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All too often, core courses in undergraduate music theory are a one-sided affair; the instructor presents the requisite battery of voice-leading rules, chord progressions, and formal paradigms while the students dutifully work to master this material. But classroom opportunities for *meaningful discourse between students* are often rare. Of course, high-level musical discourse is ideally what music theory is all about. If we, as instructors, promote this idea to our students during the first years of study, it will help them realize that achieving the ability to engage in such discourse is exactly what the core curriculum is designed to help them do.

The quality of musical discourse is directly proportional to the quality of empiric evidence used to support it. That is, musical arguments should be supported by data. This is not to say, however, that empiric arguments are "objective" or "true;" it is necessary for us to demonstrate to our students that the spirit of our discipline can be empiric without being unilateral. espite its "scientific image," music theory makes no claims to objective truths, but rather seeks to articulate explanatory models for various kinds of music. Given this stance, "music theory" is a somewhat misleading title for the first semesters of undergraduate study—in most cases *analysis* occupies significantly more class time than theorizing does. And, it is analysis, the rigorous process of gathering data and describing musical relationships, that so often strikes our students as objective, mathematical, and uncreative. Most who maintain this position, however, are conflating analysis with description. The analytic act of employing empirically-gathered data to flesh out a musical argument is an interpretive, creative, and open-ended task, not unlike interpreting music through performance.

Engaging and successful music analysis depends upon finely-honed skills. Good analytic skills are one of the best tools we, as teachers, can impart to the future music scholars in our classes. Perhaps more importantly, though, these same skills—skills that require the ability to weigh different alternatives and to present effective arguments—are of great value to all students, the

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majority of whom, it goes without saying, will not go on to make a living in music theory. Moreover, engaging students in discourse designed to hone their analytic thinking skills will allow for greater interaction in the classroom and greater variety in written work. Such discourse can break down rigid thinking and foster an environment that welcomes musical ambiguity and multiple interpretations. As Michael Rogers put it:

> The natural inclination to weight those aspects of musical experience that are the most "teachable" and "testable" should be carefully examined. Theory teachers, too often, tend to overstress topics or questions that permit only clear-cut right or wrong answers while avoiding those gray areas of ambiguity that can be so treacherous…In the long run, most questions that do have unequivocal answers turn out to be insignificant, whereas those that allow a variety of interpretation have the power to kindle real musical insight.

This paper presents a number of examples and classroom techniques designed to foster high-level musical discourse. By means of an introduction, we will digest some food for thought designed to augment the teaching of music fundamentals. Thereafter, we will continue by addressing three analytic tasks. These tasks—deciding on the tonic key of a passage, making decisions about musical form, and labeling the harmonic function of a chord—all require the use of empiric arguments while still remaining open to multiple interpretations. Each task is accompanied by two examples from the music literature and pieces of evidence that support contrasting readings. In addition, suggested teaching techniques are interwoven throughout the discussion. These new techniques encourage students to collect data and to use it in forming cogent oral, written, or musical arguments. Most importantly, the techniques can inject much-needed energy into tired classroom and assignment formats, while simultaneously inculcating in our students a set of skills and an understanding of music that transcends a basic knowledge of part writing and analysis.

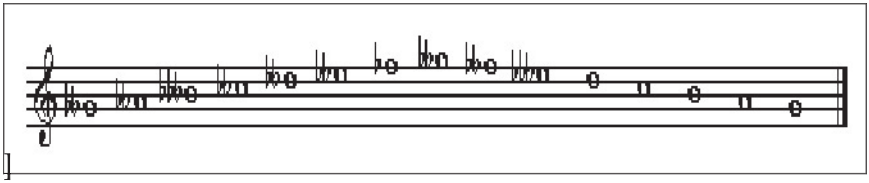
Music Theory Fundamentals

Many of the most fundamental topics covered in the first semester of study can be subjected to critical inquiry. The questions listed in Example 1 provide opportunities for engaging student discussion even during the first weeks of class. In music theory courses, these questions can be provided as extra-credit problems to accompany standard workbook assignments. After the homework has been collected, the instructor can spend a few minutes in class discussing various solutions. Many otherwise uninterested students will perk up and participate when asked about the existence of the diminished unison, or the method of finding the major key whose signature has 100 flats. Flouting the tedious, circumscribed exercises endemic to "front-of-the-book" topics creates a sort of free-wheeling music theory counterculture whose purpose is to step outside the mainstream fundamentals study so often burdened by the tedium of busy-work assignments. Of course, understanding these aptly-named "music fundamentals" is the key to mastery of the skills and material at any level of theory study.

Example 1 **-** Extra credit questions and activities to augment the study of music fundamentals

Scales: Spell a G♭ melodic minor scale, ascending and descending.

Answer:

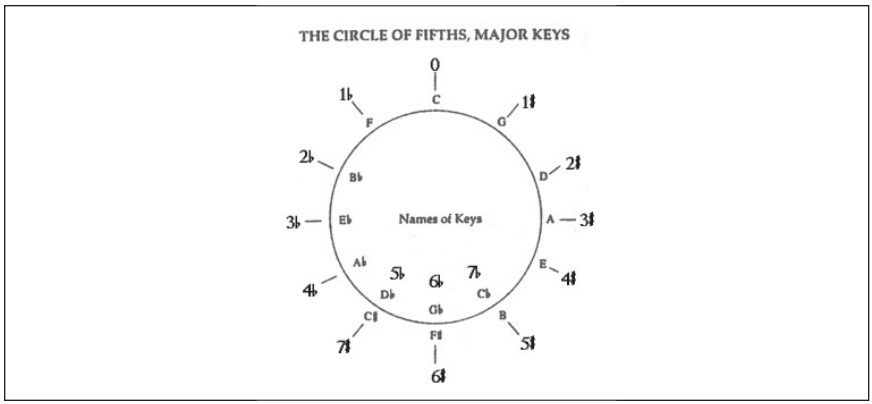


This exercise reinforces the function of accidentals, and drills the whole- and half- step scale patterns in an extreme context. Since the easiest solution is just to "add" two flats to every note in the G melodic minor scale, this exercise also encourages students to think in terms of adding and subtracting accidentals, a skill that comes in handy when doing intervals (e.g., when asked to find a major third above D♯, the student may find it easiest to find a major third above D (F♯), and then just "add" a sharp to each note to arrive at the correct answer of F𝄪).

