4, quarter note E4, quarter note F4, quarter note G4. Bass staff: whole note C3, whole note C4. Analysis: C: I I
- C.** Treble staff: quarter note D4, quarter note E4, quarter note F4, quarter note G4. Bass staff: quarter note C3, quarter note C4, quarter note D4, quarter note E4. Analysis: C: I V I V I V I
- D.** Treble staff: quarter note D4, quarter note E4, quarter note F4, quarter note G4. Bass staff: quarter note C3, quarter note C4, quarter note D4, quarter note E4. Analysis: C: I V I V I V I. A bracket labeled (PAC) is under the final I.
- E.** Treble staff: eighth notes D4, E4, F4, G4, A4, B4, C5, D5. Bass staff: eighth notes C3, C4, D4, E4, F4, G4, A4, B4. Analysis: C: I V I V I V I

Example 5. Steven Laitz and Christopher Bartlette, *Graduate Review of Tonal Theory*, Example 4.9, p. 52.²⁵

Conventional undergraduate theory training commonly leads students to assume that nonchord tones simply embellish the motion between adjacent chords, often neglecting the notion that nonchord tones on the musical surface also reflect types of melodic motion (“figurations”) that serve to expand a single underlying harmony (return to Example 3). Example 5 illustrates the crucial stages at which students must recognize that a root position chord can obtain subordinate, prolongational status as a consonant harmonized melodic figuration (e.g., passing chord, neighbor chord). If not for the presence of 1) labels identifying lower neighbor LN and passing

²⁵ Example 5 (GRTT, Example 4.9A-E) does not include Example 4.9F in which the process of composing-out portrayed above is completed with a fully-formed compositional rendering. See GRTT, 54.

P tones of figuration, as well as 2) the expansion of tonic harmony shown beneath roman numerals at the level of the beat, students trained in a vertical orientation commonly assume no necessary grounds for differentiating the structural status of adjacent chords. Nonetheless, as the authors remind, “we can still distinguish aurally between the more important melody notes that are members of the tonic triad (the soprano C and E) and the subordinate tones of figuration (the soprano B and D).” In this instance, conventional vertical-functional thinking interrupts our perception of long-range tonic prolongation, and disregards the extent to which strong and weak accents reinforce our hearing the expansion of tonic harmony across the phrase.

This example exposes how easily conventional roman numeral analysis can lead to simplistic assumptions about the progressional meaning of chords. Conceptually, chords of *progressional* status represent the deep level of harmonic functionality. Chords of *prolongational* status are “part of the contrapuntal progression.” Chapters to follow explain and exhibit types of contrapuntal chords (e.g., neighbor N, passing P, incomplete neighbor IN), including inverted triads and seventh chords used to expand and connect structural harmonies in the context of a phrase.²⁶

²⁶ See Don Traut, “A Comparative Review of *The Complete Musician* by Steven G. Laitz, *Harmony in Context* by Miguel Roig-Francoli, and *The Musician’s Guide to Theory and Analysis* by Jane Piper Clendinning and Elizabeth West Marvin,” *Journal of Music Theory Pedagogy* 20 (2006): 151 – 160. Traut includes an example from *The Complete Musician* involving tonic expansion by means of neighbor and passing inverted dominant seventh chords. See similar examples throughout *GRTT*, as well as the “Summary of Contrapuntal Expansions” in Chapter 7. Hali Fieldman reviews these same instructional packages in *Music Theory Spectrum* 30, no. 2 (Fall 2008):366 – 382. The task of categorizing different contrapuntal chords was initially achieved on an exhaustive scale by Felix Salzer in *Structural Hearing: Tonal Coherence in Music*, 2 vols. (1952; reprint, 2 vols. in 1, New York: Dover Publications, Inc., 1982). As the field of Schenkerian pedagogy expanded, Felix Salzer and Carl Schachter published *Counterpoint in Composition* (1969; reprint, with new preface by Carl Schachter, New York: Columbia University Press, 1989). Part 2, “The Technique of Prolonged Counterpoint,” is a direct forerunner to Laitz’s methodology. Likewise, the interested reader will want to consult Edward Aldwell, Carl Schachter, and Allen Cadwallader, *Harmony & Voice Leading* (Boston: Schirmer Cengage Learning, 2011), which Laitz’s methodology closely resembles. *Harmony in Context* (2003; 2011) by Miguel Roig-Francoli and *Harmonic Practice in Tonal Music* (1997; 2004)

Example 6 shows a multilevel analysis in “Chapter 6: The Pre-Dominant, the Phrase Model, and Additional Embellishments.” Although this passage from Mozart’s Piano Sonata, K. 570 is used to illustrate the chromatic passing tone, it features a complete multilevel analysis. First-level analysis involves the task of identifying harmonies and assigning roman numerals. This preliminary stage, what Laitz calls *descriptive analysis*, is commonly associated with conventional harmonic instruction in many undergraduate and graduate classes. Second-level analysis appears immediately below the first-level, and depicts the process of contrapuntal expansion, or prolongation, by means of contrapuntal chords. This is what Laitz calls *interpretive analysis*, though he periodically uses the term *contextual* interchangeably. Laitz’s special terminology is useful to instructors and students, providing a working vocabulary to convey processes of analytical inquiry associated with different hierarchic levels of musical structure.

Referring to Example 6, most of the contrapuntal functions in this passage from Mozart’s K. 570 occur in first inversion, thereby generating what Ralph Turek terms a *melodized bass*.²⁷ Unlike

by Robert Gauldin also address the different types of contrapuntal chords. Prototypes of multilevel analysis can be found in virtually all of these texts. In *The Musician’s Guide to Theory and Analysis* (2005; 2011), Clendinning and West Marvin refer to second-level analysis as two-level analysis, and use the term *contextual analysis* for Laitz’s *interpretive analysis*. The differences in meaning are marginal, though Laitz’s approach is more theoretically advanced. Also consult David Beach, “Schenker’s Theories: A Pedagogical View,” in *Aspects of Schenkerian Theory* (New Haven, CT: Yale University Press, 1983), 1-38. In this piece, Beach describes the process of multilevel analysis in pedagogical terms that anticipate Laitz’s methodology. Techniques of second-level analysis tend to change through the course of Laitz and Bartlette’s textbook without direct explanation, though instructors can usually deduce why this is based on immediate subject matter. Nonetheless, while simple musical passages may not require roman numerals in the second-level analysis, the textbook can be improved by better explaining under what circumstances certain analytical features are omitted or retained.

