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From the Editor

With Volume 32 of the Journal of Music Theory Pedagogy, we complete the process of merging Music Theory Pedagogy Online with the formerly printed journal. Readers will have noted that whereas the articles for these two publications were still listed separately in the table of contents for Volume 31, there is no longer any distinction drawn beginning with this volume. We are also pleased that the journal will now return to a timely annual publication schedule.

Once again, my thanks go to our Production Manager Christopher Winders for his design and layout expertise, and to Jennifer Snodgrass, Philip Chang, and Jena Root for their editorial assistance with this volume.

Volume 32 of the Journal contains articles that will be of use in a wide variety of teaching situations, ranging from traditional and improvisatory aural skills, through core written theory and analysis topics, to more advanced undergraduate post-core coursework and seminars in pedagogy for graduate students. We are currently accepting material for Volume 33 (2019); instructions for contributors can be found at our website, <http://jmtp.appstate.edu>. Finally, I draw your attention to the upcoming Second Pedagogy into Practice Conference, to be held at the University of California at Santa Barbara, May 23-25, 2019, and to the Gail Boyd de Stwolinski Prize for Lifetime Achievement in Music Theory Teaching and Scholarship. Information about both of these items is available on our website.

— William Marvin, EDITOR (Eastman School of Music)

Reframing Aural Skills Instruction Based On Research in Working Memory

TIMOTHY K. CHENETTE

This article explores the implications of research on working memory for aural skills instruction. The first half of the article shows that the system of working memory unifies Karpinski (2000)'s "component" model of aural skills cognition and demonstrates working memory's fundamental importance to aural skills learning. The second half of the article adapts tests of working memory into exercises appropriate for the aural skills classroom.



Gary Karpinski's influential book *Aural Skills Acquisition* breaks down the process of melodic dictation into four components:

1. Hearing: the ability to pay sufficient attention, as well as the physical and neurological capability to perceive sounds appropriately;
2. Short-Term Melodic Memory, which is limited but can be extended through extractive listening and chunking;
3. Musical Understanding, or the ability to label or describe remembered musical materials; and
4. Notation: familiarity and facility with music notation.

These components are presented in roughly the chronological order in which they must occur in the process of dictation, and Karpinski urges instructors to keep them in mind since deficiencies in different stages of the process call for different methods of practice and remediation.¹

While treating these components separately is indisputably useful and productive, we should recognize that doing so is also in a way misleading. Many, perhaps most, students have trouble with more than one stage of dictation, and working on individual stages is rarely as simple as it might seem in the abstract. For example, the ability to pay close attention to a melody seems intimately linked to our ability to store it in short-term memory; meanwhile, deficiencies in musical memory often keep students from improving their musical understanding, while quick encoding of scale degrees and rhythms through musical understanding often improves students' ability to store them in memory. Again, this is not to say that we should abandon

¹ The full discussion is in Karpinski (2000, 64–91), but see also Karpinski (1990), which is entirely dedicated to this model of melodic dictation.

Karpinski's framework and methods, but rather that it would be useful to add to them a complementary perspective that recognizes the essential interconnectedness of these components.

Such a perspective is afforded by recent research into what is generally called "working memory." Different researchers define this term in slightly different ways, as discussed later in this article, but for right now, we might think of working memory as the system that coordinates the storage and processing of information. Working memory clearly underlies all four components of the dictation process, as described by Karpinski:

1. control of attention is either a component of working memory or strongly correlated with it;
2. short-term memory either is a supporting process to working memory or has been replaced by the concept of working memory, depending on the definition;
3. analysis for musical understanding relies on the ability to manipulate and focus on materials stored in memory, an essential component of working memory; and
4. the application of rules of notation stored in long-term memory must be brought to bear in the more active system of working memory to be effective.

Working memory thus provides a framework in which we can understand the connections among these components and think about ways to strengthen them all simultaneously.

Since working memory underlies so many musical processes, it is perhaps unsurprising that at least one study has found that working memory is enhanced in musicians as compared to the general population.² Indeed, many musical tasks are notable for the extent to which they involve control of attention and memory, two crucial aspects of working memory. To give but one example, Charles Chaffin describes in detail the cognitive load associated with instrumental conducting, which involves formulating a "mental representation of the score," a long-term memory construct which must be brought to bear in the moment; formulating gesture, which must respond in real time to the ensemble's playing; and "[analyzing] the performance

² Pallesen et al. (2010). Though subjects were tested with musical materials, the authors write that musicians' primary advantage was likely the ability to "recruit more [brain] resources for cognitive control," a non-music-specific ability. The authors also note that their study does not determine whether greater working memory capacity influenced musicians' choice of career, musical training improved musicians' working memory capacity, or some combination of the two, though they tentatively speculate that "development of cognitive control may benefit from focused musical training." (10)

of the ensemble,” which requires error-detection, aesthetic judgment, appropriate mental constructs, and focused attention.³ Clearly, improving working memory in students will be valuable for virtually any career in music.

Improving working memory in our students is also attractive for a nonmusical reason: working memory capacity has been the subject of much research and attention at least in part because it has been consistently found to correlate with performance on a wide range of higher-order cognitive tasks, including language-related tasks, reasoning, and logical thinking.⁴ One study notes links between working-memory capacity and a “wide variety of real world skills” and “applications to issues in cognitive development and developmental cognitive disorders.”⁵ Thus it seems that improvements in students’ working memory have the potential to increase not only students’ dictation skills, but also their ability to deal with a broad range of musical and non-music-specific tasks.

This article thus presents a new understanding of the cognitive systems that all musical skills rely on. These systems are complex and interconnected, in contrast to the “component” model presented by Karpinski. Given the complexity of working memory and the impossibility of truly isolating any single component, it will be important to identify practical ways of working on the system as a whole. Thus, the core of this article is practical: after a discussion of definitions, models, and research on working-memory training, I will present exercises derived from working-memory research that activate and exercise working memory in different ways. These sections together serve to bring our attention to the unified underlying system that all musical skills rely on—one that is difficult to understand, but also one in which improvements will have benefits both for students’ musical study and in their broader lives.

Defining Working Memory in Aural Skills Instruction

The common thread among all definitions of working memory is that it is the cognitive system responsible for short-term storage and manipulation of information.⁶ It is most often described as a multi-component system: while researchers differ in the

³ Chaffin (2011, 73).

⁴ For an overview and speculation on reasons for this connection, see Engle (2002).

⁵ Melby-Lervåg and Hulme, (2013, 270).

⁶ This wording is based on Ma, Husain, and Bays (2014, 23): “Working memory refers to the short-term storage and manipulation of sensory information lasting on the order of seconds.”

number of components they describe, the three most common are a “central executive” which coordinates the work of two dependent systems.⁷ The dependent systems are the “visuo-spatial scratchpad,” responsible for visual and spatial information, and the “phonological loop,” for verbal information.⁸ Many models now also include another component called the “episodic buffer,” used for communication between the other systems and long-term memory.⁹ Scholars differ on whether they still preserve “short-term memory” as a distinct concept: Alan Baddeley, who developed the most influential model of working memory, says, “The concept of working memory has increasingly replaced the older concept of short-term memory,” but he still uses both terms.¹⁰

Another model, associated with Cowan, emphasizes working memory’s role within a broader cognitive context.¹¹ In Cowan’s words, “short term memory is derived from a temporarily activated subset of information in long-term memory... A subset of the activated information is the focus of attention, which appears to be limited in chunk capacity.”¹² Other scholars point out that within this focus of attention, only one item at a time is “available as the target of cognitive processes.”¹³ Thus Klaus Oberauer describes this model of working memory as a “concentric structure,” and visualizes it as shown in Example 1.¹⁴ We might imagine, in taking dictation, that long-term memory (all nodes and dotted lines in the example) includes our internal representations of scale degrees, tone and duration relationships, schemata, etc.; that

7 This three-part model was proposed in the foundational work of Baddeley and Hitch (1974).

8 Music and environmental sound are associated with the phonological loop in the “speculative view of the flow of information from perception to working memory” presented in Baddeley (2012, 23).

9 An accessible description of this entire model of working memory can be found at <https://www.simplypsychology.org/working%20memory.html>.

10 Baddeley (1992, 556).

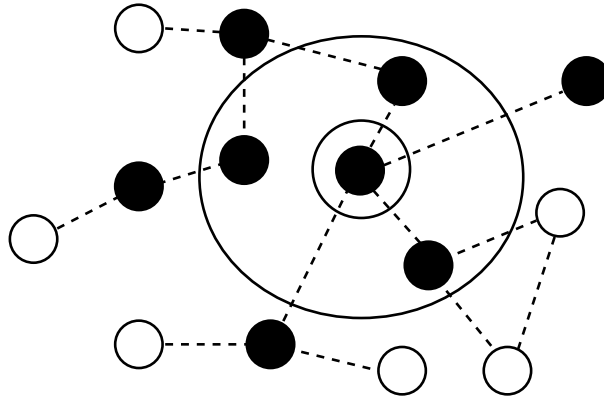
11 I purposefully do not characterize this as a competing model. Baddeley (2012, 20) explains, “At a superficial level, Cowan’s theories might seem to be totally different from my own. In practice, however, we agree on most issues but differ in our terminology and areas of current focus. I see Cowan’s model as principally concerned, in my terminology, with the link between the CE [central executive] and the episodic buffer.”

12 Cowan (2008, 326). While Karpinski repeatedly cites the “magic number 7 plus or minus two” proposed by George Miller in 1956 in describing the number of “chunks” that can be placed in this short-term store, most modern scholars put the capacity limit closer to the “between three and four” proposed in Cowan, Chen and Rouders (2004, 639).

13 Janczyk and Grabowski (2011, 211).

14 Oberauer (2002, 412).

the “activated information” (filled-in nodes) represents the entire excerpt we have heard; that the “region of direct access” (outer circle) includes the section of the excerpt we are able to remember with integrity, and that the “focus of attention” (circled node) is the chunk that we are currently trying to identify with functional labels, rhythmic durations, etc.



Example 1

“Concentric” visualization of working memory based on Oberauer (2002, 412).

Regardless of model, all scholars on working memory place a heavy emphasis on the role of attention. Its focus is the central node of the concentric model, and in the multi-component model, the central executive—the driver of working memory—plays a crucial role in directing attention. Thus while Karpinski places control of attention in the “hearing” stage of dictation and storage in the “short-term memory” stage, models of working memory treat these components as interconnected. Several studies confirm this connection: Fukuda and Vogel (2009) demonstrated that individuals with higher working-memory capacity (storage) were better able to recover from distractions (through attentional control); de Fockert et al. (2001, 1805) provided evidence that “working memory serves to control visual selective attention,” and Engle (2002, 22) declared that whatever it is that working memory tasks measure “is at least related to, and maybe isomorphic to, general fluid intelligence and executive attention.” Thus attention is either a component of working memory (perhaps a function of the central executive) or strongly correlated with its capacity.

Though many scholars believe the number of elements that can be stored in working memory is limited, this is still a controversial element of the theory. Nelson Cowan and his co-authors, updating the work of George Miller, suggested that only

three-to-four chunks could be placed in immediately available storage.¹⁵ This model of “slots to be filled” suggests that objects are either remembered with integrity (placed into a slot) or not, leaving little room for “fuzzy memory” or remembering different objects with different levels of precision. Wei Ji Ma and his coauthors, on the other hand, have reviewed emerging evidence that working memory capacity might be a more continuous resource, though still of fixed capacity, that can be allocated according to perceived importance.¹⁶ For example, upon being presented with five chunks, one might determine Chunk 5 to be of primary importance and allocate 50% of working memory capacity to it, spreading the remaining 50% of working memory capacity among Chunks 1–4 and thus remembering them with lesser precision. This model suggests that an important part of our role as aural skills instructors is helping students internalize mental models that encourage appropriate and efficient allocation of this resource.

It is difficult to determine exactly how we may apply these frameworks in reimagining aural skills instruction and difficulties. Such a project will need to await a greater maturity of the field of working-memory research and more music-specific research in order to map aspects of these cognitive models onto different tasks and abilities. But it helps to explain the existence of student difficulties that are not clearly described in Karpinski’s text. There are certainly students whose deficiencies fall neatly into one of Karpinski’s four components of dictation. But many more have complex problems that involve multiple components, and we can now understand these as resulting from the interconnectedness of the complex system of working memory.