Key Signatures: What major key has 14 ♭s? 100♭s? 101♯s?
How do you figure these out?[1]

Answer: C♭ major, B 15♭s major, A 14♯s major.

There are many possible methods for arriving at the correct answers, and most engage mod7 thinking. If the students divide the number of accidentals in the problems above (14, 100, and 101) by 7, the quotient will give the number of accidentals to add to the tonic key, and the remainder will indicate how many steps around the circle of fifths one must travel away from C to arrive at this tonic (move clockwise for sharp keys, counter-clockwise for flat keys). Example: 100/7 = 14 with a remainder of 2. Thus, the tonic is B♭ (two steps counter-clockwise around the circle of fifths) with 14 (the quotient) flats added on = B 15♭s Major.

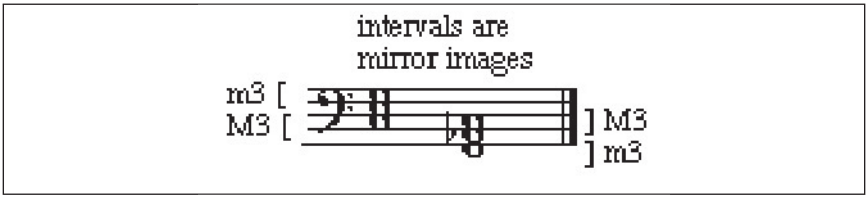


Intervals: What is the inversion of an augmented octave?[2]

Answer: The simple answer is "a diminished unison." But, hopefully your students will give this some more thought and try to describe what, exactly, this interval is. Does it even exist? Another possibility is to answer "an augmented unison" since that interval is formed when one of the notes in an augmented octave is moved an octave closer to the other. A third possibility would be to argue that inversions of intervals larger than an octave are left undefined.

Triads: In what sense could we speak of an F minor triad being an "inversion" of a C major triad?

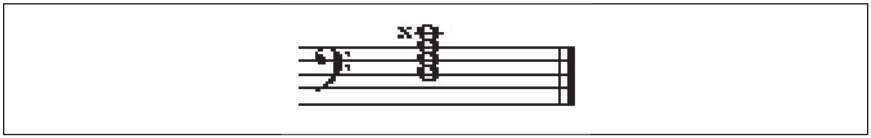
Answer:



Musicians use the word inversion so many different ways in different contexts (interval inversion vs. chordal inversion vs. the inversion of a contrapuntal line) that students often confuse the different usages. Rather than squelching the (mis)application of the term "inversion" in a given context, ask the students to clarify their usage of the term. Here, they can start preparing in advance for Rameau- and Riemann-influenced theories of "undertone" series.

Seventh Chords: Spell a minor-augmented seventh chord built on D. Why is this chord theoretically possible, but practically impossible?

Answer:



Since the augmented 7th is enharmonic to the root of the chord, we hear only three, rather than four, distinct pitch classes.

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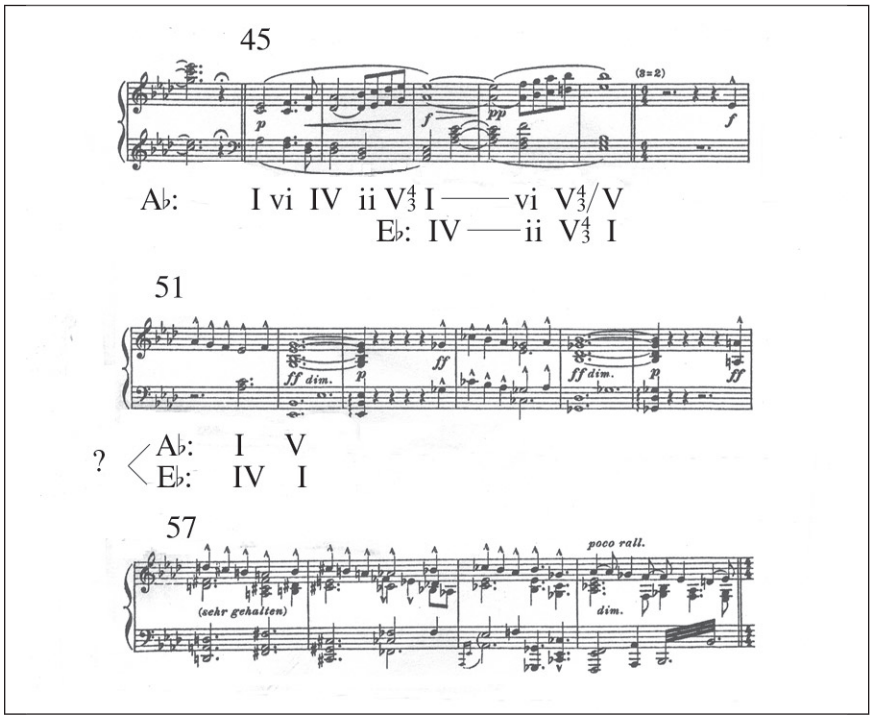
[1]I must thank Norm Carey at the Eastman School of Music for introducing these questions to me.

