

Intrinsic Motivation: The Relation of Analysis to Performance in Undergraduate Music Theory Instruction

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Psychologists now have scientific verification for a pedagogical principle that good teachers already know by experience and intuition: students learn better when motivated by their own intrinsic interest in a subject, rather than by external systems of rewards and punishments. "Intrinsic motivation"—the subject of a series of investigations by two University of Rochester researchers, Edward Deci and Richard Ryan—is "founded on the belief that people are naturally curious, active, and productive creatures, eager for and deserving of self-fulfillment in their pursuits."¹

One example drawn from many experiments conducted by Deci, Ryan, and their collaborators has particular relevance for pedagogues. In this study, undergraduates were asked to read unfamiliar material in neurophysiology; half the students were told that they would be tested on the material, while the other half were told that they would have to teach the material to someone else. After completing the reading, students in the "teaching" group reported more interest in the subject matter, more enjoyment in learning about the topic, and more willingness to participate in another such ex-

¹Denise Bolger Kovnat, "Interior Motives," *Rochester Review* (Spring 1991): 4. An overview of Deci and Ryan's work can be found in this article and two others by Edward L. Deci: "Motivating Children to Learn: What You Can Do," *Learning* 86 14/7 (March 1986): 42-44, and "The Well-Tempered Classroom," *Psychology Today* (March 1985): 52-53. For further reading, consult their coauthored volume, entitled *Intrinsic Motivation and Self-Determination in Human Behavior* (New York: Plenum Publishers, 1985) and "Motivation and Education: The Self-Determination Perspective," Deci et al., *Educational Psychologist* 26 (1991): 325-346.

periment than the other group reported. The experimenters concluded that the students in the "teaching" group—those who were asked to put the information to real use—were engaged in what Deci calls "conceptual" learning: "It's learning how to solve problems. . . , knowing how to deal with new situations, knowing how to research a problem. It's organizing material, understanding how things fit together, rather than simply the rote memorization of information."²

How do intrinsic motivation and conceptual learning figure into Deci's and Ryan's classrooms? Ryan describes his approach as follows:

I try to open up questions—questions that they can apply to themselves, so they're not just thinking of a set of facts that they need to learn for an exam, but rather they're learning something that has relevance to the here and now in their daily lives. . . . My assumption is that the motivation is already there; it just doesn't always get sparked. A teacher's job is to provide nutriment, so that motivation can take root and grow.³

How better to describe undergraduate music majors? The "motivation is already there." These students would not be in our classrooms if they had not already devoted years of their lives to the pursuit of professional music careers—years of lessons, coachings, recitals, auditions, rehearsals, and practice rooms. Most of our students are deeply and intrinsically motivated to become the best performers they can, but they do not always see the connection between what we do in music theory classrooms and what they do on the concert stage. To make that connection is our job as teachers. The articles in this issue of the journal by Charles Burkhart and Carl Schachter, which relate analysis to performance, offer teachers the opportunity to make many such connections. Indeed, their insights are vital to the "mission" implied by the journal's existence: to share ideas for the classroom and to strengthen and improve the quality of music theory teaching among its readership.⁴

²Kovnat, 6.

³Ibid., 5.

⁴An excellent discussion of analysis and performance applied to theory teaching has already appeared in the pages of this journal: Cynthia Folio's "Analysis and Performance of the Flute Sonatas of J. S. Bach: A Sample Lesson Plan," *Journal of Music Theory Pedagogy* 5/2 (1991): 133-159.

Assuming that the incorporation of performance applications to theory study is valuable and will foster intrinsic motivation among students, thus enabling them to learn more effectively, how can undergraduate theory teachers make time for such study in an already crowded curriculum? The answer to this question will probably not be found by squeezing yet another unit into each semester; rather, it lies in an overall approach to each day's teaching that embraces some features of the comprehensive musicianship movement—an approach that combines harmonic and formal analysis of music literature with elements of historical and stylistic study, directed listening, partwriting, model composition, and in-class performance and discussion. In a nutshell, undergraduate theory curricula that restrict their subject matter to the study of permissible chord progressions and SATB part-writing exercises are probably doomed to seem irrelevant to young performers. ("What can the avoidance of parallel fifths in chorale style writing have to do with preparation for my upcoming concerto competition?") On the other hand, theory classes that nurture students' intrinsic motivation will focus on practical applications of harmony study in the analysis of music literature, in "stylistic" composition projects, and (perhaps most importantly) in performance.