Effectiveness of Working-Memory Training

There is a large industry built on the idea that exercising working memory can increase its capacity. The companies Lumosity, CogniFit, CogMed, and Jungle Memory all operate on some variation of this principle. Yet this premise is not at this point clearly supported by research, and Lumosity settled with the Federal Trade Commission in early 2016, admitting they did not have settled science to support claims that their exercises improve school/work performance or reduce age-related cognitive decline.¹⁷

¹⁵ Cowan, Chen, and Rouders (2004, 639).

¹⁶ Ma, Husain, and Bays (2014).

¹⁷ The FTC’s press release on this settlement can be read at <https://www.ftc.gov/news-events/press-releases/2016/01/lumosity-pay-2-million-settle-ftc-deceptive-advertising-charges>.

Indeed, an often-cited meta-analysis of prior research concluded that so-called “brain-training” programs have only been proven to give “near-transfer benefits,” that is, improvement on the task practiced and related tasks but not on other related measures of cognitive ability, and that even such benefits may not be sustained once the training ended.¹⁸

Nevertheless, these conclusions are difficult to apply directly to aural skills instruction. Most aural skills courses are designed primarily to give “near-transfer” music-related benefits, so the lack of proven far-transfer benefits is not necessarily a problem. In addition, aural skills classes are quite different in format from the studies cited by in the meta-analysis. Classes often meet for up to 40 hours over the course of each semester for several semesters, and even summer breaks are not generally more than 4 months (though students may of course take breaks of their own). The meta-analysis, in contrast, considered studies to have used a “large dose” of training if the training period was more than 8 hours. While they found that the “large immediate gains on measures of verbal working memory” disappeared over time, the long-term follow-up test was usually given nine months after training had ended.¹⁹ In short, it is not clear that the results of the meta-analysis have direct implications for working memory training in aural skills classes.

Karpinski’s “Model for Music Perception and Cognition During Dictation” in *Aural Skills Acquisition* also treats the capacity of what he calls “short-term memory”—which he assumes is roughly equivalent to the “magical number seven plus or minus two” proposed by George Miller in 1956—as a limited number of slots that cannot be expanded with training. Karpinski’s text thus asserts that the only ways to extend the capacity of short-term memory are through “extractive listening” and “chunking.” In extractive listening, a listener focuses their attention on a certain part of a musical excerpt—say, the first half—and selectively memorizes it despite sonic interference from other parts of the excerpt. Understood with regard to the model of working memory, this clearly involves significant control of attention. In chunking, listeners use mental schemata to group music into larger “bits,” allowing more notes to fit into each “slot” of musical memory.²⁰ As students learn more and more complex patterns, their relatively fixed number of memory slots is thus able to store greater and greater amounts of information. Nevertheless, since chunking is an invisible, mostly

¹⁸ Melby-Lervåg and Hulme (2013).

¹⁹ Melby-Lervåg and Hulme (2013, 276).

²⁰ This discussion is in Karpinski (2000, 65–77).

unconscious process, it would take carefully designed experiments to determine whether the ability to remember longer melodies in more advanced musicians is indeed from increasing chunk size alone or whether it might also reflect an expanded working-memory capacity.

There are still reasons to focus on working memory, even without settled science on whether or not its capacity can be expanded. First, it does appear that music training and working memory have a strong correlation and that one might be able to affect the other: one study found that “training in rhythm, pitch, melody, voice, and basic musical concepts” improved students’ verbal intelligence (a far-transfer benefit) compared to students who studied visual art.²¹

Second, and perhaps more convincing, while working-memory capacity may be fixed, it may also be possible to make this limited system more efficient, flexible, accurate, and quick. One study found that in a relatively easy task, while all subjects were able to complete the task, musicians “performed better as reflected in reaction times and error rates.” The authors suggested that this is due to musicians’ ability to recruit “more brain resources to sustain cognitive control”—in other words, musicians did not necessarily have a greater memory capacity but were able to use it more effectively.²² The focus on “cognitive control” is probably significant: if working-memory capacity is fixed, then improvements will come in large part from the “central executive” component, which is “concerned with attentional control of behavior.”²³ This is suggested also by the “continuous resource” model of working-memory capacity: if improvements in working memory performance come from better allocation of memory rather than from increases in capacity, this will likely require improved control of the system.

Therefore, my focus in the practical section below is not on increasing working-memory capacity, which may be fixed, but rather on improving the flexibility, speed, efficiency, and accuracy of the system through greater cognitive control—an essential part (perhaps *the* essential part) of what we often call “active listening.” In his section on the “Hearing” component of dictation, Karpinski describes students who “have let entire playings pass by without the slightest sensory intake” as a result of “attention deficit disorder.”²⁴ While this kind of problem can certainly be a sign of different

21 Moreno et al. (2011, 1429).

22 Pallesen et al. (2010, 1 and 10–11).

23 Baddeley (1992, 559).

24 Karpinski (2000, 65).

inherent learning abilities, in many students it and lesser forms of the same problem may come instead from a fixable lack of attentional control. If students have been especially well-trained in passive listening, the ability to decide beforehand what they will pay attention to and remember—and then to follow through on that plan—may be extremely difficult. Working-memory exercises give one way of forcing such students to find ways to regain control of their listening through attentional control and more efficient functioning of working memory.

Working Memory Exercises

Researchers on working memory have an extensive battery of tests that are designed to test working memory understood as an integrated system. To the extent that these tests exercise working memory, they may be useful in helping to increase its capacity, or, more likely, in improving its control, speed, flexibility, and accuracy. They also suggest new, interesting ways of exercising aural skills regardless of new benefits. This section will describe common tests of working memory and my own adaptations of these tests into aural skills exercises. Each test may suggest multiple exercises, and the ones given are intended as a starting point for developing variations suitable to different instructors and goals.

Most of these tests involve objects or stimuli, which in working memory research are generally verbal (sentences, words, or letters), spatial (e.g., shapes placed in different locations on a 3 x 3 grid), or numeric. In music, these objects could be tones, scale degrees, chords, functions, durations, rhythmic cells, dynamics, registers, timbres, etc. In some cases, teachers will need to help students understand how the objects are defined. For example, two chords could be considered instances of the same object based on quality, root, inversion, or voicing/spacing, or any combination of these.

In many cases, students do not need to label these objects in order to complete the tasks: for example, to determine whether two tones are the same, one does not necessarily need to know their solfege syllables or letter names; to compare two rhythmic cells, one does not necessarily need to know their rhythmic values.²⁵ This is a distinct strength of these exercises, as they may be used at various stages of learning. Instructors may also decide whether or not to use labels themselves in presenting the objects. For example, in presenting a melody for an N-back test (defined below),

²⁵ Throughout this article, movable-do solfege is assumed. Instructors using other methods or terminology will know how to adapt the exercises accordingly.

an instructor may or may not choose to sing the melody on solfege. If the purpose is simply to strengthen working memory, solfege may give students more ways to encode the information accurately as it is presented. Of course, if the instructor wishes for students to practice their scale-degree identification at the same time, they will want to omit solfege and sing or play on a neutral syllable.

Sternberg task. In this method, which derives from the work of Saul Sternberg in the late 1960s, one presents a “list of items for memorization” (in music, for example, this could be a series of chords or a rhythm composed of rhythmic cells), then asks the subjects questions about this list, usually about whether a “probe item” (say, a specific chord or rhythmic cell) was contained within that list.²⁶ The value of this rather simple task in music is at least two-fold. First, it is a way to work with musical materials and musical memory without the need for labels and notation. Second, it encourages active listening, encoding, and then re-hearing, in order to answer the questions.

Change detection. In a change detection test, a subject is presented with two stimuli—for example, two melodies—in series and asked to determine whether they are the same or different. This is similar to classic aural skills error detection, though in traditional error detection an aural stimulus is usually compared with a written stimulus. The stimuli in a more broadly-defined change detection test can of course both be aural, requiring neither knowledge of notation nor skill in solfege for a correct answer. A natural way to follow up would be to ask students what exactly was different, though this would of course require some kind of descriptive system (such as solfege).

Counter updating task. In this similarly simple task, subjects are given a small number of objects to keep track of, then presented with a series of stimuli including but not limited to those objects. As the series is presented, subjects count the number of times each of their assigned objects appears. For example, an instructor who wishes to draw students’ attention to the distinction between the often-confused rhythmic cells that occupy the end of the first measure and beginning of the second measure in Example 2 might write them on the board, then ask students to count the number of times each occurs in the course of the rhythm. (In Example 2, each occurs twice.) Or an instructor might sing or play a melody, asking students to count the number of times scale degrees 1 and 5 occur.

²⁶ Sternberg (1969, 424). Sternberg found that reaction times for both positive and negative responses correlated linearly with the size of the list even though one might expect some subjects to discover positive answers partway through their mental list search, suggesting the counterintuitive result that subjects search the entire list before answering even if they have already found a positive result.

**Example 2**

Sample counter-updating rhythm.

***N*-back test.** In an *N*-back test, subjects are presented with a series of stimuli one after another and asked to respond in some way whenever the currently-presented stimulus is identical to the stimulus *N*-back in the series. For example, an instructor could present a melody in even note values and ask students to hum the currently sounding note when it is identical to the note two earlier in the series ($N = 2$). If the melody in Example 3 were sung, students should hum along (or raise their hands, or indicate in some other way) at notes 4, 9, and 10, since they match (respectively) notes 2, 7, and 8. As the value of *N* increases, the task gets exponentially more difficult for both instructor and student: even at $N = 2$, I have found it useful to plan a melody beforehand rather than improvising on the spot. Students also take time to adjust to this unfamiliar task, but do improve with practice.

**Example 3**Sample *N*-back melody.

There are notable similarities between the *N*-back test and the kind of on-the-spot canon singing advocated by several scholars with an interest in historically-based pedagogy.²⁷ These scholars present canon improvisation primarily as a theoretical/historical exercise for the person improvising the *dux*, who must follow rules that create acceptable harmonic intervals when a following voice is added, and secondarily as an aural skills exercise for the singer of the *comes*, who must listen and imitate at a given time and pitch interval. Those who are less interested in the historical/theoretical value of this exercise may still appreciate the aural skills value of having a following voice sing the note *N*-back in a series (melody) sung by another student or the instructor. One may choose whether or not to try to follow traditional rules

²⁷ Schubert (2013); Cumming (2013); and Collins (2008).

of counterpoint in this case; unprepared dissonances will likely increase the level of difficulty.

Word (or melody, chord progression, etc.) updating task. In a word updating task, subjects are first given a word. They are then instructed to mentally replace certain letters in the word with specific new letters over and over to create new words.²⁸ In music, we might imagine giving students a melody, either in notation (for students who are fairly fluent at auralizing from a score) or aurally. Then we might ask them to silently replace specific tones in that melody with other tones. After a (probably small) number of such swaps, students could be asked to compare their results with their neighbor or sing them for the teacher. Example 4 gives a sample instance based on a familiar melody.²⁹

Original melody:



Verbal instructions:

1. "Replace the final note with high do." [Silence while students mentally rehearse]
2. "Replace the opening mi-re-do with sol-mi-do." [Silence while students mentally rehearse]
3. "Replace the re-re-re with sol-sol-sol." [Silence while students mentally rehearse]

Expected result:



Example 4

Sample melody-updating task based on the first line of "Mary Had a Little Lamb."

Stroop task. In the famous Stroop effect, subjects presented with a list of colors spelled out in colors not denoted by their names (e.g., the word "pink" printed in purple) have greater difficulty naming the printed colors of the words than if they were printed in their designated color. This suggests a possible musical application, though this will likely be most effective with students who are already fairly proficient

²⁸ This process is described in Janczyk and Grabowski (2011). In their experiments, Janczyk and Grabowski's implementation employed real words exclusively. Given the much greater flexibility of musical grammar, this is not likely an issue in aural skills adaptations.

²⁹ This exercise bears more than a passing resemblance to the "quick switch" exercises in David Damschroder's textbook *Listen and Sing*, in which students are directed to perform closely-related melodies in succession.

with solfege. An instructor could either sing a melody with incorrect solfege syllables (admittedly difficult!) or present a notated melody with incorrect syllables written below, and then ask students to sing the melody back with correct solfege. Of course, this is not so different from the kinds of error dictation that many instructors already use.

Running memory span. As described by Cowan, this is “a procedure in which a list of an unpredictable, long length is presented, the task being to recall as many items from the end of the list as possible after the list terminates.”³⁰ In music, the “list” could be a string of any of the objects mentioned above: tones (a melody), scale degrees (a tonal melody), chords (a chord progression), rhythmic cells (a rhythm), etc.