²⁷ Refer to Chapter 13 in Ralph Turek, *Theory for Today’s Musician* (New York: McGraw-Hill Higher Education, 2007). As we find in Turek’s textbook, so also in *Tonal Harmony: With an Introduction to Twentieth-Century Music* (New York: McGraw-Hill Higher Education, 2009) by Stefan Kostka and Dorothy Payne, examples and reductions show how inverted triads and seventh chords create a stepwise bass, implicitly

earlier multilevel analyses in *GRTT*, Example 6 portrays how a structural function transforms into a contrapuntal function at deeper levels of phrase rhythm and hypermeter. Interpreting mm. 1-3 as a prolongation of tonic harmony in the context of the phrase, the inverted dominant in m. 2 behaves as a neighbor chord (labeled N in the second-level analysis). That is, heard as a single unfolding musical gesture, the bass line highlights a strong $\hat{1}-\hat{7}-\hat{1}$ linear motion toward structural pre-dominant and dominant harmonies marking the half cadence in m. 4. Often in subsequent chapters, second-level roman numeral analysis is depicted by the phrase model, which represents the generative, form-building structural segment. Labels for tonic (T), pre-dominant (PD), and dominant (D) clarify the relation between progressional and prolongational functions in the context of the phrase.²⁸

Allegretto

$\hat{P}$

$\hat{P}$

$\hat{P}$

$\hat{P}$ (double)

Bb: I V₄ I⁶ V⁶ I V₄ I⁶ V⁶ I V⁶ I ii⁶ V

I (P) V (P) I (IN) (N) ii⁶ V

T (N) PD D (HC)

Example 6: Steven Laitz and Christopher Bartlette, *Graduate Review of Tonal Theory*, Example 6.15 (Mozart, Piano Sonata in B-flat Major, K. 570), p. 81.

invoking the linear concept of *contrapuntal expansion* by means of various types of embellishing chords. Nevertheless, in these and similar undergraduate textbooks, contrapuntal and prolongational implications of chords are typically oversimplified or altogether unrealized.

²⁸Fieldman, loc. cit., footnote 23. Concerning the phrase model, Fieldman has already described its significance as a pedagogical tool, comparing Laitz's usage with that of Roig-Francoli, as well as Clendinning and West Marvin. Along these lines, *GRTT* can be improved by developing how hypermeter impacts contrapuntal expansion in the context of the phrase model, small, and large forms.

HARMONY VERSUS COUNTERPOINT

In light of preceding discussion, now I wish to briefly revisit Walter Piston's *Harmony*, the general theoretical presuppositions of which continue to inform instructional approaches in many post-secondary theory classrooms.²⁹ My purpose here is to evaluate an example of conventional harmonic thought in order to contrast this method with that of the linear brand of pedagogy offered in *GRTT*.

In his review of DeVoto's 1978 revised fourth edition of *Harmony*, Christophe Hasty writes: "Over the past forty years Piston's *Harmony* has become established as the chief instrument for the theoretical training of musicians in this country."³⁰ Hasty points out that some of DeVoto's revisions and additions reflect the changing landscape of late 1970s theory pedagogy based on increased scholastic interest in linear-contrapuntal approaches to tonal theory, inspired largely by Schenkerian thought and methodology. Chapter 18, "Problems in Harmonic Analysis," represents DeVoto's attempt to adapt Schenkerian terminology and prolongational reduction in the service of Piston's established functional-harmonic approach.

²⁹ Walter Piston and Mark DeVoto, *Harmony*, 4th ed., rev. and exp. (New York: W. W. Norton & Company, 1978). Piston's perspective might be rightly termed harmonic tonality, emerging as it does through a complex and fascinating historical trajectory dating back to the 18th century. See Joel Lester, "Rameau and eighteenth-century harmonic theory," *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 753 – 777. Like Piston, Robert Ottman also bases his methodology largely on modernist approaches to harmonic theory and pedagogy, as well as their 18th- and 19th- century antecedents; most indelibly, the fundamental bass theory of Rameau. Refer to Robert Ottman, *Elementary Harmony*, 5th ed. (Upper Saddle River, NJ: Prentice Hall, 2000) and its counterpart *Advanced Harmony*, 5th (2000). For additional historical and philosophical context, see David F. Thompson, *A History of Harmonic Theory in the United States* (Kent, Ohio: The Kent State University Press, 1980.)

³⁰ Christopher Hasty, review of *Harmony*, 4th ed., rev and exp., by Walter Piston and Mark DeVoto, *Journal of Music Theory* 26, no. 1 (Spring 1982), 155.

Example 7 reproduces DeVoto's analysis of a passage from Bach Chorale No. 6.

Example 7. Walter Piston and Mark DeVoto, *Harmony*, 4th ed., Example 18-2, p. 275.

Analyzing the composite four-voice texture as a succession of discreet vertical entities, the question mark on beat two of bar 1 signifies a problematic moment: Is this harmony better interpreted as ii^7 or vii^{07} ? Is its function pre-dominant or dominant? Taking into account the chord's weak metric position, and weighing its relative functional strength as root position Gm^7 or inverted E_5^{06} , DeVoto reasons that "in this case the harmonic ambiguity cannot be resolved in favor of either II or VII; but also it does not seem as important as the contrapuntal structure of the succession."³¹

While the graphic notation of the reduction in Example 7 suggests a prolongation of tonic F, tacitly, the student is led to deduce that the supposed contrapuntal expansion of F tonic harmony is a confluence of nonchord tones on the immediate musical surface. Consequently, DeVoto's reduction asserts a change of chord position rather than a contrapuntal maneuver: "It is not that the harmony between I and I^6 does not exist as a harmony, but rather that it is only an incidental sonority in the change of position between I^6 and I."³² Additionally, the analysis leaves unfulfilled an earlier reference to $viio^6$ as passing chord, in part due to a perceived contradiction between the constraints of tonal progression and an over-estimation of harmonic rhythm at the level of the beat.