[2]Adapted from Michael Rogers, "The Rich Messiness of Music: Teaching Theory in Music with Contradiction and Paradox," *College Music Symposium* 30/1 (1990): 136.

Identifying Tonic

Returning to basic questions like "What is the tonic key of this passage?" later in the curriculum can be a valuable exercise. If suitable examples are chosen, students will brighten when they realize this stock question doesn't necessarily have a stock answer. In Example 2, I present a passage from *Parsifal* that I discussed with my students in a previous course. At issue was the seemingly simple act of deciding whether bars 45 through 53 were to be heard in A♭ major or E♭ major. Unfortunately, the example worked too well. Not only did the lengthy debate between the students take more class time than we had to spend, but two individuals kept returning to the question of tonic key to continue arguing their points even when we had moved on to other topics. The points made by both students are summarized below the excerpt.

Example 2 - Tonic in a passage from the prelude to Parsifal (mm. 45–53)
(Excerpt drawn from the Schirmer piano-vocal score)



Supporting Evidence for Key Choices:

E♭ Major

- The cadence in bars 48–49 is V^4_3 – I in E♭, mimicking the identical motion in bars 46–47 that lands on what is unquestionably an A♭ tonic.
- The E♭ chord in bar 52 is supported with a dynamic accent and tutti orchestration.
- The plagal motion into bar 52 is consistent with other plagal progressions throughout the prelude that lend it a spiritual affect.
- The sequential continuation after bar 52 in lieu of continuation into the key of A♭ implies that A♭ – E♭ is a conclusive gesture (IV-I) rather than a half cadence (I-V).

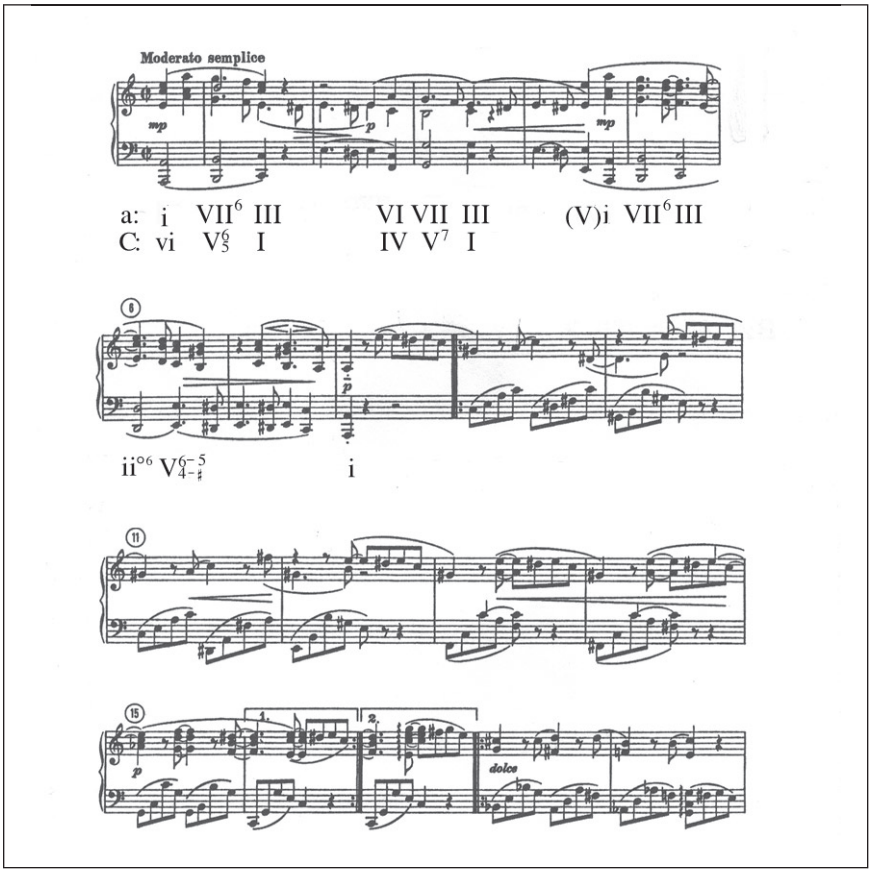
Example 2 - *continued...*

A♭ Major

- The addition of an eighth-note D♮ in m. 48 is not sufficient to invoke a sense of modulation. A brief tonicization of V makes more sense here.
- The melodic gesture E♭ – A♭ from strong to weak beats in mm. 50–51 sounds like $\hat{5}$ – $\hat{1}$ in A♭.
- Wagner often implies keys with their dominant harmonies without stating tonic. The sequence of bars 50ff could be an example of this technique.
- A♭ is the home key of the entire prelude. Despite the preceding measures in C minor, mm. 45ff cannot so easily override this sense of A♭ as global tonic.

Our second example for this topic is drawn from Brahms, master of both tonal and rhythmic ambiguity. The Intermezzo, Op. 76, No. 7, while clearly in A minor, opens with a beautiful passage ripe for interpretation. Again, evidence for one of two possible tonic-key arguments is presented below the score in Example 3. Note that the progression of harmonies at the opening (A minor, G major, C major) resembles the tonal structure of bars 1 through 16, summarized in the graph at the bottom of the example. Perspicacious students might use this parallelism to support either side of the argument.