Dichotic listening task. Since control of attention is either important to or strongly correlated with working memory capacity (and, of course, an important skill on its own), a significant number of working-memory tests examine subjects’ ability to focus on desired information and tune out irrelevant information. In a classic dichotic listening task, for example, subjects listen, usually through headphones, to two usually unrelated streams of speech and are instructed to pay attention to and remember one and ignore the other. This task is already exercised in many aural skills classrooms when students are asked to do dictation in a room with less-than soundproofed walls, but it is probably more effective and less stressful when the task is set up with purpose and planning. The most obvious musical adaptation would be for two sound sources (performers, speakers, etc.) to be set up to play/sing unrelated musical excerpts simultaneously on opposite sides of the room; students would be asked to ignore one and listen to the other in order to sing it back, similar in some ways to two-voice dictation. This task can be altered in many ways, however, while preserving the desired goal of taxing control of attention. For example, students could be asked to sing a melody over and over while the instructor plays increasingly loud conflicting music over a sound system or on an instrument, or two groups of students could sing in different keys, or sing different melodies, simultaneously.

While these adaptations of control-of-attention tasks may seem useful only for students with a fairly high level of confidence and accomplishment, they can be adapted to students at any level of the curriculum. In fact, one of the most useful adaptations I have implemented also helps beginning students to develop their internal hearing. I first give them a single pitch to hum for a long time, breathing as necessary, and ask them to use the position of my hand to determine their dynamics,

³⁰ Cowan et al. (2005, 47).

from high (loud) to low (silent). After students have dealt with some periods of silence (a kind of distractor), I start introducing soft irrelevant tones and music first while they are humming, then also in the silences. Finally, I combine these with a kind of tone-updating task by asking them, in the silences, to think up a half step, then up a whole step, then sing the resulting pitch. These valuable exercises have given some of my beginning students their first clear experience of internal hearing.

Among all these exercises, I have found those intended to improve control of attention to be especially useful in the classroom. Students often have difficulty controlling their attention, whether from mental and attentional habits encouraged by modern media or from distracting events in students' outside-the-classroom lives. *N*-back exercises and control-of-attention tasks in particular may help students be fully (attentionally) present in what they are doing and able to control what they listen to.³¹ Beyond these benefits, the exercises are often fun and provide a welcome contrast to traditional sight-reading and dictation tasks. Increases in working memory capacity, if they occur, might thus be the most valuable benefit of the exercises, but they are far from the only ones.

Assessment

As with any aspect of our teaching, we must think about assessment. Should we directly assess students' working memory? There is a spectrum of approaches one might take. On one (probably easier) end, one could decide not to test working memory. The exercises suggested above could still be used in class as fun, short warmups or breaks from other activities. On the other end of the spectrum, most of these activities could be adapted into assessments. For example, the instructor could use a running-memory-span-based test: play a long melody and instruct students that when it stops, they must write down the last five scale degrees they heard. A melody-updating task, on the other hand, would be more appropriate for an individual hearing. Testing can communicate to students that these exercises are valued and that they might want to practice them outside of class. In between these two extremes are any number of middle positions, including requiring students to pass a pass/fail working memory hearing by a certain point in the semester or to spend a certain amount of time on these outside of class each week.

³¹ Indeed, we could reframe many aural skills tasks as relying on control of attention. Dictating bass lines relies on the ability to train one's attention to lowest-sounding pitches; hearing chromatic chords relies on the ability to notice changes in diatonic system; labelling chord progressions aurally relies on the ability to attune to holistic aspects of a simultaneity; etc.

When designing assessments, however, it is important to keep in mind that stress has consistently been shown to have a negative effect on working memory performance.³² In particular, Qin and his co-authors noted that stress induced “reallocation of resources away from executive function networks” in favor of “adaptive and habitual responses,” which will certainly be destructive to the kind of focused listening and attentional control that aural skills tasks typically require.³³ Since the most promising benefit of working-memory training is that it may increase attentional control, pushing students into “habitual responses” will be particularly destructive to efficiency, speed, and accuracy of working memory performance and can develop bad habits that may then spread to other areas of a student’s musical life. This research suggests the urgency of making the aural-skills environment as low in stress as possible.

Conclusion

The current state of research on working memory clearly complicates the ways we understand the process of taking dictation. In light of the unified nature of the working memory system, we must sacrifice the simplicity of understanding this process as a series of separable components. This is not to say that Karpinski’s framework is no longer useful: rather, we must now understand the four components as different windows into an essentially unified system. We can still treat them separately, but they all ultimately interconnect and rely on each other. This unified framework can help explain why many students’ deficiencies seem to fall into at least two of Karpinski’s categories.

Understanding this framework should also have an effect on the way we understand the purpose of aural skills classes. Well-established learning goals such as internalizing musical schemata and gaining fluency with notation should not be replaced, but we must understand that at the root of nearly every task we do—and particularly tasks that must be done in a time-sensitive manner, like sight singing and dictation—is the system of working memory. To better reach these traditional goals, we should pay attention to our students’ working memory skills—and, of course, these skills are valuable in and of themselves. While we may not be able to increase the capacity of working memory, we might add to our traditional goals something like,

³² The extensive literature on this negative effect includes Qin et al. (2009); Luethi, Meier, and Sandi (2009); and Schoofs, Preuß, and Wolf (2008).

³³ Qin et al. (2009, 30).

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“This class will increase the speed, efficiency, flexibility, and accuracy of students’ working memory.”

A more detailed model of exactly how dictation (or sight singing, or improvisation, or many other musical tasks) uses the various components of working memory will need to await further studies, both of working memory generally and of applications to music. But in the meantime, we can use exercises based on the working-memory literature and develop a sensitivity especially to the role of students’ attentional control. Making these changes at the very least gives us new ways to exercise traditional skills, and may even improve students’ performance—both within music and in their broader lives.

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Promoting Diversity in the Undergraduate Classroom: Incorporating Asian Contemporary Composers' Music in a Form and Analysis Course

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Despite the greater demand for inclusivity, the literature used in the Music Theory classroom is still limited; the materials for examples and analysis are mostly music drawn from the Western classical musical canon. In my effort to expand the range of analytical materials in undergraduate music theory courses, to demonstrate the continuing quest of diversifying our discipline, and to broaden music students' experiences by exposing them to unfamiliar music, I incorporate contemporary East Asian composers' music in my Form and Analysis course. In the first part of the essay, I discuss further the motivations and background of my decision to incorporate East Asian composers' music in the course. In the second part of the essay, I discuss several compositions by Asian composers as implementation of these motivations. By being exposed to this unfamiliar music, I hope students will further explore and seek music that is new to them.



Introduction

With the advancement in technology and the rapid spread of the Internet, today's music students have an unprecedented advantage of easily accessing a diverse range of music. Despite the accessibility to all forms of music, our students' musical experience is usually confined to the type of music to which they were exposed during their formative years, and many are satisfied with the confinements of their experiences. Typically, the experiences of entering music students in my institution are limited to music programs in high school (band, choir, string orchestra, jazz band/ensemble, and musical theatre), music offered in their church (being in the audience or as participants), taking lessons or teaching oneself to play the guitar or piano, and/or being involved in popular genres such as rock bands. The music heard in these environments is almost exclusively comprised of popular genres. The types of music that typical music majors have encountered by the time they enter college are limited.

Generally, the repertoires covered in the music theory sequence are similarly limited—the materials for examples and analysis are mostly music drawn from the Western classical musical canon, although recently, textbook authors have made conscious efforts to include examples from popular culture, jazz, and film music. In

my effort to expand the range of analytical materials in undergraduate music theory courses, to demonstrate the continuing quest of diversifying our discipline,¹ and to broaden music students' experiences by exposing them to unfamiliar music, I decided to begin by incorporating contemporary East Asian composers' music in my Form and Analysis course.

Contemporary East Asian composers' music has become an integral part of the concert music scene, especially since the 1950s. In the first part of this essay, I discuss further the motivations and background of my decision to incorporate East Asian composers' music in my Form and Analysis course. In the second part of this essay, I discuss several compositions by Asian composers.

Motivations

Two factors prompted my effort to incorporate East Asian contemporary music into the upper undergraduate course Form and Analysis, which is the culmination of our four-semester music theory and aural skills sequence. First is my desire to expose students to unfamiliar music that is still effective as material in the course. The music I incorporate is concert music by East Asian composers as representatives of non-European or non-American origins.² As I mention below, even though East Asian composers' music is written based on the idioms of Western classic music tradition, their works are rarely featured in music history or music theory textbooks and anthologies. The second factor that fueled my effort is my institution's adoption of Global Learning Initiative (GLI) in 2011 as its Quality Enhancement Plan (QEP).

In 2010-11, my institution underwent reaffirmation from its accrediting body, the Southern Association of Colleges and Schools (SACS). QEP is a requirement by SACS that each institution undergoing reaffirmation identify a component of its undergraduate program for improvement. GLI was chosen as my institution's QEP. The purpose of GLI is to ensure that the students become successful as citizens and professionals of the greater world "by enhancing global education for our students." One of my institution's

1 Diversity is an ongoing effort by the Society for Music Theory (SMT) since the inception of the Committee on Diversity with its mission statement focused explicitly on issues of racial and ethnic diversity. See <https://societymusictheory.org/sites/default/files/DCPurpose.pdf>.

2 Here I define Asian concert music as music composed by Asian composers utilizing stylistic features that simulate the European classical music tradition. European classical music became wide-spread in Asian countries in the twentieth century and many composers emerged who incorporated the idioms of Western classical music. This term is used also in opposition to the traditional or vernacular music and popular music.

ongoing goals is “to become a school of distinction for preparing our students to be educated and involved global citizens, to understand their place in global society and their responsibilities to human society at large, and to take great joy at celebrating the very rich cultures of their communities, their states, their regions, their nations, and their world.”³ When curricular courses and extra-curricular activities incorporate some components of GLI, they are specifically designated as GLI courses or GLI activities. As the canonical materials of music courses already inherently emphasize global learning, incorporating concert music composed by East Asian composers in music theory courses could potentially enhance the broader objectives of GLI to integrate global learning into the curriculum and to fulfill this designation. In Fall 2014, I was granted a teaching load reduction award for curriculum improvement to explore this possibility in the Form and Analysis course.

Form and Analysis is the only course offered to the upper undergraduate music students at my institution that deals with in-depth analysis of music.⁴ It is also a designated capstone course for music undergraduates as the course integrates the four semesters of music theory and aural skills. Form and Analysis is required for music education majors, which constitute the majority of our music students, and music performance majors. Many students seeking a Bachelor of Arts in music also take this course as one of their electives. Our four-semester music theory sequence covers tonal harmony and 20th-century materials, and postpones the teaching of small scale and large scale forms until Form and Analysis, including motivic and thematic analysis, phrase structures, and formal functions. My goal in this course is to introduce music that is as diverse as possible. At the end of the course my students should be able to analyze the overall formal design and structure of any given piece, and gain the ability to meaningfully interpret the given compositions utilizing the concepts gained throughout the course, no matter the musical style.

3 Since GLI officially ended in 2016, the link to GLI website that states these purpose and goals is no longer available on my institution's website, and is only available to Winthrop employees in a password protected link. Our dedication to global learning, however, continues as part of Goal 2 of our institutional strategic plan, The Winthrop Plan, which continues through 2025. The Winthrop Plan can be found at: <https://www.winthrop.edu/uploadedFiles/president/StrategicPlan.pdf>

4 Ideally there should be various courses in music theoretical topics for the upper undergraduate and master's music students. However, a number of factors contribute to this limitation: the nature of the institution as a teaching institution, the number and make up of faculty members in the department of music, the teaching loads of the faculty members, curricular requirements of our degree programs, and pressure from the administration to reduce the total credit hours required for the students to complete the degree.

Despite the greater demand for inclusivity, the literature used in the music theory classroom predominantly comes from the Western hemisphere. I believe that East Asian composers are increasingly active in the concert scenes, as demonstrated by the choice of the featured opera at the Spoleto Festival USA.⁵ Two seasons in a row, the featured operas at the Spoleto Festival USA were composed by Asian composers. In 2014, it was the Japanese composer Toshio Hosokawa's opera *Matsukaze*, which is based on a Noh play, and in 2015, it was the Chinese-American composer Huang Ruo's opera *Paradise Interrupted*. The 2018 program includes the opera *Tree of Codes* written by the Australian composer Liza Lim who has Chinese parents.

In recent years, some major American orchestras have featured Asian composers' music on subscription concerts as highlighted in Example 1. These are the few examples from the internet search I conducted. Also, it is worth mentioning that during the last decade, two Chinese composers won the Pulitzer Prize in music: Beijing born Zhou Long in 2011, and Shanghai born Du Yun in 2017. Despite the greater diversity seen in the concert scene, Asia is still underrepresented in Western music classrooms.