DeVoto's conclusions represent the limit of many students'

³¹ DeVoto and Piston, *Harmony*, 277.

³² Ibid, 277.

experience in prior theory courses.³³ On the other hand, while assimilation may take time, many of my undergraduate and graduate students find multilevel analysis and the differentiation between structural and contrapuntal functions imminently compelling, and musically enlightening. More to the point, for many students conditioned to evaluate music in vertical-functional terms like those which DeVoto uses to analyze Chorale No. 6, the notion that a dissonant passing tone on the musical surface transforms into a consonant passing chord at a deeper level of prolongational activity revolutionizes their thinking in a positive way, quickly leading to new insights.³⁴ Though a pearl of linear thinking is implied in DeVoto's reduction, an invaluable opportunity is missed to identify the first species 10-10 linear intervallic pattern between soprano and bass – a major trait of the "contrapuntal structure" to which he alludes. "An uncompromising heir to the tradition of Rameau and Gottfried Weber," writes Hasty, "Piston has developed an understanding of harmony which cannot be reconciled with one of the most fundamental of Schenker's tenets: the distinction between chord and harmony."³⁵

³³ Ibid, xv. Notably, although both Piston and DeVoto acknowledge the invaluable role of both counterpoint and related Schenkerian analytic methods to musical maturity, their reservations for adopting linear techniques stem from experience that "such studies are generally too abstract and difficult for most students before the second year." Writes DeVoto, "The advantage afforded by the vertical approach still remains the most compelling one: it develops within a relatively short time a set of useful tools for analytical access to a great variety of musical masterworks." These views continue in some academic circles.

³⁴ For a rigorous critical analysis of prolongation and related issues, refer to Steve Larson, "The Problem of Prolongation in 'Tonal' Music: Terminology, Perception, and Expressive Meaning," *Journal of Music Theory* 41, no. 1 (Spring 1997): 101-136.

³⁵ Hasty, review of *Harmony*, 4th ed., rev and exp., by Walter Piston and Mark DeVoto, *Journal of Music Theory* 26, no. 1 (Spring 1982), 157.

CONCLUSION

The essay began by describing the disparate educational setting into which *GRRT* emerges, as well as the fact that graduate “theory review” denotes a widely varied domain of learning and instruction. Consequently, this initial interpretation of *GRRT* has focused on a small set of related primary analytical concepts and instructional methods. Doing so also allowed me to concentrate on specific aspects of the authors’ philosophy. To this end, I examined more vexing and consequential reasons why some theory instructors remain committed to the kind of harmonic theory pedagogy evinced in Piston’s *Harmony*. In response, we delved deeper into the instructional objectives of multilevel analysis, locating pragmatic strategies by which Laitz and Bartlette effectively bind linear and vertical orientations to tonality.

By demonstrating the feasibility of multilevel analysis as a teaching strategy, as well as briefly exploring its relation to melodic fluency, processes of composing-out and reduction, I have sought to persuade skeptical instructors of its pedagogical effectiveness and accessibility in graduate theory review. Consequently, I did not address chromaticism, modulation, forms, invertible counterpoint and compound melody, the back-relating dominant, to name a few subjects. Throughout, however, I have emphasized the consummate interrelation between harmony and counterpoint in tonal music – a relation that informs the authors’ approach to the gamut of materials and formal procedures associated with 18th- and 19th-century European art music.

In addition to multilevel analysis, another highly effective teaching strategy in *GRTT* centers on harmonic sequences. In her review of *The Complete Musician*, Fieldman describes Laitz’s technique in detail, yet takes issue with labeling systems used to explain highly chromatic sequences.³⁶ Since treatment of sequences is less extensive in *GRTT*, importance nuances are omitted. For instance, labels used to differentiate ascending from descending sequences in the undergraduate textbook are exceedingly useful, for they provide meaningful cues regarding the contrapuntal relation between outer voices. Thomas Benjamin comments that “One of the most powerful and practical of all Schenker’s contributions to musical understanding was the observation that between pairs of voices, especially outer voices in sequences, there is a pattern of

³⁶Fieldman, loc. cit., footnote 23.

harmonic intervals that seems the main organizing principle in such passages.”³⁷ As we noticed in relation to the passage from Bach Chorale No. 6 (refer to Example 7), given that linear intervallic patterns explicitly reveal the structural interrelation between chord and line in tonal music, they represent an invaluable means by which instructors can correlate harmonic and contrapuntal theories in both graduate and undergraduate theory classes.

As long as the written musical score remains foundational to communication and canon in Western cultures, the structuralist underpinnings of music theory and analysis will also remain and prosper. Conversely, Laitz and Bartlette’s philosophy is decidedly postmodern in that their view toward music analysis overtly appeals to both conceptual and experiential aspects of musical understanding. “Analysis is not a casual endeavor. It must reflect what actually takes place in the music and what we bring to that music in terms of our instincts.”³⁸ In virtually every respect, their approach to music theory and analysis consciously bridges abstract theories with concrete compositional application, as well as listening, and performing. Instructors will find a wealth of different exercises and drills, carefully designed to build connections between tasks of exploring and observing on the one hand; creating and evaluating on the other. This mentality will attract otherwise skeptical instructors, opening a route to analytic inquiry that might not have been considered. Likewise, the psychological currents of the text invite students to embrace theory and analysis from a more critical perspective. Through in-class performance and discussion of the concepts and skills, graduate students can leave “theory review” with new insights into its relevance and applicability, and fresh motivation to pursue even greater mastery.

Graduate students I have taught in online and face-to-face settings respond positively to *GRTT* because it bridges skills of perception honed through performance with skills of critical

³⁷ Thomas Benjamin, *The Craft of Tonal Counterpoint*, 2nd ed. (New York and London: Routledge, 2003), xxii. Catalogues and summaries of sequences and linear intervallic patterns can be found in Aldwell and Schachter’s *Harmony & Voice Leading* (2011), Cadwallader and Gagné, *Analysis of Tonal Music: A Schenkerian Approach* (2011), and 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).