Possibilities abound for bridging between analysis and performance in such a classroom. For example, students who learn not only a set of part-writing rules for the preparation and resolution of dissonance, but who also experience and discuss the powerful musical effect of suspensions and appoggiaturas in literature for their own instruments are much more likely to make the connection to dynamic stress or agogic accent in performance. Students who learn not only how to spell and resolve a Neapolitan sixth, but who also discuss and experience (through examples from music literature) its distinctive "color" in approaching the dominant, are more likely to consider a change in tone quality in performance of a passage that features Neapolitan harmonies. Students who learn voice-leading patterns that prolong the tonic—and who find, perform, and discuss these patterns as they recur in music written for various instruments—are less likely to dwell in performance upon each verticality, and more likely to direct the musical line toward important tonal goals. The more theory teachers can connect music-theo-

retical concepts—like periodicity of phrases or hypermetric accentuation (Burkhart), like hidden motivic repetition or the distinction between structure and design (Schachter)—to interpretive decision-making in performance, the more they provide students with the nutrients necessary to foster intrinsic motivation, allowing it to “take root and grow,” to use Ryan’s words.

Let us turn, then, to Professors Burkhart’s and Schachter’s analyses to see when and how their insights might be shared with undergraduates. Charles Burkhart’s study concerns specifically the mid-bar downbeat in Bach’s keyboard music, but the more general issues he raises about phrase structure in the Baroque period are certainly appropriate topics for a freshman music theory class, with the mid-bar downbeat an intriguing issue to be discussed once the more traditional phrase models have been mastered. Phrase structure is usually introduced in the first year of study, once students are familiar with the basic cadence types; these are classes in which students typically memorize a list of terms: antecedent, consequent, parallel, contrasting, phrase, period, sentence, and so on. While such classes tend to focus on the balanced phrases of the Classical period, students are meanwhile probably performing music from many periods and perhaps assuming that these terms are applicable to all tonal repertory.

Why not begin these lessons instead with Burkhart’s distinction between “periodic” and “nonperiodic” phraseology? Perhaps an aural introduction to this concept might be made in class through directed music listening, during which students would hear a succession of 16- or 32-bar excerpts from diverse pieces of music. As each excerpt is played, students would be asked to determine the meter by ear and to conduct along, counting bars if possible. Whenever they heard a “resting point” in the excerpt, students might be asked simply to look up at the instructor. After each excerpt, a brief discussion could follow up on the presence or absence of 4 + 4 periodic construction, of complete or incomplete tonal motion at each resting point, of parallel or contrasting phrases or of continuously developmental working out of motives, and so on. After introducing the two basic types of phraseology (periodic and nonperiodic), the instructor might suggest categories of composition that feature one type or the other—as Burkhart does—then assign students to

find one example of each type for their own instrument, to be prepared for performance in the next class. Continuing to rely on aural examples (previously compiled on tape), the instructor might turn next to the terminology commonly associated with periodic structure: parallel interrupted period, etc. Each type of phrase structure would be illustrated with an aural example, and students given the opportunity to hear and discuss the differing aural expectations created by the different cadence and phrase types; notation of these examples might then be handed out to reinforce the aural analysis and give students concrete examples of each phrase or period type. An addendum to the homework might instruct students to identify which specific type of phrase structure is illustrated by their instrument's example of periodic phraseology.

Asking students to find examples from their own literature and to perform them as homework is probably not enough to spark intrinsic motivation, however. What is necessary is an explicit link made by teacher and student between phrase analysis and performance. The teacher might even pose a number of discussion questions to the class: What is the importance for performers of distinguishing between phrase types? Should periodic phrases be performed somehow differently from nonperiodic? Should the second of two parallel phrases be played exactly the same as the first or subtly varied? Why is the identification of cadences (or phrase beginnings and endings) important for performers? Is every note or harmony of a musical phrase equally important, and how can the answer to this question be conveyed in performance?

At this point in the lesson, the concept of hypermetric accentuation could easily be introduced for periodic music, with the analogy of strong and weak beats to strong and weak bars.⁵ Since students are probably familiar with teachers' admonitions to play certain passages or pieces as though they are notated "one to the bar," this is an ideal opportunity to mesh studio and theory class instruction. A second addendum to the homework assignment might now

⁵See Burkhart's warning about the terms "strong" and "weak" in his footnote 14. Among the authors who discuss hypermetric accentuation in relation to performance are Edward T. Cone (see Schachter, footnote 3) and William Rothstein (see Burkhart, footnote 2).

ask students to consider the questions listed above in connection with the literature excerpts they have been assigned to find, and to incorporate these performance issues—as well as their thoughts about hypermetric accentuation of the passages—into their interpretations. The instructor might ask students to come prepared to answer some of these questions orally after performing their excerpts, or to lead a class discussion, or to write two or three paragraphs of prose that respond to these questions and hand them in with the excerpts. Due to time limitations, probably only selected students would get the opportunity to play and speak during the following class; but if similar assignments were given occasionally throughout the semester, each student might get the chance to perform. These in-class performances, incidentally, could be used as additional ear training for the other students to determine meter type, whether a periodic or nonperiodic example had been played, and, if periodic, which type of period had been illustrated.