Entries are seldom found on Asian composers in the typical music history survey textbooks that trace the development of Western classical music. Chapters on the periods after European expansion in these music history textbooks only include composers and compositions in the United States and might include a small entry on South American composers.⁶ In a sense, both Americas share similar histories with Asian countries at the inception of importing concert music from Europe, differing only in that the history of concert music in America started roughly a century earlier.⁷ However, despite many Asian composers having become active in the international concert scene, the entries on Asian composers tend to be limited to specialized books with titles such as "Twentieth Century Music" or "Contemporary

5 Spoleto Festival USA is held every year for three weeks in the spring in Charleston, South Carolina, and features opera, theatre, dance, and chamber, symphonic, choral, and jazz music. See <https://spoletousa.org/about/> for details and past programs.

6 For instance, see Wright and Simms (2010) and Stolba (1998). Neither textbook includes Asian composers' music, but rather provide brief descriptions of Latin American composers (Wright and Simms 738-739, Stolba 619).

7 This rough comparison is based on the years 1776 and 1854, the year of independence of America, and the year Japan ended its 200 years of national isolation. Also, it is reflected by the formation of symphony orchestras in these two countries. In the United States, a forerunner of the New York Philharmonic was founded in 1842 and the Boston Symphony Orchestra followed in 1881. Japan's forerunner of NHK Symphony Orchestra was established in 1925.

New York Philharmonic:	2014-15 season	South Korean female composer Unsuk Chin's Clarinet Concerto commissioned by the New York Philharmonic and other organizations (premiere) Silk Road Ensemble (Yo-Yo Ma, artistic director. Included multiple Asian composers' music.)
	2015-16 season	Chinese New Year's Concert and Gala performing Chinese composers Li Huanzhi's <i>Spring Festival Overture</i> , Chen Gang and He Zhanhao's <i>Butterfly Lover's Violin Concerto</i> , and Tan Dun's <i>Nu Shu: The Secret Songs of Women, for harp and orchestra</i> (New York Premiere).
	2016-17 season	Indian composer Ravi Shankar's <i>Rāgā-Mālā</i> Concerto No. 2, for Sitar and Orchestra, and two Chinese composers' works (one premiere) included in the special program celebrating Chinese New Year.
Boston Symphony Orchestra	2015-16 season	Unsuk Chin's <i>Mannequin</i> (American premiere).
	2016-17 season	Tōru Takemitsu's <i>Nostalgia</i> .
Charlotte Symphony Orchestra	2014-15 season	Concerto No. 2 for Pipa and Orchestra by a Chinese composer Zhao Jiping.
NHK Symphony Orchestra	2015-16 season	Tan Dun's <i>Passacaglia: Secret of Wind and Birds</i> , a Japan premiere. Tōru Takemitsu: <i>Family Tree</i> , and <i>Nami no Bon</i> .
	2016-17 season	Tōru Takemitsu: <i>A Way a Lone II</i> , <i>How Slow the Wind</i> , and <i>My Way of Life</i> .

Example 1

Examples of orchestras programming works by Asian composers.⁸

Composers.”⁹ European civilization and the force of colonialism demanded that Asian countries open their gates in the mid-19th century for trade purposes, when Western culture and values were unequivocally transported into the Asian countries.¹⁰ Asian countries quickly incorporated the imported styles of concert music, soon producing internationally recognized composers and compositions. It seems natural to me that music history textbooks that trace the development of Western music should include

8 I attended the Charlotte Symphony concert referenced here. Otherwise the data were extracted from each orchestra's archives. See archives of [New York Philharmonic](#), [Boston Symphony Orchestra](#), [NHK Symphony](#) and [also here](#).

9 For instance, Morton and Collins (1992) include thirty-one Asian composers among the five hundred entrants. Other books have sub-chapters with titles such as “Music from Other Cultures (Kostka),” “Ethnic Sources” (Morgan), and “Non-Western Currents and New Age Music” (Salzman) that briefly introduce a few Asian composers' music. See Kostka (2012, 159-161), Morgan (1991, 420-422), and Salzman (2002, 238-240).

10 Everett and Lau (2004) provides an excellent source of discussions on the confluences of Eastern and Western aesthetics and principles in the music of the 20th century, which explore the processes of musical transculturation.

the investigation of the developments and results of the transportation of that music. One purpose of incorporating East Asian composers' music in a Form and Analysis course is to emphasize the importance of East Asian composers in the world music scene.¹¹

In Form and Analysis, in addition to standard instruction on traditional formal concepts, I posit the following questions using East Asian composers' music: How are the boundaries of sections delineated? How is the sense of conclusion achieved? How are discrete sections contrasted? Which musical elements originate in the Western tradition, and which elements have roots in Eastern sensibility? Since East Asian composers' concert music was composed in the 20th and 21st centuries, I also discuss pitch derivations, compositional techniques, and whether the music is written in tonal, late-Romantic, Impressionistic, atonal, or serial style, etc. The pieces are especially useful in providing lessons in ternary forms, rondo forms and variations. I consider it an excellent opportunity to introduce the history of Western concert music pouring into Asian countries in the 19th and 20th-centuries as history and influences are inseparable.

Implementation

In the remainder of this essay, I introduce several compositions that I have used in the Form and Analysis course. Usually, I introduce Japanese composer Yoshinao Nakada's (1923-2000) very popular song "Talking with the Mist" (1960) within the unit on ternary form. The song resembles a French chanson, and the tonal harmonic language is easily comprehensible to students. As shown in Example 2, the lyrics are in three stanzas and it is set to music for A, A', B, A' sections with piano introduction (the first verse is restated for the final A' section). Opening melodic lines in the A and B sections are shown in Example 3.

The only difference between the A and A' sections are the final cadences (and some harmony), in which section A ends with a tonicized half cadence and A' ends with a perfect authentic cadence. In addition to the identification of the cadences and the asymmetric presentation of phrases, I ask the students to identify the large sections of the ternary form. This song provides a good reminder that the letters A and B apply to the thematic materials of the sections. In the printed score, the use of

¹¹ I sympathize with Gopinath (2009) as cited by Guerrero (2009, 50): "[Gopinath] writes that minorities identify as outsiders, thereby possessing natural affinities for new and non-mainstream methodologies."

Large sections	Translation Text by Tadayoshi Kamata	Cadences
Introduction		
A	My cheeks are easy to get wet When my cheeks are cold That day, the words that you wrote I don't know what they are But it still aches	F minor: plagal cadence F minor: half cadence F minor: tonicized HC
Piano interlude		
A'	It still aches On my little wet cheeks It is a little cold But we were together in the mist I fell in love in the mist	F minor: IAC F minor: half cadence F minor: PAC
B	I fell in love in the mist I was caressed by you unseen But when it (the mist) dried You were not you I cried after all	A $\flat$ major: IAC A $\flat$ major: half cadence
Piano interlude		modulation back to F minor
A' (This section is not written out. Nakata uses the repeat sign and second ending.)	My cheeks are easy to get wet When my cheeks are cold That day, the words that you wrote I don't know what they are But it still aches	F minor: plagal cadence F minor: half cadence F minor: PAC

Example 2

The form of Yoshinao Nakada, "Talking with the Mist" (1960).

Section A

F minor

Section B

A $\flat$ major

Example 3

The opening melodic lines of the A and B sections in Yoshinao Nakada, "Talking with the Mist."

first and second endings and the repeat sign confuses some students. Students often misinterpret the A, A', and B sections as the three sections of the ternary form, and don't account for the final A' section which is included in the repeat and not written out. I then ask students to list the contrasting elements of the B section and how the music enhances the meaning of the text (a translation is provided).

Example 4 depicts the ternary form of another song by Nakada, "Maidens in Broad Daylight" (1950), which is the final song of four from the collection *From the Poems of Matinée Poétique*. The poem has four stanzas, but the musical B section does not start until the second line of the second stanza, and then continues through the entire third stanza. In this piece, the outer A sections are modal: the first and third sections project F# Aeolian, and the third section also utilizes F# Mixolydian and F# Lydian. The middle B section utilizes the whole-tone collection WT₀ extensively both in the melody and the accompaniment. I ask the following questions using this piece: 1) What are the pitch resources for the A and B sections?; and 2) Where do notes outside the WT₀ collection occur in the B section, and why did the composer choose to include those notes at those particular places? There are two consecutive measures in the B section where notes outside the WT₀ collection occur. I again direct the students' attention to the translation and that the words "voice of heaven" and "dream" take on extra meanings because of these notes that lie outside the WT₀. The text in the middle

Translation Text by Shin'ichiro Nakamura	Large Sections	Pitch materials
In the cave of the soul far away Waiting for when the door will open Sleeping naked disheveled, Maidens with green locks Alongside the white fountain	A	F# minor F# minor/F# Aeolian/C# Phrygian?
Flame, tinting the silence Rocks that burn the memory Faintly, tomorrow becomes transparent "Turn, sundial and sand shall leak" The voice of heaven rings the midday "Dream is in the treetop, and night should not fall" Wavering water surface, where is the shadow?	B	Whole-tone collection {0, 2, 4, 6, 8, T} (except for "voice of heaven") (except for "dream")
Listening to the sound of sleep, The wind picks up on the bird's wings Opening the window cheerfully, Maidens with red curls	A'	F# minor F# Mixolydian (F# Lydian at the piano ending)

Example 4

The form of Yoshinao Nakada, "Maidens in Broad Daylight" (1950).

section is highly suggestive and dream-like, and the setting of these words literally suggests a state of unreality.

While many aspects of Nakada's musical language, such as his use of late Romantic tonal harmonies and impressionistic idioms, are familiar and accessible to students in the class, he often uses cadential formulas that evoke Japanese traditional scales. Among the four representative Japanese scales, the *miyakobushi* scale (Example 5) has attracted the most attention from Japanese composers who wrote music in the Western style, and is the most Japanese in character. Many melodic endings of Japanese traditional tunes in *miyakobushi*-scale were harmonized by $ii^{07}-i$ succession and became widely known as "Japanese markers."¹² Many of Nakada's songs utilize this succession of $ii^{07}-i$ or its variants at cadence points.



Example 5
Miyakobushi scale.

Japanese composer Akio Yashiro (1929-1976) was only six years younger than Nakada, and yet his compositional style was drastically different from Nakada's. Yashiro's piano sonata was composed the same year Nakada composed "Talking with the Mist." Yashiro's Sonata pour Piano is freely atonal, with some quasi-serial usage incorporated.¹³ This piece is in a cyclic form in that the third movement utilizes two themes from the first movement in disguised shapes. The third movement itself is a theme and variations with the theme derived from the second theme from the first movement. I introduce the first movement of this piece at the end of the unit on sonata form as an example of a 20th century movement that explores sonata-like structure. In this movement, the only remnant of traditional sonata form is the presentation of two contrasting thematic ideas in the initial section, and their development in the subsequent section. Example 6 outlines its basic form. I ask students 1) to identify the two themes presented in the first movement and describe their characters, and how

¹² Pacun (2006, 94).

¹³ In the second movement, after an initial outburst of chord clusters, a 13-tone row, in which order numbers 7 and 12 share pitch-class 9, is introduced. (The PC ordering of the row is 11, 5, 6, 4, 2, 3, 9, 0, 1, 10, 7, 9, 8.) Yashiro then restates this row sixteen times, each time in different registers, metric, and rhythmic patterns, before the row dissolves to a non-serial texture.

they are restated in the remainder of the movement; 2) to explain the quasi-serialism in the fast second movement; and 3) how the materials in the first movement contribute to the third movement, and how each of the variations vary from one another.

1st movement	Abbreviated sonata form with no recapitulation. Presents two distinct thematic ideas, which are developed in the subsequent section. First theme is a 12-tone row without any incorporation of its transformations.
2nd movement	Quasi-serialistic Toccata.
3rd movement	Theme derived from the second theme of the first movement, and Variations. First theme of the first movement also returns.

Example 6

Akio Yashiro, Sonata pour Piano (1960).

Though composed almost at the same time, Nakada's songs and Yashiro's piano sonata are quite distinct stylistically. On the one hand, some Japanese composers were discovering and incorporating the modernist language of serialism and atonality; on the other hand, other composers were favoring tonal and impressionistic idioms. I take this opportunity to introduce the unique Japanese history of importing Western classical music when Japan opened up to the West after two hundred years of national isolation. Over the next one hundred years, the Japanese concert scene virtually caught up to the West by incorporating both tonal and post-tonal musical languages.