³⁸ *GRTT*, 44.

thinking invigorated by means of close score analysis, listening, and composing. As a result, they invest more assertively in the subject matter. Inevitably, the mundane notion of “graduate theory review” becomes a misnomer, as students discover new ways of hearing and performing a piece of music.

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Global Perspective on Music Theory Pedagogy: Thinking in Music¹

PETER SCHUBERT

What does it mean to think in music? To me it means lunchtime conversations about resolutions of chords, where we wave our fingers in the air, spacing them to indicate intervals; sometimes it means improvising a consequent phrase to an antecedent, or improvising a florid line to a cantus firmus; sometimes it's recognizing a motivic connection to an event that occurred hundreds of measures earlier. These are the types of things we would like our students to be able to do: to engage actively with the ideas in music and to look beneath its surface. However, I found recently that I was starting with ideas that were too deep and abstract, that I was working too much on music as it appears to the mind and not enough on more tangible, elementary craft. So lately I have changed the way I teach, and since mine is a sort of road-to-Damascus story, I have organized it around two conversations with younger colleagues that shook up my thoughts about teaching. Writing this article has been cathartic as I reconsider my own musical education—it's a mixture of polemic and reminiscence, part manifesto, part memoir.

I propose two goals: to get first-year students thinking fluently at about simple music before acquiring sophisticated and abstract analytical tools; this goal can be achieved through a variety of musical activities that must take place in the classroom. Secondly, I emphasize that lessons learned through particular cases are better remembered than those stated in abstract terms or using artificial and contrived exercises and materials. Therefore we have to set slightly different priorities, shifting the balance away from exercises and towards real music from the outset.

The goals are applicable both in elementary counterpoint and elementary harmony classes. Lately at McGill we eliminated modal counterpoint as the first semester of the core theory sequence, partly so that basic theory and basic aural skills would go together

¹ This is a much revised version of a talk I gave in 2009 at the Eastman School of Music and at the 2010 Annual meeting of the Society for Music Theory in Indianapolis. Thanks to Joel Wapnick, Julie Cumming, and Steven Laitz for their helpful suggestions.

better (briefly, you can't have kids doing modal exercises while learning major-key scale degrees). The new first-semester harmony is limited primarily to writing and analyzing in two parts, so that the students can actually manage to deal physically and aurally with the music. These changes are not important to my argument; for the purpose of getting people to think in music it doesn't matter whether you start with Renaissance counterpoint or common-practice harmony or pop or folk music.

PART I: "A LESSON FOR LIFE"

Once I asked a very smart, self-aware undergraduate composition major why students in an upper semester of the theory sequence don't seem to remember what they learned in the previous semester. Without hesitating she answered: "Well, that's because we're focused on the grade, and we don't know there's a lesson for life in there."

Perhaps you have had an experience like the one that provoked my question. Many students who learn some counterpoint before harmony, for instance, seem to forget the rules of voice-leading that they had lived with for a while. For thirty or so years I taught counterpoint before harmony in the belief that the rules of voice-leading are the same in both modal counterpoint and common-practice harmony, and that they will transfer. Year after year I was proved wrong, but never did anything about it. It may be that vertical sevenths are prepared and resolved the same way in music from before 1600 and after 1750, but even this apparently simple commonality is lost on the students. They don't know there's a lesson for life in there, perhaps because the surface of the music is so different.

So what would a lesson for life (LFL) be? LFL sounds like it should supply the most broadly applicable set of tools and attitudes towards working with music. As my colleague, Don McLean, said of the undergraduate curriculum, we aim to provide tools "for a lifetime of learning." If our ultimate goal in theory teaching at its most general is to look beneath the surface of the music, I can ask myself, what tools do my students need in order to accomplish this task? That is, what skills do I use every day in my own lifetime of learning?

We always begin our investigation of music at the surface. We take for granted in our own work that we can play, hear, and identify the basic features of a piece before we set off looking for deep-level structure based on abstractions and generalizations. But, let's admit it, our first-year students' grasp of the surface is not what it ought to be—they can't even begin to ask the questions to which we often start telling them the answers from the first week of classes. When I say surface, I mean things like knowing the scale degree of a melody note, knowing the sound of parallel fifths, hearing the vertical intervals in a two-part texture (whether in modal counterpoint, or conceived as chord factors in harmony), or recognizing that an Alberti bass is not a rapid succession of changes of chord inversion. Grasping the surface means really knowing what the music looks, sounds, and feels like; it means attending to many local events simultaneously, starting with simple intervals. Taking time to give first-year students a strong grip on the surface will pay off in later music theory classes.

I tried sporadically to get my students to come to grips with the surface. How many times over the years did I say "you must sing and play each example in the book, you must sing and play your homework"?² I knew for the most part they weren't doing it. The most obvious evidence in a counterpoint class was the melodic or vertical tritones or diminished fifths that appeared in species exercises. The offender, hearing the example played, blushed appropriately, because students do have ears and instincts. But often they don't get the LFL that the tritone is special among all those white notes.

OK, if their grasp of the surface is so lacking, what am I going to do about it? My solution is ultra-integrated theory/aural skills courses where ear training *is* theory.³ The course embraces all types of musical interactions. If you want people to understand what "V4/2 of V" in b minor is, they must be able to recognize it on the page, recognize it when it is played, play it on the piano, sing it, write it, improvise it and resolve it. The only way to be sure

² *Modal Counterpoint, Renaissance Style* (New York: Oxford University Press, 1999; 2nd edition, 2008), p. xii.

³ For some reflections on thinking and hearing, see Michael Rogers' "Review of 'To Doh or Not To Doh: The Comparative Effectiveness of Sightsinging Syllable Systems,'" *Journal of Music Theory Pedagogy* 14 (2000).

students engage in these activities is to do them in class, at least once a week, hoping they will do it outside of class as well.⁴

A maxim and some FAQs

My first maxim is that the teacher is not to generalize about or mention even the simplest theoretical concept (e.g., V^4_2 of V , or invertible counterpoint at the octave) until the student can spot it, hear it, play it, sing it, write it, improvise it, and “use it in a sentence” (i.e., compose around it). These activities instill the concepts because all modes of perception are activated and integrated. Kate Covington, in her article promoting improvisation, quotes Piaget: “concepts are never truly assimilated ... unless they have been reformed or rediscovered by some activity.”⁵

When do these activities take place?