Example 3 - Tonic at the opening of the Brahms Intermezzo Op. 76, No. 7



Supporting Evidence for Key Choices:

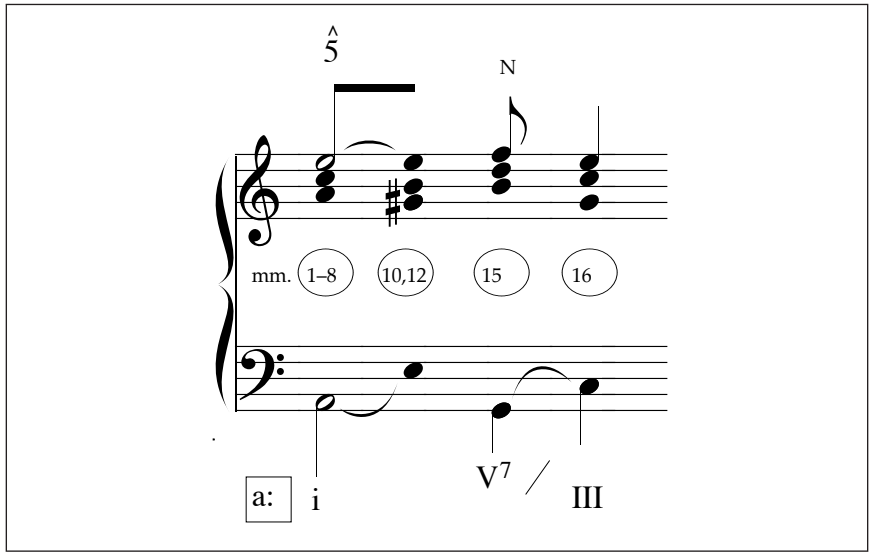
A minor

- The first chord heard is an A minor chord.
- The first reprise clearly closes with a perfect authentic cadence in A minor.
- Tonicization of the relative major is common, almost expected, in minor-mode movements.
- When the opening music returns in bar 38, following an authentic cadence in A minor, the key is not called into question.
- The D♯-E motion in bars 1–4 implies a tonicization of E as dominant of A.

Example 3 - *continued...*

C major

- The first three chords form a harmonic progression that sounds like pre-dominant, dominant, tonic in C major.
- Analyzing in C major explicitly acknowledges the tonal ambiguity in these measures, whereas analyzing in A minor does not.
- A perceptual distinction should be made between the hearing of these
- measures at the opening of the piece, and the hearing of these measures at the end of the piece when A minor has already been firmly established.



While the instructor may prefer one reading over the other in both of these examples, the focus of the class discussion should be in gathering data and using it to support an argument. If there is a correct, or better, answer among the possible choices, the instructor will naturally add his/her two cents following the students' discussion, but the mere act of engaging in critical discourse is often a more effective learning tool than simply spoon-feeding students the rationale behind the preferred explanation.

Musical Discourse

Rarely do my students enjoy anything more than listening to music when they are in theory class. If it is live music, so much the better. Example 4 sketches out the format for a class session devoted to the interaction between music performance (or listening) and music analysis. Some of my most enjoyable and successful lesson plans have centered on in-class performances. For most students, the act of performing is their most immediate and visceral relationship to music—the reason they elected to study it at the collegiate level. Relating analysis to performance not only connects students with this first love, but it also injects a practical side into a discipline that performers often regard as hopelessly abstract. Many will be familiar with the performance-followed-by-verbal-feedback model from their studio classes. All that need be done in the theory classroom is to encourage students to inject some analytic thinking and terminology into their comments. Those performing, in particular, will often exhibit an elevated level of expressiveness during the second playing, having received their peers' comments. In most cases, there is an audible difference as the performers transcend technique in an effort to interpret and communicate.

Example 4 - The performance and analysis symposium

An effective method for introducing live performance into the classroom and for discussing some of the practical applications of analysis for performing musicians.

- A solo or chamber music piece is selected that can be performed by members of the class (or perhaps one or two willing guests). All students are asked to examine the relevant questions/topics. Performers are asked to consider how their analyses affect their understanding and performance of the piece in question.

- During the next class, open the discussion with a performance of the selected work. Next, ask the performers leading questions about the topic at hand (*Example:* Do you hear the opening of the Brahms Intermezzo in A minor or C major?). After the performers answer and discuss how this

affects interpretation, ask the audience (class) whether the desired effect came across during the performance. If not, is there another analytic interpretation that might improve the performance or are there specific musical actions the performer(s) could take to clarify their interpretation?

- Close with a second performance. Ask the audience (class) how it compared with the first. Did analysis make a difference?

Form Analysis

Once students begin to study musical form, they are forced from the relatively sterile laboratory of part-writing, figured bass, and Roman numeral analysis into the wild unpredictability of real music. I can think of no other topic native to undergraduate theory study as rich in interpretive potential as form. Even the most typical examples of ternary, rondo, or sonata form exhibit their own peculiarities. And, of course, many works resist formal pigeon-holing much more strenuously. The second movement of Mozart's Symphony No. 39 is a case in point. While many music theorists will hear this as a sonata-without-development, the issue is far from clear, especially to an undergraduate. Certain aspects of the thematic structure, in particular, lend themselves to a rondo-form interpretation. Example 5 comprises a rudimentary form analysis for both interpretations. At the end of the example is the now-familiar list of points students might make in supporting one reading over the other.

Example 5 - Rondo or sonata-without-development? The second movement of Mozart's symphony No. 39 in E♭ Major

Five-Part Rondo in A♭ Major

Measure	1	28	30	39	54	60
65	68	92	96	108	126	132	137
140	144					
Section		**A**		**B**		
	A		**B**			
	A					
Subsection		trans.			retrans.	
		trans.			false	re-
trans.						
Tonal Plan	I		vi --->	V/V	V	
I		♭iii --->	V	I		
		I				

Sonata-Without-Development in A♭ Major[1]

Measure	1	28	30	39	54	60
65	68	92	96	108	126	132	137
140	144					
Section	**EXPOSITION**		**RECAPITULATION**			**CODA**
Subsection	P	T		S_1	S_2 (K?)	
K	retrans.	P	False T		S_1	S_2
False K	K	"P"				
Tonal Plan	I	------->		V/V	V	V
I	------->		V	I		
I						

[1]The Sonata-without-development form analysis is adapted from William Caplin's *Classical Form* (Oxford: Oxford University Press, 1998): 114–15, 122–23, 181–83, and 217.