I use *Jing Marimba* for solo marimba at the end of the rondo form unit as an example of a 20th century composition that utilizes the statement-contrast-restatement model of the rondo form.¹⁴ Also, I take this opportunity to introduce an element from Chinese opera. This piece was composed in 2009 by Chinese composer Chen Yi, born in 1953. Chen Yi consciously combines Chinese music and Western music and many parts of *Jing Marimba* are reminiscent of anhemitonic sonority. "Jing" from the title is a shortened form of "Beijing." The official Chinese title of this piece is *Jing (Beijing) Diao (tune) Marimba* in which *Jing Diao* means Beijing Opera tune. The opening recurring ascending leap of a 7th is taken from the tune played by *Jinghu* (the fiddle), which is the lead accompanying instrument in Beijing Opera singing.¹⁵

Example 7 delineates each section of the Rondo form. In addition to the noticeable recurring ascending leap of the 7th at the beginning, the first refrain (A) introduces

14 Although the composer derived the formal structure of *Jing Marimba* from the intricate golden section principle (which I do not discuss here), her account of the delineation of the sections mostly overlaps with what I present here. I also use this piece to focus on motivic analysis.

15 Private email correspondence between Chen Yi and the author on February 16, 2016.

a melodic statement that includes the recurring motives a, b, and c (Example 8). This statement of seven measures is followed by its repetition an octave higher with minimal variation. The repetition extends for another ten measures and uses distinctive motivic ideas from the statement, while introducing new ideas: motive-d and melodic figure-e (Example 9). The beginning of the first episode (B) is signaled by the usage of tremolo, and uses motive-d, melodic figure-e, and motive-a from the A section, while providing new motives (f and g) that return in the second episode (C). In the second refrain (A') the eight-measure statement is presented one octave lower than the original and the repetition of the statement and the extension are transposed up by a half step. The second episode (C) is drastically different than the previous refrains and the first episode, for it uses rolls and quintuplet fragments extensively. However, this section continues to use motives a, c, and d from the refrain, and

A	Statement (motives a, b, c), repetition, extension using motives from the statement (motives a, b, c) and providing new materials (motive d and melodic figure e).
B	Usage of motive-d, motive-e, and motive-a from the A section. Additional motives f and g are presented.
A'	Statement and T ₁ repetition of statement and extension.
C	Usage of rolls and quintuplets. Usage of motive-a, motive-c, and varied motive-d from the A section. Usage of motive-f and motive-g from the B section.
A''	Statement developed and varied with multiple two to four-note chords.
Coda	Statement, repetition, and varied extension.

Example 7

The form of Chen Yi, *Jing Marimba* (2009).

Marimba

Example 8

Motives a, b, and c in the opening statement (mm. 1-7) in Chen Yi, *Jing Marimba*.¹⁶

¹⁶ The major 7th leap is the distinctive feature of motive-c, which is the reason why I do not recognize the melodic figure that includes the minor 7th leap in the second beat in m. 4 as motive c.

motives f and g from the first episode. The third refrain (A'') again differs drastically from the previous sections. The original statement is embedded in the denser texture of two-note and four-note chords.

The musical notation for the Marimba part, measures 13-18, is shown in 2/4 time. Measures 13-15 feature a melodic line with notes G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7. Measures 16-18 show a denser texture with two-note and four-note chords. The notation is labeled 'Marimba' and 'Example 9'.

Example 9

Motive d, and melodic figure e in the extension of the statement (mm. 13-18) in Chen Yi, *Jing Marimba*.

In addition to the students' activities such as dissecting the larger sections, taking apart the thematic and motivic ideas, and tracking their usage throughout the piece, I ask the following questions: 1) What musical elements achieve the sense of melodic closure?; 2) The B section is quite similar to the A section, but how does it contrast to the A section?; and 3) what is the overall effect of the similarities/dissimilarities of melodic lines in this piece?

Finally, I introduce another solo marimba piece: *Three Colors of Marimba Solo* by Japanese composer Kaori Okatani (b.1971). This piece does not exhibit clearly defined formal boundaries, nor does it fit into any traditional formal type. I use this piece towards the end of the semester to encourage the students to interpret the music in their own way. The questions I ask for this piece are the following: 1) How do concepts of introduction, transition, and extension apply to this music?; 2) How many main sections does this piece have?; and 3) What are the similarities and contrasting elements of these sections? One of my students wrote the following about this piece in Spring 2015 semester:

The way that I see introduction, transition, and extension in this piece take place as it ties between, before, and after different thematic material and reoccurring ideas, rather than westernized ideas of "sections." ... Transitions in this piece are the addition of stark new material to separate sections with rhythmic and motivic ideas that we have seen before. ... The way I see extensions working in this piece are as lengthened existing ideas, extending the idea but breaking up the measures in a non-conventional sense.

In regard to the question about similarities and contrasting elements of the sections, the student wrote:

Similarities of the sections are the use of figures that give a chaotic feel to the music. The play with the time is also used in these sections, such as the speeding up and slowing down but changing the time by changing the speed of the note value. In each section there are abrupt stops with very crunchy and dissonant sounding double stops. Some contrasting elements are the structure of these sections, for instance, section three is a sort of fading away while sections one and two fall and then rise back up as far as intensity and motivic ideas are concerned.

I was particularly pleased with this answer because this student did not just contrast the pitch and/or rhythmic materials and ideas, but he considered his own perception of the passing of time, and of intensity (or its absence). I ask my students to answer the questions in a written format to emphasize the importance of writing about music.

As an ongoing project, I am investigating music for potential use in this class by Japanese composers Fumio Hayasaka (1914-1955), Tōru Takemitsu (1930-1996), and Takashi Yoshimatsu (b. 1953), Korean composer Isang Yun (1917-1995), Chinese composer Tan Dun (b. 1957), and Cambodian-born composer Chinary Ung (b. 1942), among others. I consider their music as a syncretism of Eastern aesthetics and Western modernism, in a way that the composers' own cultural backgrounds have consciously or unconsciously influenced their music. These pieces are relevant for discussion since their musical language originates in the Western tradition, but also has elements with roots in Eastern sensibility. However, their music is difficult to incorporate in the course, as their musical processes are more textural and timbral, and the students are not well versed in describing such musical events and their listening experiences. For instance, Yoshimatsu's neo-Romantic piece *Threnody to Toki* (1980) for string orchestra and piano, in three through-composed sections, embodies Japanese sensibilities of impermanence, which Takemitsu's music also shares. The modal harmonic language combined with the use of many extended techniques in the strings emulates the cry of the bird *toki*, which is extinct in the wild. Cambodian-born Chinary Ung's *Spiral* for cello, piano, and percussion incorporates melodic fragments that evoke Eastern melodies. The texture and timbre of this piece created by vast extended techniques in the cello, piano, and an array of percussion instruments, also suggest music from East Asia.

Conclusion

In 2013, The College Music Society formed a task force to articulate “what it means to be an educated musician in the twenty-first century and, in turn, what recommendations may follow for progressive change in the undergraduate music-major curriculum.” The results of this task force culminated in the release of “Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors” (now commonly known as the “Manifesto”). The original report was released in November 2014 and the copyedited version was published in March 2016.¹⁷ It is beyond my scope to address the many issues brought out by the Manifesto. However, I find some common ground with concerns raised in this article, notably their emphasis on diversity.¹⁸ The Manifesto states “... large numbers of music majors graduate with little or no hands-on engagement with music beyond European classical repertory, let alone the cultivation of a genuine global artistic identity, which TFUMM (Task Force on the Undergraduate Music Major) believes is central to musical life and responsible citizenship.”¹⁹ The Manifesto does not address non-Western repertoire from the Classical art music tradition, but I do find this statement resonates with the goal of the GLI, which I wish to address in some small ways in my courses.

Part III of *The Norton Guide to Teaching Music Theory* is devoted to expanding the musical canon in music theory core courses.²⁰ The four essays demonstrate using pop-rock music, jazz theory, non-canonical composers’ works (especially music by women and composers of color), and world and traditional music in the music theory core classroom.²¹ As evidenced by the materials included in theory textbooks, pop-rock music, songs from musicals, and jazz are becoming more common as

¹⁷ Shehan Campbell et al. (2016).

¹⁸ The Manifesto identifies and recommends the three key pillars necessary to ensure the relevance and rigor of the undergraduate music curriculum. They are creativity (as rooted in the ability to improvise and compose), diversity, and integration. *Ibid*, iii-iv.

¹⁹ *Ibid*, 5.

²⁰ Lumsden and Swinkin (2018, 221-282).

²¹ The four essays are: Brad Osborn, “Pop-Rock Pedagogy: Compositions, Performance, Transcription, and Analysis in the Undergraduate Theory Core”; Chris Stover, “Jazz Theory’s Pragmatics”; Ellie M. Hisama, “Considering Race and Ethnicity in the Music Theory Classroom”; and Jane Piper Clendinning, “Teaching World Music in the Music Theory Core.” See the review by Timothy Koozin in this issue of the Journal.

representatives of non-canonical works in the theory core classroom.²² However, most music theory textbooks and anthologies for analysis seldom include Asian composers' compositions,²³ as well as repertoire by women and composers of color.

My goal of diversification of concert music repertoires of non-Western and non-American origins for use in music theory courses is, similarly, not limited to finding music by East Asian contemporary composers. It extends to searching for music by, for example, contemporary African continental composers and composers from other parts of the Asian countries who employ Western concert music idioms, in addition to still underrepresented American female composers and composers of color as Hisama advocates for in her essay. Their compositional methods and techniques can vary from tonal language—analyzable with mostly tertian sonorities and functional harmonies—to more avant-garde styles synthesized with distinct features from their traditional musical culture. More and more, students, including international students, comprise different cultural background and ethnicity in higher education. Also, music theory is taught not only in the United States and Europe but is taught globally. For these reasons, it is only natural to expand the musical materials from all parts of the globe to be used in the classroom. As a responsible music educator in higher learning, I believe it is crucial to make conscious efforts to cultivate repertoires of music of our time.

I am in favor of maintaining the rigor of today's music theory instruction that developed over the past century. Music theory teaches the intricacy of music as an art form as testimony of human civilization. At the same time, to maintain the health of the discipline of music theory I believe that continuous adaptation of newer and less focused materials is integral. Additionally, these repertoires provide an initial exposure to the idea of alternative sophisticated musical systems of other world music. Using these pieces, I challenge students with these questions: 1) How is the music

22 In Roig-Francoli (2011), twenty-five examples derive from popular genres compared to five compositions by women. In Laitz (2015), five examples derive from popular genres compared to two compositions by women. In Clendinning and Marvin (2016), seventeen examples derive from popular genres compared to four compositions by women.

23 A few exceptions can be seen such as the inclusion of Chen Yi's "Shan Ge" as an example of combining Western compositional techniques with elements of non-Western styles, and Tōru Takemitsu's "Rain Tree Sketch" as an example of incorporating some elements of Japanese aesthetics in Clendinning and Marvin (2016, 863-867). Both of them are mentioned in Chapter 40: Recent Trends; Materials from the Twentieth Century. Burkhart (2004, 183) including Takemitsu's "Autumn" (first movement of *Rocking Mirror Daybreak* for violin duo), mentioning that "Takemitsu ... brings together aspects of Eastern and Western musical traditions" and suggests the students "discover some force of process that influences the transformations of the evocative opening motive."

different from the expected formal model and the stylistic characters of the European classical idiom?; and 2) Are there any stylistic variations in these music? By being exposed to the music written by composers who are not from the European origin, and without bringing in the difficult issues of European expansion, socio-politics and identity politics, it is my hope that my students start to notice the larger and wider view of the world, history, and reality.

The study of these literatures in a one-semester course of musical form will not be at a deep level, and my approach to analysis is broad in technicality and terminology. To accommodate the curriculum and the group of students that we normally get at my institution, the class focuses on finding meaningful relationship between smaller and larger parts, and being able to discuss the concepts such as “introduction,” “statement,” “repetition,” “extension,” “development,” “closure,” and “formal function of music,” no matter what kind of music the students are given. I do not necessarily want my students to be advocates for East Asian contemporary composers’ music. Rather, it is my hope that by being exposed to this unfamiliar music, my students will further open their eyes and ears to explore and seek music that is unfamiliar to them or outside their comfort zone. I also hope that they will be curious about not just what they know and is easily accessible, but to go out of their way to find music that is removed from their experiences, and as future music educators, that they nurture this attitude for future generations. No matter what direction and career the students choose to take, I believe that curiosity is one of the main ingredients to success. Silk Road Ensemble, directed by Yo-Yo Ma, is a group that performs traditional music as well as newly commissioned works that combine Western and non-Western instruments. Yo-Yo Ma writes, “The Silk Road Ensemble is a musical model for cultural citizenship. It shows how culture can help us to connect with each other, and how that requires curiosity, collaboration and wholehearted enthusiasm.”²⁴ By incorporating non-canonical East Asian composers’ music (and contemporary composers’ music from other parts of the world) in a traditional Form and Analysis course, I promote a diverse cultural climate that will have an impact on my students’ perspectives on what it means to live in the globalized world.