I have split my modal counterpoint course into a “read-the-book-and-write-an-exercise-outside-of-class-for-a-grade” part, and a “sing-play-improvise-memorize-play’n’sing-and-take-dictation-in-class” part. I realize that if I value these various activities so much, they must be done *in the theory class*, where I can keep an eye on them. I don’t think we can accept that aural skills as they relate to theory can be left to the aural skills course.⁶ When musicianship is a separate course, it’s possible for the aural skills teacher to drift away from the theory concepts, for the theory teacher to be less than supportive, etc. The integration is much more powerful if both written and aural skills are taught by the same person, and if the Aristotelian unities (of time, place, and action) are observed.

⁴ I have little faith in assigning exercise like these outside of class, for the same reason that piano teachers sometimes prefer to give shorter lessons more frequently until the student knows how to practice.

⁵ “Improvisation in the Aural Curriculum: An Imperative,” *College Music Symposium* 37 (1997) p. 49.

⁶ There are many skills that might be better taught apart from theory class, like beating time, tapping 2 against 3, reading C clefs, and taking rhythmic dictation.

What about the grade?

Chris Hatch, years ago, suggested that not everything that takes place in the classroom need be geared toward the grade. That seemed unfair to me at the time—surely, I thought, everything can and should be graded; you can't ask the student to do something that won't be graded, since many students believe the grade is the “paycheck” for work performed. What changed my mind is the recognition that all the activities listed in the maxim are essential attributes of music theory, more essential than writing. Improvisation, for instance, is a “play-in-the-sandbox” exercise intended as a voyage of discovery. It's important to do it, but it shouldn't count heavily towards the grade. Even if it takes 100% of class time, it could count as “class participation” worth, say, 10-20% of the final mark. Just getting up and going to the piano and playing, for instance, a short CF and singing a florid line (invented on the spot or composed out of class) could be graded pass-fail. Meanwhile the rest of the class can write it down and critique it.

Play-in-the-sandbox?

This tongue-in-cheek term refers to a serious activity in which we acknowledge that beginners must be allowed to make mistakes. The results are often horrendous, but that's the point, letting the student wrestle with the material (my TAs complained that some of the students were “eating the sand”). Dissonant downbeats, parallels, etc. are a small price to pay for giving the student a chance to feel around in the dark, and students should not be penalized for such mistakes at this more exploratory stage; the instructor can explain what was wrong but move right on to the next thing. Play-in-the-sandbox institutionalizes the process of discovery by making time for it under the teacher's supervision but without the pressure that results from being graded.

What about resistant or weak students?

I have found that if these activities are begun on the first day, people tend to go along with them. If somebody is really scared, I offer them the opportunity to perform in the privacy of my office, but no one has taken me up on that offer in years. As for ill prepared students, the last time I taught modal counterpoint I had one or two who had never done this kind of thing (and some of them were

very weak in basic skills to boot), but they began by preparing to sing and play their homework outside of class—they weren't badly prepared for long, and ended up improvising competently in class.

Isn't that a waste of class time?

Well, It doesn't take that much time; if each student is at the piano for three minutes with a half minute lost in the commute, you can get through ten students in thirty-five minutes, so for a theory class of twenty that meets three times a week for an hour you can get them all at the piano each week, leaving over an hour for explaining the assignment, dictating or singing, telling stories about Nadia Boulanger, etc.

But how can you cover all the material?

This *is* the material! The teacher here is a facilitator, getting students to perform the tasks listed in the maxim, and to comment on each other's work. The teacher can contribute comments in a casual ("no, it won't be on the exam") way, e.g., "Did you notice that your counterpoint has the same intervals as the CF but inverted?" Such comments show, without insisting, that interesting insights can be made about things that are simple on the surface, and that such apparently simple things might contain complexity and depth. These hints anticipate things to come in more advanced theory classes, and some students respond well to the light touch. The material that is graded is mostly reading and writing outside of class. (Students *will* read, if the explanation of the exercise that the grade depends on is in the reading!)

Why do you keep harping on "sing'n'play"?

Because this is the single best exercise for grasping a musical idea, for hearing and thinking in music's two dimensions. Sing'n'play in two voices is superior to just playing at the keyboard because one *can* play two voices as a series of verticalities, and thus miss out on the sense of either part as a line. Singing makes it easier to hear the sung line as a melody, having an independent continuity. For the rest of the class, the distinct timbres make it easier to write down what is played'n'sung. In species counterpoint, given that the faster-moving line inevitably grabs our attention and has more melodic-ness, it is especially good to sing the slower-moving

line; that way the competition between the two melodies is more balanced. In addition, sing'n'play forces the singer'n'player to attend to both vertical and melodic intervals: "I was on a unison with the piano, I went up a step, the bass dropped a fourth, now this should feel like a fifth" is good internal monologue for a young musician. Nadia Boulanger made us sing and play a lot (she used to say that the best way to experience four-part voice leading was to sing one line, and, at the organ, play the other three lines on two different manuals and the pedals). I still tremble at the memory of her saying "Schoubert, come at ze piano," so now I always put on a French accent when I call on my students.

PART II: STYLE

I asked one of our grad students how he liked being a teaching assistant in first-semester modal counterpoint and second-semester basic harmony (the old McGill way), and he said, somewhat dubiously "It's OK, but they don't look at any real music until the last few weeks of the term." At Harvard, he told me, John Stewart began his first-semester course by sitting the students down in front of a Bach chorale and chipping away at it until by the end of the term they could play it from memory in any key, analyze other chorales, and compose their own chorale settings.