Supporting Evidence for Form of Second Movement

Five-part Rondo:

- The F minor material beginning at m. 28, if read as the transition in a sonata form, reappears, strangely, in m. 92 as a false transition in B minor. (enharmonically, ♭iii) in the "recapitulation!"
- Mm. 1 - 27 constitute a two-reprise form, usually an opening gambit for a rondo or theme and variations.
- The tonally- and thematically-unstable nature of the two episodes and the abbreviated A′ refrain as well as the expanded A″ refrain are not unusual for rondo form.

Sonata without Development:

- The five-part rondo usually features *new material* (C section) for the second episode. Here it is B′ material, the first portion of which is transposed a tritone away from its original statement and the second portion of which is transposed down a perfect fifth from its original statement.
- Neither the incomplete return of the primary thematic material at the opening of the recapitulation (mm. 68 - 92), nor the fact that the false transition begins in a remote key (♭iii), disqualifies this as a sonata form. What is important is that the material considered to be part of the second tonal area and closing area in the exposition (in the key of V, mm. 53 - 67) is transposed down a fifth into the tonic key in the recapitulation (mm. 125 - 143), realizing the sonata principle.
- The return of the principal thematic idea at the end of the movement can be explained as a coda in which the theme is finally purged of modal mixture.

Example 6 provides another excellent focus for form discussion. While the form itself (double-exposition or concerto form) of the first movement of Mozart's Piano Concerto in A Major, K. 488 is not ambiguous, the location of the development section is. Example 6 proposes four viable possibilities. While scholars seem to agree that the development begins with the new theme in m. 143, many pieces of evidence undermine this reading. Not only is this new theme recapitulated in the tonic as part of the closing group in the recapitulation, but following m. 143, there are two more authentic

cadences in the secondary key of E major, as well as two rather striking changes in texture that could signal the onset of the development. Possible arguments in support of the four readings are provided at the end of Example 6.

Example 6 - Placement of development in Mozart's Piano Concerto in A Major, K. 488, first movement

Supporting Evidence for Possible Location of Development:

m. 137

- All four expected sections of the second exposition (principal tonal area, transition, second tonal area, and closing) are completed right at this point.
- A perfect authentic cadence in the new key, complete with the stereotypical bar-long trill confirms this as the closing cadence of the exposition.

m. 143

- The material from mm. 137–142 is the return of the transition material from the exposition which, in this piece, serves as a sort of echo of the Baroque ripieno. Its presence here is still transitional in that it takes us to the opening of the development.
- It is not unusual for classic-era sonata forms to open the development with a "new" thematic idea.
- The rests on the downbeat of m. 143 are a rhetorical signal for the opening of a new section of the form.

m. 149

- There is no conclusive authentic cadence in m. 142, a necessity for the end of the exposition. Such a cadence does occur in m. 149.
- The material from mm. 143–148 is recapitulated in the tonic in mm. 261ff, as if this were originally part of the exposition.
- The change from a tutti to a solo texture in m. 149 is a rhetorical signal for the opening of the development.

m. 156

- Exposition closing sections often include multiple authentic cadences in the new key, the final one occurs in m. 156.
- After m. 156 we begin to hear stereotypical developmental techniques such as quick modulations, thematic development, and rapid alterations between soloist and orchestra not present earlier in the music.

Written Discourse

Getting students to articulate their views in a cogent and effective way through written prose can feel like pulling teeth for all parties involved. Recent research suggests that prose writing may aid in learning music theory less well than it does for other subjects. Nevertheless, encouraging our students to improve their written communication skills does them a great service outside the theory classroom.

Even operating merely within the world of music study, most students will be called upon to write papers of substantive length in their upper-level theory and music history courses. But, as any teacher who has read such papers knows, undergraduates who have spent considerably more time with Will and Grace than with Strunk and White are often woefully inept at effective writing.

My own experiences in teaching upper-level courses have led me to believe that writing should be introduced as early as possible in the theory curriculum. After receiving a number of ten-page papers from senior music majors, I was horrified to find that one had, as far as I could tell, made the thesis of her analysis of *Ein Heldenleben* the argument that Richard Strauss was a romance nut. Of course, this paled in comparison to the next paper whose author had, in a laudable attempt at describing musical ambiguity, stated "of course I know this is transition material, but the first time I heard it my dumb <expletive deleted> thought it was the development."

Egregiously poor examples of formal writing such as these should be culled out in the early stages of the curriculum when mechanics and organization can be addressed in short papers. Upon reaching upper-level courses, students will be free to concentrate on the particular challenges inherent in structuring a more extended argument. Example 7 provides a template for these shorter, introductory assignments in which writing and critical

thinking skills can be exercised. Posting a few papers and eliciting comments on them in a follow-up assignment is a good way to maintain the spirit of discourse between students even in this written medium.

Example 7 - The position paper

An alternative to typical part-writing or analysis assignments.

- Students are presented with a score (or portion of a score) and asked to take a position on one or more debatable issues in a written format using musical examples and citing appropriate evidence supporting their position(s). *Suggested length: 2-3 pages*.

- *Example:* Given the score to Mozart K.488, first movement, address four potential locations for the beginning of the development: m. 137, m. 143, m. 149, or m. 156. What are the merits and deficits of each possibility? Consider evidence based on key areas (and cadences), thematic statements, other sonata or concerto (double-exposition) forms we have explored in class, and how your decision affects your understanding of the recapitulation.