²⁴ Yo-Yo Ma, New York Philharmonic program, February 19-21, 2015.

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When Words Create Music: The Spontaneous Art Song Workshop and Its Value in Teaching Improvisation

AMY LYNNE ENGELSDORFER

Improvisation exemplifies a valuable teaching tool in the music theory classroom. In addition to getting students out of their chairs and moving, improvisation activities allow students the opportunity to apply knowledge by experimenting in a musical context. Some students struggle more than others with improvisation, however, stating they feel they are either “doing it wrong,” or they simply don’t know what to do, and a few suggestions offered in the moment about how to improvise better are insufficient. The Spontaneous Art Song (SAS) workshop is a pilot workshop designed to help this body of students feel more confident with improvisation. As a result of the workshop, students are more confident improvising; consequently, they gain a deeper understanding of theoretical concepts when improvisation is used during instruction. In this article I show how the workshop benefits them, and speculate on its value as a pedagogical tool.



Introduction

Many music educators would agree that improvisation exemplifies a valuable teaching tool, not only for musical performance but for music theory as well.¹ Depending upon the activity, improvisation not only gets students out of their chairs and moving, but also allows them to apply knowledge they have acquired and “grow into” new concepts by experimenting and playing with them in a more musical context than just listening or writing. However, some students struggle more than most with even the most basic improvisation exercises, stating they feel they are either “doing it wrong,” or they simply don’t know what to do, and a few suggestions offered in the moment about how to improvise better are insufficient. The Spontaneous Art Song (SAS) workshop is a pilot workshop I designed to help these students in particular feel more comfortable with improvising. Workshop participants report they feel much more confident while improvising at its conclusion; consequently, they gain a deeper understanding of theoretical concepts when improvisation is used during instruction. After framing hesitancy in improvisation in its historical, philosophical,

¹ *Journal of Music Theory Pedagogy* 27 (2013) features improvisation in a number of articles, and William Porter’s “Why Is Improvisation So Difficult?” serves as a centerpiece for the volume.

and pedagogical contexts, I will discuss the SAS workshop in detail, showing how it is especially beneficial for this particular group of students, and speculating on its value as a pedagogical tool.

Context: Why Is Improvisation So Difficult?

Improvisation is an efficient teaching technique because it requires a synthesis of visual, aural, and tactile modes of presentation and learning. Improvisation is one part of the national standards set forth not only by the National Association for Music Education (NAfME), but also by the National Association of Schools of Music (NASM) at the post-secondary level.² At my own institution, music theory instruction is frequently supplemented with improvisation activities.³ Improvisation activities not only help students learn particular concepts, but teach them about their own individual learning strengths, helping them become better students and musicians “[Improvisation],” states Frank Barrett, “...helps to construct a context that allows one to differentiate relevant aspects from trivial; these [improvisation exercises] are situations that allow one to develop the ability to acquire skills, *to learn how to learn*” (emphasis added).⁴ Barrett further asserts that improvisation has even more far-reaching consequences:

...the situated, vulnerable body, including emotions, plays an important role in one’s capacity to make sense, constructing a context that allows one to differentiate relevant aspects from trivial. Plunging into activity, throwing oneself into a situation and making passionate commitments, sensing responsibility, noticing consequences – these are the ingredients necessary for the development of competence and identity formation.⁵

2 The 2015-2016 NASM handbook for accreditation lists improvisation as one of the five core components that any accredited school of music must include as part of its curriculum. Furthermore, NASM recommends that students should be able to “continue to develop improvisational skills whether as an aspect of composition, musicianship, or performance studies” (emphasis added). https://nasm.arts-accredit.org/wp-content/uploads/sites/2/2015/11/NASM_HANDBOOK_2015-16.pdf, accessed 12 October 2016.

3 Our pedagogical philosophy is deeply rooted in the Walden School tradition, part of the musicianship program devised by Grace Cushman of the Peabody Conservatory Preparatory Program. This program is still used at The Walden Young Musicians Program, a summer program for students interested in improvisation and composition in Dublin, New Hampshire; and also in programs for adult musicians and music teachers offered by Avivo (avivo.com).

4 Barrett (2010, 157).

5 Ibid.

The openness to vulnerability that Barrett describes requires trust in oneself and a willingness to try new ways of learning. Systematic reluctance, however, extends beyond normal performance anxiety or fear of the unknown. In my 24 years in the classroom, I have noticed that students who are exceedingly hesitant tend to have one of two experiences. In the first, the student begins an improvisation but stops almost immediately, or otherwise exhibits behaviors of discomfort, such as laughing or shaking their head. When asked why they did not continue, s/he will respond that it was wrong or bad, that what they performed was completely incorrect at worst and amateurish at best. In the second, they say that they simply do not know what to do. For this student, the problem is larger than simply picking certain notes to play: their confusion rests in not even knowing how to begin, and this confusion increases exponentially if a second player is involved.

No matter what surface behavior of anxiety is exhibited, the underlying causes have largely the same roots, some practical, some philosophical. One cause is the notion that the authority for musical authenticity and quality resides in the printed page: straying from the score is unacceptable. The rise of the conservatory in the early nineteenth century, as well as availability of scores and instructional materials, led quickly to a solidification of a musical canon in which the printed page became more of the authority than a musician's artistic instincts, a problem which remains today. "Aspiring art musicians," explains Robin Moore, "[consequently] became increasingly self-conscious in the performance of canonized works, and tended to rely more heavily on the interpretive advice of influential music professionals, rather than untutored instinct."⁶ Indeed,

Most musicians confined themselves to the note-for-note playing of scores by a handful of composers, who somehow seemed to have access to the mysterious and godlike creative process. Composition and performance progressively became split from each other, to the detriment of both, and the eye became the dominant sense regarding art music production in the industrial age.⁷

Things have not changed significantly from that time period, and government programs have added to the problem. Both the recent No Child Left Behind and Race To the Top initiatives, for instance, have standardized testing as their centerpieces. As public school teachers, my colleagues and I were continually frustrated that individualized instruction had largely been thrown to the wayside and we often "taught

⁶ Moore (1992, 73).

⁷ Alterhaug (2010, 110).

to the test” in order to meet particular goals or mandates. Students are not oblivious to this tension. They are increasingly coming to college not just underprepared in general for college-level work, but nervous as well: they have been told, essentially, that there is one and only one correct way to do something, and students no longer see experimentation and “mistakes” as learning opportunities, but indicators of failure. As improvisation is a real-time experiment with what works and what does not, it is easy to see why students would view it with suspicion and even dread.

While high-stakes testing can affect how a student views experimentation, nonconstructive critique can prove to be detrimental as well. A student who has been told they are not improvising correctly may believe that improvisation is another of Alterhaug’s “mysterious and godlike process[es],” like composition, that he or she will simply never possess.⁸ Rather than consider a single instance poor, the student is left with the impression that the entirety of their skills are lacking, which runs contrary to Frank Barrett’s mindset of positivity: “Musicians assume that there is an affirmative potential direction in every interaction and every utterance. They assume that everything that is happening—even the most blatant ‘errors’—makes sense and can be a possible springboard for an inspired musical idea.”⁹

One of the simplest explanations for why students claim they do not know what to do is that s/he may never have had much opportunity to practice improvisation in the past. At the K-12 level, instruction is becoming more consistent, but in my experiences at both the K-12 and post-secondary levels, students report that they may not have gotten instruction on how to improvise as part of their high school band, choir, or orchestra programs. In the case of band and orchestra, public school instruction may not begin until the fourth grade, and instruction in improvisation may be inconsistent at best.¹⁰ Furthermore, I have observed that many students do not tend to get “serious” about music until later in middle school or high school, and may not have been raised in a musical environment where improvisation was part of daily musical living. These students are not unlike the new population of bourgeois musicians that arose in the early nineteenth century: having grown up in conditions where improvisation was

8 Ibid. Perhaps I myself would be less hesitant to improvise had my high school jazz band director told me, after my one and only performance as the pianist for the group, that I was destined to become a great church musician.

9 Barrett (2010, 155).

10 In my first teaching position in my home state of Kentucky, students started band in seventh grade, and neighboring systems began in sixth. Nearly all school systems with string programs began instruction in fourth grade.

not part of the fabric of everyday life, this population turned to other means, such as instructional institutions or guides and manuals, to learn how to do something that musicians who served in aristocratic settings passed from generation to generation.¹¹ Consequently, improvisation is a learned skill, rather than a habit learned earlier on.

Pedagogue Bjørn Alterhaug describes the thought process of successful improvisors as “...organiz[ing] their flow of experience ‘on the spot,’ where, in the best possible case, the past, present and future melt together in ecstatic moments.”¹² These successful performances are, furthermore, “based on a high state of readiness, bodily experiences, internalized skills and practice.”¹³ Barrett translates this state of readiness into action: “As opposed to the mechanistic world view, the lens of improvisation views humans as active, striving, creating agents.”¹⁴ Systematically reluctant students do not lack natural talent or skill, but are genuinely unsure *how* to create, to embody Alterhaug’s state of readiness. If we as educators use improvisation as a vehicle of teaching the simplest of concepts, how can those skills already be internalized and practiced? Alterhaug and Barrett both point to active participation of the student in the creation of music through improvisation, and a willingness to rely on prior knowledge and aural experiences as guides. If not lack of talent or skill, what is it that these students lack? In my experience, I find that it is a lack of understanding of the rules of improvising, of what are acceptable ways of interacting musically, alone and with others, in order to create something anew.

The Spontaneous Art Song Workshop

I designed the Spontaneous Art Song (SAS) workshop, a two-hour structured activity in which three of Pauline Oliveros’ *Deep Listening*® pieces serve as preparatory exercises to learning the rules of interaction in improvisation, such as leading and following, etc. These newfound skills are then applied as groups of two to three are guided into free improvisations using haiku texts. I will explain each of the components of the workshop in turn.

The 25 participants are all undergraduate current or former music majors. All of the participants are either currently enrolled in, or have already completed, Music

¹¹ Moore (1992, 71-72).

¹² Alterhaug (2010, 121).

¹³ Ibid., 114.

¹⁴ Barrett (2010, 153).

Theory and Ear Training I, and were invited to participate either through flyers posted throughout the music building and by e-mail via their theory instructors, if they were currently enrolled in written theory.¹⁵ Students begin the workshop by completing an initial questionnaire asking how much they agree or disagree with a number of statements about improvisation. These statements fall into three categories:

- A) **Experiential:** Has the student received any instruction at all in improvisation, whether in the jazz idiom or not, as part of their middle school, high school, or college band, choir, or orchestra programs? They are also asked if they had attempted improvisations in the past and been told “they were doing it wrong.”
- B) **Opinion:** Students are asked how much they agree/disagree with statements about what constitutes music and musical sounds (e.g., “Music must have a beginning, a middle, and an end,” or “Any sound may be musical.”)
- C) **Self-assessment of skill:** Students rate their own ability level and confidence, both as individual performers and as group members.

Statements from categories B and C are presented again in the form of a post-workshop questionnaire, which I will discuss in greater detail later in this paper.

The first of Oliveros’ *Deep Listening*® pieces we perform is “All Or Nothing;” see Example 1.¹⁶

“All or Nothing”

Listen to everything you can possibly hear in the whole field of sound both inwardly and outwardly. Expand your receptivity to the field of sound by defocusing your ears as you would your eyes for a wider visual field. After a few minutes, at a given cue, such as a preset timer bell, without premeditation express some pitch or sound that you are hearing at the exact instant of the cue. Your reaction time should be instantaneous so that you become aware of what you vocalized slightly (milliseconds) after your all or nothing response. Then recover your expansive sound field and continue listening.

-1990

Example 1

Pauline Oliveros, “All or Nothing.”

¹⁵ Since this is a voluntary activity, the number of participants in proportion to the entire population of music majors at my institution is somewhat small, but is still representative of that population. There is a mix of education, performance, and music general studies majors, as well as 3-4 students who are no longer music majors but still actively participate in music activities, such as band, choir, and orchestra.