If the students in my young colleague's story didn't see any real music, what did they see? They saw exercises and simplified paradigms. When I think of successful exercises, I think of some tennis lessons I took at Mont Tremblant. One fun exercise was the "approach shot," where you hit the ball deep, run up to the net, plant your feet, and slam the volley. The tennis pro took care in returning my deep, supposedly powerful shot, so that it was weak and accessible to me at the net. The cooperation of the teacher was essential to the success that made this so much fun. The problem with mastering any one thing like that is it never occurs quite that simply or conveniently in real life. And if the approach shot was *all* I knew how to do – well, nobody would want to play with me!

Likewise the theory teacher, wanting the student to succeed, assigns a task that is within the student's reach (usually in some step-

by-step pedagogical program), and that can be easily evaluated. The grade is the measure of how well the student responds to a very narrow set of options. That is, the teacher has to hit the ball gently back to where the student can volley it. This sounds good on the face of it, but it leaves the student with the impression that music theory is mainly about the contrived exercises. The difference between tennis and music theory is that after the tennis lesson you can have a friendly match in which you muddle through all the other parts of the game the best you can; if you manage one or two approach shots it's a triumph, even if you lose the point.

The tennis match has a satisfying wholeness and a natural excitement that no drill can have. Because in theory class there's no equivalent of a friendly match to muddle through afterwards, the consequences of focusing on exercises in music theory class are very dangerous.⁷ I know, you'll say we all bring examples of real music into class, but these are mostly short excerpts, only occasionally a whole piece in a first-year class. That's like showing a video of a brilliant approach shot by Roger Federer: it remains a sound bite, a bleeding chunk, and the student can see it for what it is: a pathetic justification for the exercise. Saying "see, this happens in Mozart" makes Mozart the servant of the simplified exercise. The exercise, remember, is the thing the grade is based on! You don't have to win a game, you just have to master the approach shot!

Typical music theory exercises, for well-intentioned reasons, deliberately leave out many musical features. In both species counterpoint and harmony, we leave out rhythmic variety (often even rhythm itself), motivic repetition, phrases, rests, texture, register shifts, and cadences. These things are all indispensable to music, but more importantly, taken together they define style. One reason we leave them out may be efficiency: we want to show what is common to a lot of pieces in many styles. The whole point of paradigms and reductions is that they are elaborated differently in different repertoires. Knowing that many different styles have underlying similarities is probably a good goal in upper-level courses, but we mustn't forget that for beginners, style is what makes music intelligible. The beginning student who falls in love with a piece falls in love with the surface, but starting on day one we

⁷ The only parallel I can think of to a tennis match is for the student to go out and compose a whole piece even though she has only learned to prolong the tonic; that would involve some serious muddling through; it might be fun for the student but I have found it is impossible to grade.

begin a profound investigation of its skeleton. (Imagine if it were a *person* that the student fell in love with, and we said “yes, but think about your beloved’s skeleton first; see, it’s like so many others”!)

Style is essential because it has a natural wholeness. We acknowledge as much when we label periods and herd composers into them. It’s a set of common attributes gathered together for myriad historical and technical reasons. It’s a bunch of furniture we can get used to living in, predictable and comfortable. Teaching theory through style modeling and analysis makes it easier to develop intuitions—even in the dark we won’t trip over the sofa. Students have some sense of style and expectations that we can build on. At first we will develop these intuitions only in one style, but gradually connections will be made to other styles. There’s plenty of time later to realize that sevenths resolve down by step in Brahms too, and that they don’t always in Monteverdi.

Let’s look at some artificial (non-style based) exercises that have been used. In around 1965 Patricia Carpenter institutionalized Peter Westergaard’s “abstract” species counterpoint as the first semester of the theory sequence at Columbia precisely because she wanted the students to come to grips with music as strange, recalcitrant material. She likened it to wood, whose grain must be taken into account by the sculptor. She complained that many students think music is “how they feel,” and she wanted to shock them with its otherness. I now think that such a context-free, a-stylistic approach is only a good idea if there’s something firm in the student to resist that otherness; neither my students’ grasp of the surface of any piece nor their comfort level with any style is sufficiently solid to withstand the friction of an unsettling concept, and so the artificial, abstract exercise comes to the fore.

The urge to systematize, to provide step-by-step instruction has been a powerful force at least since Fux, and introducing a little species before moving to harmony has become a popular pedagogical gambit in North American classrooms.⁸ This reflects the notion that species rules (dissonance is passing, etc.) somehow “apply” in many styles. As I have said, I don’t believe the transition from counterpoint to harmony gets made very well, because two-part species counterpoint doesn’t sound, on the surface, anything

⁸ This was cogently argued by John Rothgeb, who proposed a curriculum in which one begins with strict counterpoint, where what you see is what you get, and then moving to figured bass, and finally to melody harmonization. “Schenkerian Theory: Its Implications for the Undergraduate Curriculum,” *Music Theory Spectrum* 3 (1981): 142-149.

like a Bach chorale, or indeed like any music on the planet. No matter if you say “look here, see the connection?” students don’t have the skill in abstraction to make it from one to the other. If they’re worried about the grade, they’ll focus on their exercises and never see the connection to any music. I was taught this way— I loved my tiny perfect Jeppesonian ships in bottles (containing a single climax, no motive, and just the right number of changes of direction), but being told there was a connection to real music didn’t make it so. My delightful little miniatures didn’t begin to help me write or analyze music of any kind. The craft of species is an intense process, but can you remember even one of your solutions?