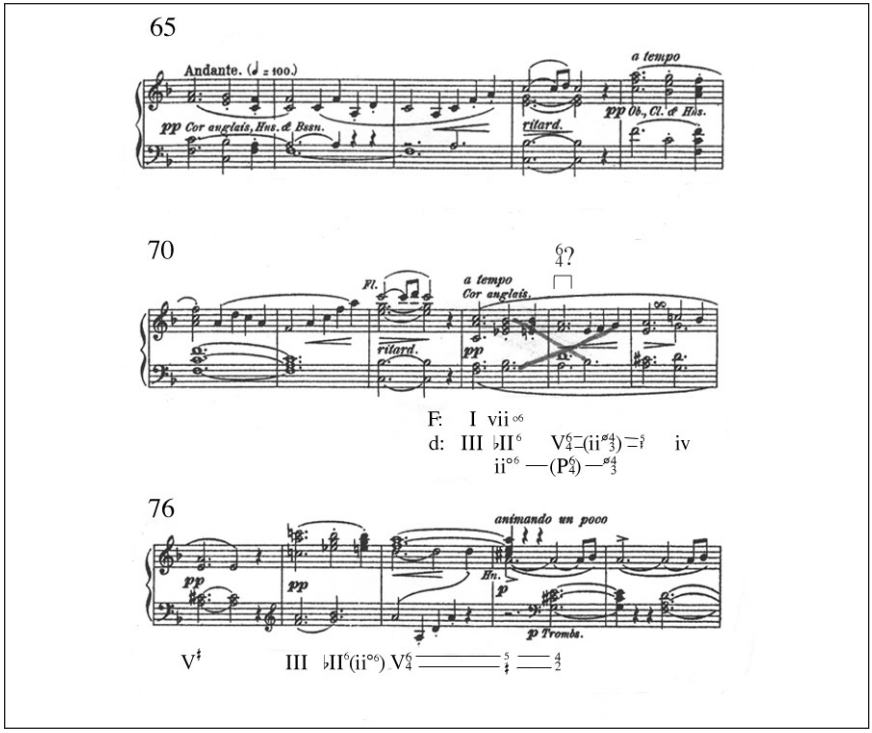
- Grading should be based more on the quality of the student's argument, and less on whether or not he/she arrived at the "correct" answer (if there is one).

- Instructors might consider extending the assignment by posting some good papers on a class website and asking all students to write a paragraph-long response to an aspect of another paper with which they disagree.

Labeling Harmonic Function

The final duo of examples treats the task of labeling the harmonic function of a given sonority. In Example 8, a second-inversion triad serves as the analytic focus. Undergraduates have plenty of trouble with $\frac{6}{4}$ chords without our adding fuel to the fire but, as with the other topics treated thus far, learning to provide empiric support for a given interpretation will serve students better in the long run than simply memorizing tables of the various passing, neighboring, and cadential $\frac{6}{4}$s. The D minor $\frac{6}{4}$ in m. 74 of this excerpt from the Overture to Wagner's *Flying Dutchman* can be read as either a cadential $\frac{6}{4}$ (with an interpolated ii$^{\varnothing 4}_{3}$) or as a passing chord that expands supertonic harmony. Again, evidence for both readings is provided below the excerpt.

Example 8 - Harmonic function of the $\frac{6}{4}$ chord in the LONGING FOR DEATH theme in Wagner's *Overture to Der Fliegende Holländer* (Excerpt drawn from the Schirmer piano-vocal score)



Supporting Evidence for Harmonic Function of $\frac{6}{4}$ Chord:

Cadential $\frac{6}{4}$

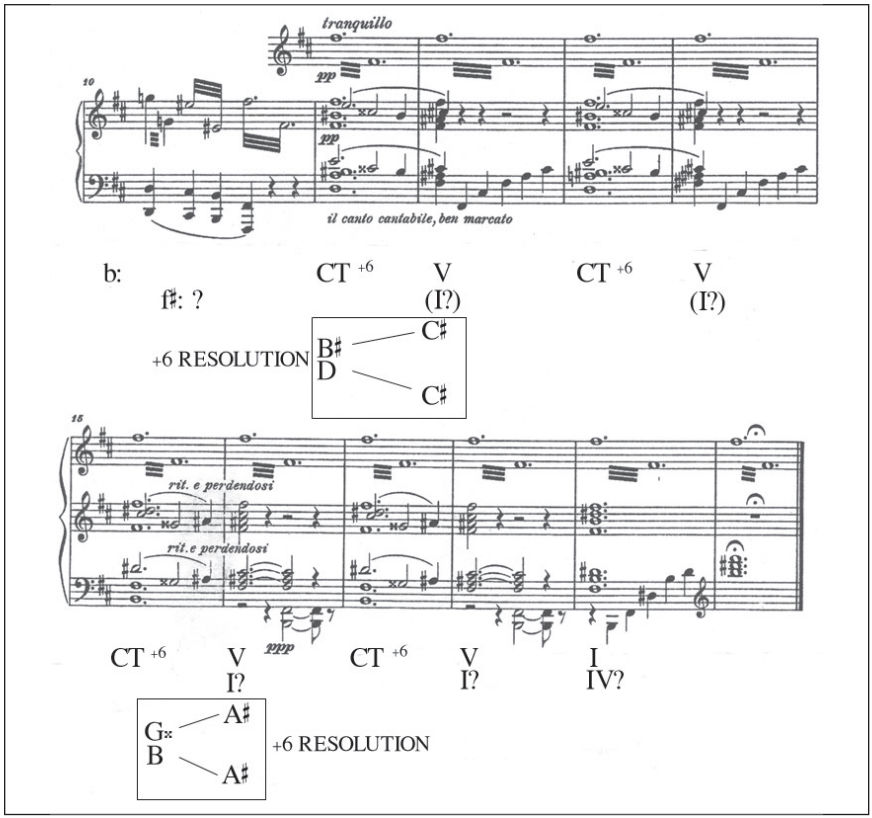
- The chord falls on an accented (down) beat.
- The following ii$^{\varnothing 4}_{3}$ could be heard as a harmonization of a half-step upper neighbor in the bass line—this half-step upper neighbor is an important motive on a number of tonal levels in the overture.
- The consequent phrase presents the same chord, unambiguously, as a cadential $\frac{6}{4}$.
- The V itself is expanded in a similar way, with an interpolated iv.