¹⁶ Oliveros (2013). All reproductions of Oliveros’ scores appear courtesy of the Pauline Oliveros Trust.

In “All or Nothing,” students sit or lie down on the floor in any comfortable location and position, eyes closed. I sound a bell approximately once every 40-45 seconds, and students may create sounds with the body (such as clapping their hands or tapping a foot on the ground), not just the voice. We perform each piece twice, each performance lasting 5-8 minutes. After the first performance, we discuss what the students noticed, what they liked, and what they didn’t. After the second performance, we note what things changed for them, both positive and negative.

This piece teaches several crucial concepts. First, students learn to listen more deeply for and to external and internal sounds. The workshop is held in the band room, a relatively sound-insulated space; students do not have the usual aural stimuli one might expect in a music building, yet students often comment that they noticed far more sounds than they would have anticipated. Second, this deep listening piece involves the student *immediately* and makes him or her acutely aware of a wide sound field and to listen actively: “Deep Listening is active,” says Oliveros. “What is heard is changed by listening and changes the listener. I call this the ‘listening effect.’”¹⁷

Even if the student considers this piece simple or basic, it is musical training nonetheless. Indeed, Oliveros considers it essential: “How we listen creates our life. Listening is the basis of all culture,” she states. “The quality and flexibility of listening skills is the foundation of musicianship. The essence of musicianship is the ability to discern the least change in pitch or tempo and relate that discernment to a field of ongoing sound or musical relationships.”¹⁸ Because students are not following a score, they are mindful of their role as performers; consequently, they begin to trust their ear, which modern musical culture says we should not trust or value.

The second piece is “The New Sound Meditation,” shown in Example 2.¹⁹ As before, we perform the work two times.

In this piece, students take this new sense of listening and apply it to how they interact in a group. I have observed that systematically reluctant students are afraid of causing someone else to make a mistake. Now that students are more confident in responding, they are more willing to risk both following someone else’s lead, as well as be the instigator of a new sound. Keith Sawyer calls this “collaborative emergence,” which he defines as “group processes in which collaborating groups are unconstrained,

¹⁷ Oliveros (2000, 37).

¹⁸ Ibid., 38.

¹⁹ Oliveros (2013).

“The New Sound Meditation”

Listen

During any one breath

Make a sound

Breathe

Listen outwardly for a sound

Breathe

Make exactly the sound that someone else has made

Breathe

Listen inwardly

Breathe

Make a new sound from that no one else has made

Breathe

Continue this cycle until there are no more new sounds.

-1988

Example 2
Pauline Oliveros, “The New Sound Meditation.”

resulting in unexpected creative solutions.”²⁰ Performers learn several vital skills in this exercise. First, they create all artistic parameters, such as texture, dynamics, beginnings and endings of sections and indeed, the entire piece. They learn how to lead in an improvisation, experimenting with creating new musical gestures and hearing their musical gestures being imitated. They learn to listen through what can be a dense musical texture, select a gesture that appeals to them, and repeat it without fear of it being “wrong.” Second, they learn how to shift roles, leading in one instant, following in the next: they do not have to be one or the other. More confident students jump in immediately, making the first sound that other people recreate, and less confident students can join in by repeating a gesture without having to first create one. Just as these students become more confident that they are not, in fact, destroying the musical ebb and flow of the piece, leaders of the group also learn to be patient followers.

²⁰ Sawyer (2010, 140).

The final Oliveros piece is “Angels and Demons;” see Example 3.²¹

“Angels and Demons”

Angels represent the collective guardian spirits of this meditation.

Demons represent the individual spirits of creative genius.

Angels make steady, even, breath-long tones which blend as perfectly as possible with the steady, even, breath-long tones made by other Angels.

Demons listen inwardly until sounds are heard from their own inner spirits. Any sound which has been heard inwardly first may be made.

During the course of this meditation, Angels may become Demons and Demons may become Angels.

Begin by just listening for a few minutes until the spirits move.

-1980

Example 3

Pauline Oliveros, “Angels and Demons.”

This is easily the most conventionally “musical” of the three Oliveros pieces in the workshop: students use only vocally-produced pitches and discover what sort of sounds can blend with other sounds. Standing in a circle with eyes closed, workshop participants learn quickly how to control group dynamics, as well as “speed,” influenced by the number and rate of entry of individual singers, simply by listening carefully to what is going on around them. As before, leaders often make the initial musical gestures, but then step back and allow others to lead while they follow. The result is a true piece of music with all participants sharing equally in its creation.

While each of these Oliveros pieces bring workshop participants closer and closer to their conceptions of “real” music, “The New Sound Meditation” and “Angels and Demons” in particular teach additional concepts. In “All Or Nothing,” I am in control of when the students respond to whatever sound stimulus they hear in any given moment, and the rules given by Oliveros are incredibly clear: listen and recreate the sound you hear, given a particular sound cue. The directions for the other two pieces, however, are much more vague and require students to participate in the piece with

²¹ Oliveros (2013).

more of what Frank Barrett would call a “jazz band mindset”: “It [a jazz band] is a form of social organization that produces order with little or no blueprint, it is organized from the bottom up: individuals have personal freedom to take initiative and operate on their own authority (their own imaginations) guided by the constraints of the task, the conventions of practice, and the enactments of other players.”²² Students are aware of their constraints (create a new sound, recreate someone else’s sound), and the conventions of practice (in this context, sounds produced by the body), and the enactments of other players is what creates the piece in the first place.

Students also learn that improvisation does not have to be musical in the sense that students perceive it must be: neither Oliveros nor I even use the term “musical”. Performances of “Angels and Demons” are particularly haunting because they are not traditionally musical. Tones pile upon other tones, half steps and whole steps apart, and students influence consonance and dissonance by manipulating vocal qualities and volume: a minor second sung with great support and at *piano* can sound infinitely sweeter than a major third performed at *forte* and a rasping quality in the voice, and students notice this effect immediately. Furthermore, the concept of what music “should” sound like is removed, the traditional barriers to improvisation that I have described in the previous section are also removed, since there is no reliance on a printed page. None of the anchors of traditional tonal music are in play, and if they appear, they are coincidental and are released; the internal references to the canonic works as models are removed. For instance, if students somehow create a major triad in a performance of “Angels and Demons,” it would not be considered wrong or incorrect, but it does in fact sound incongruous, and students look around the room and smile, recognizing what occurred. Similarly, if students try to force themselves or others to create traditional structures such as triads during the course of the piece in an attempt to be “correct,” the effect is instantaneous: the tension level rises, and students begin to drop out and be silent as the expectations of what is correct and incorrect surface once again.

The culminating activity is “Spontaneous Art Song.” Created by Patricia Plude, former Executive Director of The Walden School and current Director of Avivo, it is included in its entirety in the Appendix. Workshop participants gather in a circle at the piano. Each person performs at least once as a pianist and once as a singer. The pianist performs a single interval ostinato with one hand. The singer, two places to the pianist’s right, sings a “one-breath tone” that sounds nice with the pianist’s drone. The one-breath tone is simply a single tone from “Angels and Demons.” Plude encourages

22 Barrett (2010, 154).

the singer to “not to think too much, rather just to savor whatever tone emerges and the way it interacts with the pianist’s sound world,” an implicit reminder that what is happening is not being measured or tested against a standard. The pianist’s only musical cue is to be mindful to release the ostinato with the singer. Participants move round-robin around the piano until we have reached the beginning of the line again.

This simple interaction between one pianist and one singer expands slowly and methodically: the singer changes his or her one-breath tone into a one-breath melody, and is encouraged again not to think too much about what is right or wrong, but to create a sound world with the pianist. Instrumentalists may also perform a one-breath tone and one-breath melody with the piano as well.

In the last part of the activity, the pianist and singer create “spontaneous art songs,” using haikus as the text. As Plude points out, they are ideal since they are short and very vivid. Students are given no parameters for performance. They can sing the haiku straight through, they may repeat or focus on certain lines or words of the haiku, or they may simply use it as an inspiration to move in another direction entirely; for example, in a haiku about the wind, the singer may simply choose to sing sweeping vocal lines on a neutral syllable indicative of wind. Instrumentalists are invited to form a trio with the singer and pianist as well, and also have no prescribed rules for how they must perform.

Post-Workshop Questionnaire and Discussion of Findings

Students complete a second questionnaire following the workshop, with only the statements about general opinions and self-assessment remaining. They are presented verbatim from the first questionnaire, and a free response section appears at the end. Students’ perceptions on improvisation and their own abilities change radically over the course of the workshop. The changes in perceptions are summarized in Example 4, and are shown as percentages.

Students’ opinions on both their own abilities and what constitutes a correct musical sound change drastically over the course of the workshop. Statements 1, 2, 3, 4, and 10 concern the student’s comfort level with certain tasks and scenarios. Before the workshop, students conveyed a fair amount of discomfort with situations that involved improvisation. Following the workshop, however, these numbers drop considerably, with students now agreeing that they would be comfortable improvising, both on a text that they can read and translate immediately into a musical work as implied in statement 3, and would feel comfortable using a text merely as an inspiration for

something completely new as implied in statement 4. In both statements, the number of negative responses decreases sharply and increases positively when we compare pre- and post-workshop questionnaires. Statement 10 concerns a student's comfort level in figuring out the underlying chord progression (or, in this case, an intervallic ostinato) and creating a melody to appear over the accompaniment. Free responses reflect a new-found relaxation and comfort with the texts, stating "I trusted the pianist to set the tone and I would follow," and "I just floated through the haikus focusing on what sound would work next." Statements such as these reflect a new-found comfort and trust both in themselves and a partner in improvisation.

Statements 5 and 6 directly address the student's fear of making mistakes or causing others to make mistakes, one of students' primary fears. As individuals and as parts of groups, workshop participants feel much more confident in their own abilities and much less fear about doing something that would be considered a mistake. The percentage of students who disagreed or strongly disagreed with the statement "I am afraid I will play or sing the 'wrong' note" increased 8.7%. While this is a mild increase, it is striking that, before the workshop, 17.4% of students agreed with the statement very strongly, while after the workshop, that number had decreased to 0%. Fear of causing a ripple effect as a group member also decreased sharply, as the number of students disagreeing or strongly disagreeing with the statement that "if I am working with a partner (or am in a small group), I am afraid I will do the 'wrong' thing and cause my partner to make mistakes" increased by 26.1%. 13% of students strongly agreed with this statement before the workshop, while afterwards, like the statements about individual mistakes, the number had decreased to 0%. Student free responses again reflect that increased confidence: "[The Oliveros pieces] made it easier to enter into the music because *no sound could be a wrong sound* (emphasis mine)." One student noted that the Oliveros pieces made each successive entry into a new sound environment "easier because there are no wrong notes." "[The Oliveros pieces made improvisation] easier, you don't think too much what's your next move or if it's approved by somebody else. It's just there, alive." Students became "less afraid, everyone makes mistakes (I witnessed it) and nothing is wrong ... so mistakes aren't even really mistakes."

Statements 7, 8, and 9 refer to students' attentional priorities during improvisation. Responses indicate that the students' field of focus has increased to include other group members, and they are also more comfortable listening to others for inspiration on what to do next. Students note they become less concerned with their own individual contributions to the improvisation and more concerned with the

Change	+13	+8.7	+30.4	+13.1	-17.4	-13	+4.3	+4.4	-13	-4.3	+21.8	-8.7	0	0
Post 5	30.4	21.7	30.4	17.4	0	0	4.3	8.7	0	0	43.5	0	0	0
Pre 5 "strongly agree"	17.4	13	0	4.3	17.4	13	0	4.3	13	4.3	21.7	8.7	0	0
Change	+17.4	+26.1	-4.4	+17.4	-4.3	-17.4	-30.5	+17.4	-13	+26.1	-17.4	+4.3	-13	-8.7
Post 4	43.5	47.8	39.1	39.1	26.1	13	13	52.2	43.5	56.5	30.4	21.7	0	0
Pre 4 "agree"	26.1	21.7	43.5	21.7	30.4	30.4	43.5	34.8	56.5	30.4	47.8	17.4	13	8.7
Change	-13.1	-26.1	0	-4.3	+4.3	-4.4	-8.7	-8.7	+13	0	+8.7	+8.7	+13.1	-8.7
Post 3	13	13	17.4	26.1	21.7	21.7	39.1	21.7	30.4	30.4	13	30.4	17.4	4.3
Pre 3 "neither agree nor disagree"	26.1	39.1	17.4	30.4	17.4	26.1	47.8	30.4	17.4	30.4	4.3	21.7	4.3	13
Change	-21.8	-13	-21.8	-26.1	0	+8.7	+39.1	-17.4	+8.7	-21.7	-8.7	-13.1	-17.4	-4.3
Post 2	4.3	8.7	4.3	0	17.4	34.8	39.1	8.7	17.4	8.7	4.3	21.7	34.8	43.5
Pre 2 "disagree"	26.1	21.7	26.1	26.1	17.4	26.1	0	26.1	8.7	30.4	13	34.8	52.2	47.8
Change	0	0	-8.7	-8.7	+8.7	+17.4	-4.3	0	+4.3	0	0	+4.3	0	+21.8
Post 1	4.3	4.3	4.3	4.3	21.7	21.7	0	0	4.3	4.3	0	21.7	30.4	52.2
Pre 1 "strongly disagree"	4.3	4.3	13	13	13	4.3	4.3	0	0	4.3	0	17.4	30.4	30.4
Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Statements:
 1. I feel comfortable improvising in general.
 2. I feel comfortable improvising on my primary instrument in any given situation.