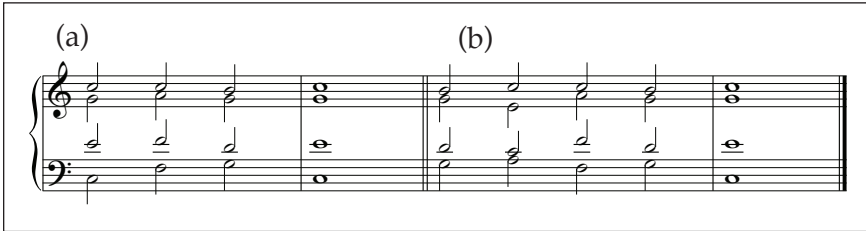
Nadia Boulanger had her students memorize model chord progressions (two are shown in Ex. 1). I do not deny that playing these in any key, singing the melodies of the four parts *seriatim* canonically, singing and playing any pair of voices, were invaluable to my musicianship, but these progressions are not music. They most closely approach hymns, but they have even less rhythmic and motivic identity.⁹ These progressions are all disembodied approach shots. You can come away from them with a good ear and a profound respect for subtle and elegant voice leading (I am still deeply fond of the overlapping alto and tenor motions in Ex. 1b), but you couldn’t begin to compose music, even a hymn, if this were all you knew. In Paris we also did figured basses from the Dubois harmony book.¹⁰ Once again, realizing progressions in half notes (what IS it about half notes?), we pasted one solution over another week after week. I learned that subtle rhythmic inflections, particularly breaking up a long note to give rhythmic impetus and independence to a part, made part-writing come to life. Jacques-Louis Monod, however, derided these exercises as training for “a harpsichordist at a desk.”

Boulanger once looked at a figured bass realization of mine and didn’t like the melody; pointing to at the soprano part she asked, “what note do you want to hear here?” I bristled at the idea that she could possibly know what *I* might want to hear next, as if there were

⁹ I was always troubled by the initial weak tonic in Ex. 1a – is this phrase the end of some longer hidden phrase? is it an end-accented Riemannian phrase? and why does Ex. 1b begin on the dominant? Schematic examples such as these are among the types of thing I refer to loosely as “paradigms” and “reductions.”

¹⁰ Théodore Dubois, *Traité d’Harmonie Théorique et Pratique*, Paris : Heugel, 1921.

only one possible right answer that I seemed not to have wanted. She took the next soprano note to be a sort of universal truth. If she had explained that we were playing in a Mozart-style sandbox, I would have understood that she meant “What would Mozart do?” and I would perhaps have listened to more Mozart and absorbed his idea of the next note.



Example 1. Two of Boulanger's progressions.

It's not just that exercises prepare the student only for other exercises, it's bad for the teacher too, to love these simulacra of music. One of the most insidious effects of my half-note exercise brainwashing is that, when I am preparing a figured bass as an exercise for my class, I become the clever composer of such nonsense. Who's supposed to getting their creative juices flowing, me, or my students? This pernicious inversion comes about because we don't trust our students to have any useful musical ideas of their own. Michael Beckerman, writing in *Vitalizing Music History Teaching*, stresses the importance of the student's personal contribution: "It is my belief that students at just about any level are most excited when they are invited into the enterprise and encouraged to make contributions to understanding based on what they already know and the way they personally construct the axis of knowledge and belief."¹¹ (This is a persuasive rationale for improvisation in a familiar style.)

The best way to engage them is to put them in active contact with real music. They are given something from the real world to work with that is musically complete as far as it goes. It is not a chord progression floating in space or a melodic line that has no rhythm, it is a specific musical idea borrowed from a specific musical thinker with, we hope, specific demands and probable consequences in a

¹¹ Michael Beckerman, "How Can You Teach What You Don't Know? ... and Other Tales from Music History Pedagogy," *Vitalizing Music History Teaching*, edited by James R. Briscoe (Hillsdale, New York: Pendragon Press, 2010, p. 18.

specific style. It has rhythmic momentum, an organic continuation, the possibility of repetition, and is likely to be memorable.

I take my cue from the lessons Mozart gave the daughter of the Duc de Guines in 1778. He writes to his father:

She has a great deal of talent, even genius, and in particular a marvelous memory, so that she can play all her pieces, actually about two hundred, by heart. She is, however, extremely doubtful as to whether she has any talent for composition, especially as regards invention or ideas. . . . I gave her her fourth lesson today and, so far as the rules of composition and harmony are concerned, I am fairly well satisfied with her. She filled in quite a good bass for the first minuet, the melody of which I had given her, and she has already begun to write in three parts. But she very soon gets bored . . . Everything has to be done by rule. She has no ideas whatever—nothing comes. . . . So I wrote down four bars of a minuet and said to her: “See what an ass I am! I have begun a minuet and cannot even finish the melody. Please be so kind as to finish it for me.” She was positive she couldn’t, but at last with great difficulty—something came, and indeed I was only too glad to see something for once.¹²

This vignette is entertaining and inspiring. Mozart’s emphasis on musical ideas underscores the importance of thinking in music. He contrasts that with “rules of composition and harmony,” and I am as depressed as he is about the prospect of doing everything “by rule.” So I have adapted the “See what an ass I am” method in the following way for my first-year harmony class: a 2-bar basic idea is proposed (from a composition or invented by a student) and another student is to improvise the next two bars. The rest of the class writes it down and critiques it.¹³ As the class progresses, a bass line is improvised to the four bars, and soon another four bars are improvised leading to some chosen scale degree, and then a

¹² *Mozart’s letters: An Illustrated Selection*, translated by Emily Anderson (Boston: Little, Brown, 1938; illustrated edition, 1990), p. 91.

¹³ Improvising sentences and periods is good preparation for advanced study of formal functions as described by William Caplin in *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven*, (New York: Oxford University Press, 1998).

bass is added to the last four bars. All that, and much discussion, is generated from a bit of “real music.” A textbook that has exercises such as these is Nicholas Cook’s *Analysis Through Composition*.¹⁴ In his introduction he describes various composing and arranging exercises, and adds: “It also involves writing some analyses. But the idea is to keep the analysis linked as closely as possible to the music. It is to my mind a mistake to introduce abstract music-analytical concepts at too early a stage in the educational process...”¹⁵ His book focuses on activities in a single style.¹⁶

Personally, if I have to keep a class’ eyes and ears fixed on a single piece for a semester, I wouldn’t use a Bach chorale as Stewart did, but that’s not the point. What’s valuable about his method is that *some* piece is always in the foreground, in all its complexity and richness, with all its confusion and associations. Any general feature is always there in its natural context.

Exercises such as those that Cook and I propose are more natural, for they employ a fragment of a real piece as a model. We could write a variation on it in a different meter à la Niedt,¹⁷ or compose a new piece using the same theme or structure, or improvise a different continuation to the first two-bar basic idea, or play the theme sequentially.¹⁸ These latter interactions are thinking in music.