Passing $\frac{6}{4}$:

- A voice-exchange supports the hearing of an expanded ii chord.
- In the antecedent phrase, we begin hearing this music in F major. Thus,
- the $\frac{6}{4}$ chord sounds like some kind of deceptive tonic substitute for an F
- major I^{6} chord, not a dominant-functioned chord in D minor.
- Hearing the pre-dominant function expanded through mm. 73–74 allows for the final dominant to be the goal of the phrase.

Finally, in Example 9 we confront a tonic whose function is called into question at the conclusion of a movement. Moussorgsky's use of texture and harmony, most prominently the common-tone augmented-sixth chords that resolve to the dominant, lend the dominant F♯ a measure of "tonic-ness." The final B major triad sounds suspiciously like a IV chord despite its role as tonic earlier in the movement. With luck, students examining this passage will realize the difference between "eye-theory" in which the B major chord on paper is clearly the tonic in an authentic cadence, and "ear-theory" in which the aural experience of the music is a different story altogether. Again, pieces of evidence in support of either reading are appended to the score in Example 9.

Example 9 - Harmonic function of the final chord in "Con mortuis in lingua mortua" from Moussorgsky's *Pictures at an Exhibition*



Supporting Evidence for Harmonic Function of Final Chord:

Tonic (I) Chord:

- The key signature implies that b minor is tonic.
- The promenade tune at the opening of the "Con mortuis" clearly established b minor as tonic.
- B is the lowest note heard throughout the movement, giving it a sort of tonic accent.
- Ending a movement with a IV chord would be very unusual.

Subdominant (IV) Chord:

- The consistent presence of an upper-voice F♯ "pedal" for the final ten bars gives this tone an agogic accent.

- The common-tone augmented-sixth chord that repeatedly leads to F♯ gives the F♯ chord a strong tonic feel.
- The B in the bass in bars 16, and 18–20 doesn't actually support B major harmony until m. 19.
- The plagal feeling at the end of this movement is appropriate, given the program.
- The B major "IV" chord actually does "resolve" plagally to the F♯ that opens the next movement, "Hut of the Baba Yaga."

Oral Discourse

Our final classroom technique encourages the use of contentious yet respectful discussion. Growing up in a family of teachers, I learned the value of such discussions at a young age as my sister and I were subjected to many dinner-time debates instituted by our parents for our edification. These ran the gamut from practical ("Should women be drafted into the military the same as men?") to philosophical ("If a tree falls in the forest and no one is there to hear it, does it make a sound?") to aesthetically banal ("Should Dorothy's slippers in *The Wizard of Oz* be silver, the way Frank Baum intended, or ruby, the way they appear in the motion picture?"). For better or for worse, many music majors probably did not experience this kind of training in their family lives. Nevertheless, the skill remains a valuable one both in and out of the theory classroom.

Example 10 presents a "panel discussion" classroom format. Unlike the typical "teacher-at-the-front-of-the-class" group analysis sessions, this format requires a small number of students to take the lead. Imitating the format of political and academic conferences, a panel of experts (students who have, ideally, carefully studied the assigned piece) are set up in front of their peers to answer questions and debate the merits and shortcomings of various solutions amongst themselves. If appropriate excerpts are chosen and the class environment feels "safe," a lively discussion will usually ensue with only moderate intervention from the instructor needed to keep things moving on track. I once used this technique with the Mozart Piano Concerto movement presented in Example 6, above, with a class of sophomores and found to my surprise and delight that not once, but twice, during two separate class sessions, we ran out of time before the students ran out of things to say.

Teaching a required course like undergraduate music theory can present moments of disappointment. The lecture format supplemented by workbook and reading assignments rarely inspires in our students the enthusiasm we feel for the inner workings of tonal music. When we enable the students to become animated and excited about some aspect of the material however, an almost palpable beam of light breaks through the dreary clouds that hang low over the classroom during that mid-November discussion of inverted V^7 chords. Not only do such moments of enthusiasm energize the students and engage them with the material, thus aiding the learning process, they make the act of teaching itself immeasurably more rewarding.

Example 10 - The Panel Discussion

An effective method for encouraging discussion and debate in class without putting one student on the spot. Also, a refreshing change from the usual classroom format.

- The entire class is presented with an analytic homework assignment (Example: label chords and chord functions in the Overture to Wagner's *Der Fliegende Holländer*, mm. 73 – 80). Four students are notified that they will need to spend extra time thinking about this music since they will sit on a "panel of experts."

- During the next class period, the panel sits in front of the room:

- The instructor invites questions from the class regarding the topic at hand and acts as moderator while the panel discusses each question. Each panel member can be given a homework grade based on the quality and quantity of their contributions to the discussion.

Endnotes

[1] See, for instance, Carl Schachter "Either/Or," in *Schenker Studies,* ed. Hedi Siegel (Cambridge: Cambridge University Press, 1990): 165–79. Schachter advocates using evidence to establish a preference for one of a number of syntactically correct readings. While Schachter's aim in his examples is to arrive at a preferred reading, the spirit of the article encourages multiple interpretation and an empiric approach towards supporting those interpretations.