Several other classroom activities based on Burkhart's article might follow up on the initial day's work. A wonderful opportunity to tie musicology to theory to performance is afforded by Burkhart's Example 8: the facsimile score of the first version of J. S. Bach's A minor "three-part invention" from the *Clavier-Büchlein* (begun 1720). A number of students will never have seen a Bach manuscript before, and most will not know what kind of evidence can be gleaned from score study. To begin, students might hear part of the work and be asked whether it has periodic or nonperiodic phraseology. A discussion of the movement's basic compositional design might ensue, based just on listening and observing changes in motive and texture (without getting into a detailed discussion of contrapuntal procedures that might more appropriately be left to the sophomore year). Students might then be asked to consider such questions as: Can the 3/8 bars be grouped successfully into larger units? How might the performer's determination of a 6/8 hypermeter affect interpretive decisions? Are there any "clues" as to the composer's intent from the score's notation? Here the instructor could guide the class to discover the short and long bar lines and their possible implications for hypermetric accentuation. In fact, it might be interesting to perform the movement or play a recording of it while the students conduct in two and recite "1-2"

for each pair of bars (as per Burkhardt's annotations). This activity is likely to point up the moments where the hypermetric downbeat is reinterpreted (as at the beginning of Episodes 1 and 2). The skillful teacher might here bring in a discussion of the way in which changes in formal section coincide with the hypermetric reinterpretation, and the class might experiment with ways of performing the passages in question to make the new hypermetric downbeats clear. Finally, students will appreciate and enjoy Bach's notational "mistake" (marked "N.B." by Burkhardt) when they understand some of the possible music-theoretical reasons behind this error.

Once students have been brought this far, they will probably be ready to explore the mid-bar downbeat that is the focus of Burkhardt's article. In particular, his first two examples—the Allemande from Bach's French Suite No. 6 and the "Little" Prelude No. 8—seem particularly well suited to classroom discussion. In the first case, the Allemande's melodic cadential formulae and the transferal of the initial right-hand motive into the left hand in m. 8 clearly signal (even to freshmen!) the beginning of a new phrase mid-bar. In the case of the little prelude, freshmen should be able to perceive in m. 8 the "tonal accent" of tonic arrival mid-bar, reinforced by the clear left-hand change of rhythmic motive. Further, the octave unfolding in the upper line of mm. 5-8 is not difficult to hear, and it gives the instructor an opportunity to talk about compound melody and its implications for performance. The instructor might also wish to follow up with an analytical assignment that focuses on the mid-bar downbeat, in which case the other works from Burkhardt's article might be chosen for phrase analysis.⁶ In such an analytical assignment, questions explicitly addressing the interpretive implications of the mid-bar downbeat will make the homework more interesting and relevant to young performers.

⁶Burkhardt also suggests (personal communication) that students be assigned portions of the G major Gigue and the A minor Three-Part Invention that are not analyzed in his article for homework. For example, students might be asked to "find the six other mid-bar downbeats" in the second half of the G major Gigue. To tie such a homework assignment to performance, the student might then be asked to choose one of these spots to discuss in detail from an interpretive angle.

The Chopin D major Prelude (Op. 28, no. 5) that is the subject of Carl Schachter's attention is more suited to the sophomore year of study, due to its pervasive chromaticism. This work seems particularly well suited to complement classroom instruction on applied chords (since it contains applied dominants to ii, III, V, and vi, as well as an applied diminished seventh chord to III); it would also work well during students' study of mixture (since tension between scale degrees 6 and $\flat 6$ is a prominent motivic feature of the work and since tonicization of a mixture chord figures into the work's large-scale harmonic structure).⁷ Let us begin by designing a homework assignment around the Prelude. Figure 1 presents a possible assignment. Although it asks for some Roman numeral analysis within specific bars, the assignment consists primarily of short essay questions that require the student to reflect on the structure of the whole and to focus on elements other than harmony alone. Further, it asks students to relate their analysis to possible interpretive decisions. This type of assignment assumes that students will begin with a Roman numeral analysis, but it challenges them beyond mere descriptive labelling of verticalities. For students whose intrinsic motivation grows out of their performance concerns, this type of assignment is much more likely to inspire than one that asks them simply to annotate the score with a complete Roman numeral analysis for grading.