¹⁴ Nicholas Cook, *Analysis Through Composition: Principles of the Classical Style* (Oxford: Oxford University Press, 1996.)

¹⁵ Cook, vii. One problem with this book is that is that while it integrates “harmony, counterpoint, composition, analysis, and theory,” it does not emphasize playing and singing and taking dictation as much as I would like.

¹⁶ Like *Baroque Counterpoint* by Peter Schubert and Christoph Neidhöfer (Pearson Prentice Hall, 2006), Cook adduces ideas from theorists contemporaneous with the music (Koch, Kirnberger). Another problem with it for my purpose in this article is that it presupposes the reader’s knowledge of harmony.

¹⁷ Joel Lester summarizes Niedt’s approach to “the path from learning thoroughbass to composing” in *Compositional Theory in the Eighteenth Century* (Cambridge: Harvard University Press, 1992), pp. 66-68.

¹⁸ Théodore Dubois ends his harmony book with partimento and variations on a harmonic progression (See Robert Gjerdingen, “Partimento, Que Me Veux-Tu?” *Journal of Music Theory* 52 (2009):85-135. Boulanger had her students play modulating sequences for long periods, exhorting them, at 9 AM, with “If you could do this until noon, you would be a saint!”

As Berio wrote, "I have always thought that the best possible commentary on a symphony is another symphony, and I reckon that the third part of my *Sinfonia* is the best and deepest analysis that I could have hoped to make of the Scherzo from Mahler's Second Symphony."¹⁹

Another maxim and some more FAQs.

The second maxim is that nothing other than real music should appear in class. By real music I mean pieces or parts of pieces composed or improvised by students or from famous composers. By parts of pieces I mean a melodic idea, a bass line to which a melody is to be added (or vice-versa), etc.

Don't you teach species? How is that real music?

I include on-the-spot-improvisation in my definition of real music, and in my class species is improvised as it was around 1550. I imagine the rules of dissonance treatment were taught very fast and immediately tried out. The examples from treatises that I have seen would never pass muster for Jeppesen or his followers, who insist on an anachronistic standard of beauty and wholeness. I stress only *survival* when urging my students to forge ahead against a 36-note liturgical chant; their lines might make as little sense to them as the CF probably does, but it will be correct by my minimal standards. This means that in 7-8 weeks they can be writing or improvising florid counterpoint with a motive, and that's real music.

But what models of that can you use?

I admit that two-part repertoire examples of florid motivic counterpoint against a CF are rare, probably because any kid could improvise one. Several are reprinted in my *Modal Counterpoint, Renaissance Style*.²⁰ The Ortiz *ricercar* numbered Ex. 9-15 (on the famous CF "La Spagna") is a beautiful and complex piece, whose motivic repetition at the end I find particularly poignant.²¹

¹⁹ Luciano Berio, *Remembering the Future*, (Cambridge: Harvard University Press, 2006): 40.

²⁰ New York: Oxford University Press, 2nd ed. 2008.

²¹ Many more examples can be found in organ literature by Scheidt or Cabezón, among others.

What can replace paradigmatic progressions?

The original musical things they were abstracted from. In my harmony class a great deal of material comes from the ubiquitous “Easy Classics to Moderns” series; it includes many minuets from the Notebooks for Nannerl Mozart and Anna Magdalena Bach, Corelli sonatas, and some cheesy late 19th-c. items like “Love’s Old Sweet Song.”

What improvisation do you do in harmony class?

The “See what an ass I am” exercises (described above), continuing a sequence, and improvising over a ground bass.²²

What do you do for homework?

Only style modeling exercises, analyses, and some memorization of pieces. These must begin with actual materials in the style, a liturgical CF, a stolen soggetto, a little theme from a minuet, etc. The ultimate goal of this type of course (whether counterpoint or harmony) is model composition. Thinking in music, like thinking in words, is often best expressed in writing, which can be planned and revised. The activities proposed here are meant to make writing more natural and comfortable, like slowed-down improvisation. We have had students write two-part Renaissance duos à la Ortiz or complete minuets for piano à la Mozart as final projects. About twenty percent of the class reliably came up with amazingly good pieces, good enough to pass as authentic.

Memorization is useful for having at least one or two pieces in your head for a while (Nadia Boulanger’s first question to a student was “Do you know a lot of music by heart?”) as examples for modeling, and because the process of memorization can be aided by analysis. Gary Karpinski, in his book on aural skills, cites the need for repeated listening. He says students “...must become intimately familiar with how the piece ‘goes’ as they answer questions, create graphs, make lists of themes, and so on. In gaining this kind of intimacy with even only a handful of works, listeners can begin to attend to salient formal details in unfamiliar works as well.”²³ Brian

²² Dariusz Terefenko presented a paper on his use of keyboard improvisation over a ground bass at the Annual Meeting of the Society for Music Theory in Indianapolis, Nov. 4, 2010.

²³ Gary Karpinski, *Aural Skills Acquisition*, New York: Oxford University Press, 2000, p. 137.

Alegant quotes this line of Karpinski's as the jumping-off point for his article about analyzing without a score, which can easily be integrated into the approach I take, but perhaps not in the first year.²⁴

PART III: CONCLUSION

Some of the verbs used in this essay ("muddle through," "chip away at" "wrestle with") sound pretty half baked, not at all like lofty pedagogical principles. They go along with my rejection of the step-by-step method, which too often becomes an end in itself, in favor of experience. You may well have questions about how to fit all these touchy-feely activities into the context of a curriculum, where each level is predicated on the preceding. I think we have to be willing to admit that the first-year counterpoint or harmony is not rocket science, and that simpler lessons will be learned more thoroughly if they are supported by polymorphous knowledge. Then upper-level learning will take place on a firmer foundation. It basically means redefining what music theory is to include: tactile, acoustical, performative theory applied to a single style at a time.

²⁴ Brian Alegant, "Listen Up!: Thoughts on iPods, Sonata Form, and Analysis without Score," *Journal of Music Theory Pedagogy* 22 (2008): 149-76.

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