[2] See Matthew Brown and Doug Dempster, "The Scientific Image of Music Theory," *Journal of Music Theory* 33/1 (1989): 65–107, and Matthew Brown, "Adrift on Neurath's Boat: The Case for a Naturalized Music Theory," *Music Theory Online* 2/2 (1996). In both articles, the authors make a distinction between positivism and empiricism, arguing that analysis cannot make claims to absolute truths, but is, rather, most successful when making claims based on observable phenomena.

[3] David Lewin makes the distinction between theory and analysis in his "Behind the Beyond," *Perspectives of New Music* 7/2 (1969): 59–69. He also claims that the goal of analysis "is simply *to hear the piece better*, both in detail and in the large." (ibid., 63, emphasis in the original).

[4] Description, the articulation of rudimentary data, is only the first step in true analysis, an activity that seeks to draw musical relationships between the piece in question and its larger sound-universe. Ibid., 68.

[5] Allen Winold, "Music Analysis: Purposes, Paradigms, Problems," *Journal of Music Theory Pedagogy* 7 (1993): 38–39 argues that we, as instructors, must work to legitimize ambiguity and accept multiple interpretations.

[6] Michael Rogers, *Teaching Approaches to Music Theory* (Carbondale: Southern Illinois University Press, 1984): 5. See also Rogers's comments throughout "The Rich Messiness of Music: Teaching Theory in Music with Contradiction and Paradox," *College Music Symposium* 30/1 (1990): 131–41.

[7] Sonata-without-development is the choice William Caplin makes for this movement in his *Classical Form* (New York and Oxford: Oxford University Press, 1998). See, in particular, pp. 39, 114–15, 122–23, 181–83, and 217. The analysis of this movement as sonata-without-development presented in Example 5 basically conforms to Caplin's reading.

[8] Joel Galand remarks upon the many and varied ways that sonata/rondo fusions occur in classic-romantic music. See Joel Galand, "Form, Genre, and Style in the Eighteenth-Century Rondo," *Music Theory Spectrum* 17/1 (1995): 51. Analyses of other examples of Mozart movements that straddle the hazy line dividing sonata form from rondo form appear throughout the article.

[9] Both Charles Rosen, *Sonata Forms* (New York: W.W. Norton & Company, 1980): 276 and William Caplin, *Classical Form*, 276n. 40, mark the beginning of the development at m. 143. Caplin considers this new theme as a tightly-knit, pre-core, introductory section to the development core proper.

[10] In a study of the writing-to-learn program, Bruce Kelley found that prose-writing exercises were not as beneficial for writing, Prose Writing: An Investigation of Writing-to-Learn in the Music Theory Classroom," *Journal of Music Theory Pedagogy* 13 (1999): 65–87.

[11] See Deron McGee, "The Power of Prose: Writing in the Undergraduate Music Theory Curriculum," *Journal of Music Theory Pedagogy* 7 (1993): 85–104, especially 93–94, which stress the greater efficacy of short writing assignments.

[12] Chords can have more than one workable function given the local key context in which they are heard. This ambiguity is most effectively understood as a richness of meaning rather than an indeterminacy of meaning. See Charles Smith, "The Functional Extravagance of Chromatic Chords," *Music Theory Spectrum* 8 (1986): 100–01.

[13] While the spellings and resolutions of these augmented-sixth chords are non-standard, the voice leading energy in the resolution of the augmented sixth interval itself brands them as members of the augmented-sixth family. See Daniel Harrison, "A Supplement to the Theory of Augmented Sixth Chords," *Music Theory Spectrum* 17/2 (1995): 184-85. The augmented sixth built on the ^4-^3 semitone in m. 15 of Example 8 is described ibid., 174.

[14] This type of harmonic ambiguity is very close to the reciprocal process in which the alternation of I and iv in a minor-mode piece is confused for V and i or vice versa. See Deborah Stein, *Hugo Wolf's* Lieder *and Extensions of Tonality* (Ann Arbor: UMI Research Press, 1979): 23–24.

[15] It is not surprising that both examples of harmonic ambiguity are drawn from mid- to late-nineteenth-century literature. This is not to imply that such ambiguities do not occur in earlier music. Ambiguous $\frac{6}{4}$ chords, for example, occur in many earlier styles. Some excellent examples from the music of Beethoven and Chopin are presented in David Beach, "More on the Six-Four," *Journal of Music Theory*

34/2 (1990): 281–290. Another intriguing Beethoven treatment of the $\frac{6}{4}$ occurs at the opening and close of the second movement of his seventh symphony. For a fascinating large-scale explanation of this chord see Robert Gauldin, "Beethoven's Interrupted Tetrachord and the Seventh Symphony," *Intégral* 5(1991): 45-65. Classic-era concerto cadenzas also contain ambiguous uses of the $\frac{6}{4}$ chord. One of Mozart's cadenzas for the first movement of his Piano Concerto in A Major, K. 414 includes $\frac{6}{4}$ chords in bars 9–15 that might be heard as cadential, tonic, or passing in function. (This cadenza is printed in the Dover full-score edition of Mozart's Piano Concertos Nos. 11–16 as the second of Mozart's cadenza for this concerto.) Finally, $\frac{6}{4}$ chords in Bach's music for plucked strings are often handled in matters idiomatic to both an earlier style and to the instrument in question. For examples, see Hans David, "The Six-Four Chord Without Theory: An 'Unofficial' History," *Bach* 2/3: 7–14 (1971). This brief look at $\frac{6}{4}$ chords illustrates that the classroom debate encouraged thus far in the article need not be restricted to the development of critical thinking; it can also be a useful pedagogical tool for exploring the differences between styles, or between convention and the practices of individual composers.