During the class session at which the assignment is collected, the instructor can continue to explore deeper analytical points with the class, since much of the groundwork will have been covered by the assignment. For instance, the instructor could follow up on question six by describing the long slur as a indicator of "spianato" playing, as Schachter does, and discussing reasons why the per-

⁷Terminology varies from text to text. The terms used here correspond to those used by Edward Aldwell and Carl Schachter in *Harmony and Voice Leading*, 2nd ed. (San Diego: Harcourt Brace Jovanovich, 1989). Applied dominants are frequently called secondary dominants in other texts. Mixture is known as "modal mixture" in some texts, while mixture chords are sometimes called "borrowed" chords in others. According to Aldwell and Schachter, use of the major III chord (their III#) in a major key is known as "secondary mixture" (363-364).

Figure 1. Analysis assignment: Chopin, Prelude Op. 28 No. 5

Analysis Assignment:

Chopin, Prelude, Op. 28/5

Name: _____

1. One way to view the design of this work is as a simple continuous binary form with coda (A = mm. 1-16, A' = mm. 17-32, coda = 33-39).

a. Given the continuous sixteenth-note motion and the unchanging texture that characterize the movement, what elements work together to articulate this formal design?

b. Within the continuous sixteenths of the right hand, there are embedded melodic motives that the performer might wish to highlight. Identify two and discuss musical ways in which these might be brought out of the texture.

2. What harmony does the work's opening four measures prolong?

a. Might this harmonic analysis cause us to re-evaluate our initial formal divisions? In what way? (Be sure to consider the return of these opening bars as well.)

b. Might this harmonic analysis cause us to perform the initial bars somehow differently? How?

(cont. . . .)

Chopin, Op. 28/5 - page two

3. The opening bars set a precedent for the use of mixture between major and minor modes by their use of scale degrees 6 and $\flat 6$. Cite by measure, beat, and Roman numeral two DIFFERENT mixture chords that occur between mm. 5 and 16.

4. This Prelude's harmony is characterized by a number of applied chords. Cite by measure, beat, and Roman numeral three DIFFERENT applied chords that occur between mm. 5 and 11.

5. The applied chord that appears in mm. 12 and 28 differs from the others in that it is an applied diminished seventh rather than dominant seventh.

a. Identify this chord by Roman numeral, with its chord of resolution, and comment on the difference between resolutions in mm. 12-13 and 28-29.

b. Comment on the difference between dominant and diminished seventh applied chords, considering their dissonance and their patterns of resolution. How might the performer treat them differently in performance?

6. Speculate briefly on some aspects of the composer's notation: What might the long slur above the right-hand part mean? Why are some of the right-hand pitches doubly beamed, upward as sixteenths and also downward as eighths? Does this have implications for performance? (Note the change in the doubly-beamed notes in the final bars of the work.)

former might embrace or reject this interpretation of Chopin's marking. While the assignment has "set up" the possibility that students might wish to interpret the opening four bars as an introduction, it leaves somewhat open the question of the formal "function" of bars 17-20. Here the instructor might very well introduce the distinction between structure and design, and might engage the students in a discussion of the dual role of these measures (per Schachter's convincing demonstration in his Example 2) and possible performance implications. Even the "hidden repetition" of the introduction's B $\flat$ -A motive, expanded in mm. 13-16 and respelled as A $\sharp$ -A, is probably not beyond a sophomore class's ability to appreciate. In fact, they might appreciate it very much. Likewise, they may notice the A section's long bass line, D-E-F $\sharp$, which reappears in mm. 29-32, rhythmically contracted, as the right hand's uppermost line. By assigning a keyboard player to prepare the Prelude for performance in class, the students could experiment together with varying interpretive cues to articulate the work's formal and motivic design. Alternatively, a comparison of various recorded performances could be used and students asked, for example, to speculate on whether each performer views bars 1-4 as an introduction or as the beginning of the A section. Likewise, various performers' treatment of the work's primary motives could be compared.

Let us close by returning to the Ryan quotation cited at the outset: "I try to open up questions—questions that they can apply to themselves, so they're not just thinking of a set of facts that they need to learn for an exam, but rather they're learning something that has relevance to the here and now in their daily lives."⁸ If we can remember with each lesson plan to make connections to the daily lives of our students *as performers*, surely they will begin to see the relation between what we do and what they do. More importantly, if Deci and Ryan are correct, the incorporation of performance issues into theory teaching will help our students learn music theory more effectively, with more enjoyment, and with the intrinsic motivation to learn more.

⁸Kovnat, 5.