Example 4

Changes in Student Opinions And Self-Assessment.

3. I feel comfortable with improvising on a new text. (I read a text, and I make up a melody singing or otherwise using that particular text.)
4. I feel comfortable with improvising on an inspiration text. (I read a text, but make up a new but similar text and improvise on that, or I take the spirit of the text and use that as a basis for my own improvisation.)
5. I am afraid I will play or sing the “wrong” note.
6. If I am working with a partner (or am in a small group), I am afraid I will do the “wrong” thing and cause my partner to make mistakes.
7. I am primarily concerned with/focused on my own contribution to the musical texture.
8. When I am improvising, I am just as focused on other players/singers and specifically what they are singing/playing.
9. When I am improvising, I am primarily concerned with/focused on the melody I am creating and making sure it “goes” somewhere.
10. I am comfortable figuring out the “point” of a chord progression or melody and making sure I can create a melody that “gets there.”
11. Any sound may be musical.
12. Music must have a beginning, a middle, and an end, like most pieces of traditional “classical” music.
13. Music must be comprised of pleasant sounds in pleasing combinations only or mostly.
14. If the voice is part of a mixed ensemble of voices and instruments, the voice must have the melody.

Example 4 (cont'd)

Changes in Student Opinions And Self-Assessment.

music the group makes as a whole. This concern for the group directly correlates to the decreased fear of doing the wrong thing alluded to in the previous statements.

The final four statements gauge students' perceptions on what music is supposed to be. Music instruction, as I have indicated, has largely become the teaching and learning of a very specific body of works in such a way that straying from the printed page is discouraged. Not only does this approach foster the idea that there is one and only one correct way to perform a musical work, but it also suggests that music should always sound and be a certain way. For college-aged performers, this ideal is epitomized in the works they study, often Classical-era pieces where the norms of this body of work are the standard for all other genres and types of music. It is not surprising, then, that students would disagree with a statement such as “any sound may be musical.” In this context a wrong note in, say, a Mozart piano sonata, would be considered most un-musical. This perception of how music “should be” is not limited to pitch materials, either: it applies to musical texture as well. Thus, some students agree with the statement that “if the voice is part of a mixed ensemble of voices and instruments, the voice must have the melody.” All of these notions about what music should sound like change over the course of the workshop, with students indicating a broader idea of what constitutes a musical sound. The percentage of students strongly agreeing that “any sound may be musical” more than doubles after the workshop, from 21.7% to 43.5%. One student stated that “[the Oliveros pieces] made it easier

because all types of sounds were fair game and there were no intimidating restrictions. I felt like I could try anything and any sound that popped out would be welcomed.” Students also felt less strongly after the workshop that if the voice was involved in a musical work that it had to have the main melody, with no student agreeing with that sentiment by the end of the workshop. Overall, students came to appreciate the creation of new sound environments: “I became much less afraid of improvising. The activities were simple to follow, did not single anyone out, and created an environment that was creative, relaxed, and enjoyable. I believe we often forget how natural it is for us to improvise and create a sound environment.”

On returning to the regular theory classroom, students reported anecdotally that their perceptions about what was expected of them during improvisation had changed dramatically. Because students learned to view improvisation as an experiment rather than a performance in and of itself, they were more able to focus on the concept being taught through the improvisation activity, rather than the activity itself. Students remarked to me that they felt like they had more time to enjoy the improvisation activities occurring within the classroom and to take in music theory concepts through performance rather than be concerned about what they sounded like as individual performers.

The SAS workshop presents an important step in creating a space in which some of the notions about improvisation may be challenged. Because workshop participants are shown in incremental stages through Oliveros’ pieces how to listen to one another, how to lead or how to follow one another, and how to make music in not the most traditional way, their perceptions of what improvisation is and how they themselves do it begin to change as well. Students’ faith in their own abilities increase dramatically over the course of the workshop for a number of reasons. First, they create music not only with instruments, but with their entire bodies, freeing them from the “rules” of tonality. Second, while we are working from a score, there are never any indications that the performer “must” do things a certain way, again freeing the performer from the limits set on them by a musical score. Third, students are simply free to explore an aspect of their musicality which they may never have been able to access. All of these factors contribute to the student’s sense of musical flexibility, musicianship, and level of preparedness. In the weeks following the workshop, students continue to report that they feel much more relaxed about improvisation exercises they are working on as part of their theory classes, and not only do they enjoy them more, but that they feel less afraid of making mistakes, freeing them to explore the concept they are studying through improvisation more deeply. As a result, students are able to gain

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more from the improvisation exercises than they would if they had not been shown how to engage with the very activity designed to help them learn. The SAS workshop could serve as an opening activity for any ability level, but especially for first-year students, paving the way for more meaningful interaction with musical concepts in the music theory classroom and beyond.

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Appendix: Spontaneous Art Song, by Patricia Plude

Spontaneous Art Song

Begin by standing in a circle and performing several short renditions of Angels & Demons from Pauline Oliveros' *Deep Listening*® Pieces. (It helps to have built this form previously, but if this is not possible, no worries—just start now!)

Gather the group in a circle around the piano, one person sitting on the bench as the designated “first pianist,” everyone else standing. The designated “first singer” is the person two positions to the pianist's right. The circle will rotate counterclockwise so that each person has a chance to be the pianist and each person the singer. (Designating the singer as two positions to the right of the pianist allows the pianist to have one turn off before he or she must become the singer).

Invite the pianist to create a drone by playing one interval, in one hand, repeatedly. Invite the singer to listen to several repetitions of the drone and then to put a “one breath tone” (as in Angels and Demons) into the sound world created by the pianist. Invite the singer not to think too much, rather just to savor whatever tone emerges and the way it interacts with the pianist's sound world. Encourage the pianist to be sensitive to the singer's breath and to create an ending as the singer completes his or her tone.

Rotate and repeat until everyone in the circle has had a chance to be both pianist and singer.

Incrementally build the complexity of the improvisation parameters by playing with the following:

(Repeat or skip steps as appropriate to the group).

- Invite the pianist to create a more complex drone by using two hands, a different interval in each hand.
- If there are instrumentalists in the group, invite them—when it is their turn—to put a “one breath instrumental tone” into the pianist's sound world.
- Invite different tempi, dynamics, and character into the drone.
- Invite the pianists to play with their intervals in some way, adding a metric/rhythmic texture that will create more of an ostinato rather than a drone.

At some point in the steps above, expand the improvisation by inviting the singer or instrumentalist to create a “one breath melody.” Encourage the soloist to begin with a tone as usual, but then to move in and around that tone without thinking too much

about what they are doing.

- Repeat this step as seems appropriate, allowing more and more sophisticated melodies to emerge.

When the group is comfortable with one breath vocal or instrumental melodies and two-interval drones/ostinati, introduce text. Haiku work well because they are short and usually quite vivid in imagery. It will have helped to have “played” with text in advance through other improvisation forms, but this is not necessary.

Create “Spontaneous Art Songs” by inviting a singer and a pianist to work together. The singer will choose the text; the pianist will set the initial sound world. Consider developing the improvisations through the following incremental steps:

- Invite the pianist to consider changing one or both intervals of his or her drone/ostinato during the improvisation, but to be sensitive to giving the singer ample time to settle into one sound world before shifting it.
- When the group is ready, move to trios: a pianist, a singer, and a supporting instrumentalist.
- When the group is ready and willing, expand the performing ensembles further. If there are two singers or two instrumentalists, it can be helpful to designate a lead and a back up. Remind the improvisers that the more people are involved, the less each will have to do. Sensitivity to the overall sonic world, texture, and dynamic interaction will be important.
- Invite instrumental interludes within the form of the song.

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ELIZABETH WEST MARVIN

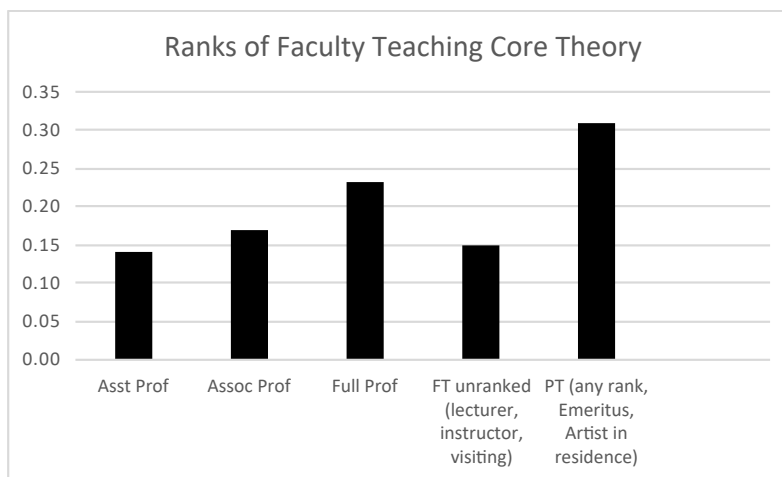
Interest in music theory pedagogy is resurgent in North America. Despite two theory pedagogy texts published in the early 1980s (White, 1981/2002; Rogers, 1984/2004) and a dedicated journal, *Journal of Music Theory Pedagogy* (founded 1987), theory pedagogy research remained somewhat marginalized at the end of the twentieth century. Recent years have brought great improvement, however. This paper reports on survey data collected from professors who coordinate theory pedagogy curricula (degrees, minors, and certificates) or teach a theory pedagogy course. It explores the design and objectives of these courses and curricula, which may serve as models for institutions considering adding pedagogy instruction. A significant new trend reported here is the development of certificate programs in music theory pedagogy that allow graduate students in performance and other non-theory majors to study theory and analysis beyond the requirements of their degree, take theory pedagogy training, and engage in supervised theory teaching. This trend bodes well for the comprehensive education of performing musicians, as well as for the next generation of theory students they prepare.



In November of 2017, the Society for Music Theory celebrated the fortieth anniversary of its founding. From the Society's very inception, the teaching of music theory was part of the conversation; it was one of the reasons given to justify a break from existing societies of musicologists, composers, and other musicians. For example, at the 1972 American Society of University Composers conference, a panel discussion explored the role of composers as teachers of music theory. Richmond Browne, who would become a founding member of SMT five years later, recalls "the division of sentiment in the room: a moiety in favor of composer involvement in theory and its pedagogy, the rest strongly opposed!" (Browne 1979, 3). Patrick McCreless likewise cites theory teaching as a factor in SMT's founding: "The impetus toward the formation of a national society emerged out of a grassroots movement of theory teachers who viewed the theory teaching of the time as generally inadequate (theory courses were often taught by composers or performers for whom theory was a secondary interest)... ." (McCreless 2010). Within a dozen years of the Society's founding, the pedagogy of music theory had become a research discipline in its own right, with a scholarly journal—the *Journal of Music Theory Pedagogy*—and two important books on the topic by Michael Rogers (1984/2004) and John White (1981/2002). Even so, and despite the importance of theory teaching as a factor in the Society's formation, theory pedagogy has remained under-represented in mainstream

music theory research journals. According to Duinker and Gauvin (2017), who have made a comprehensive tally of research areas represented in these journals since 1979, pedagogy articles make up just 3% of *Journal of Music Theory*, 5% of *Music Theory Online*, and 2% of *Music Theory Spectrum* (Duinker and Gauvin, Example 2). It is unclear whether the dearth of pedagogy articles in these flagship journals is due to editorial decision or to paucity of submissions. After all, theory pedagogy has had its own dedicated journal from 1987. If *Journal of Music Theory Pedagogy* attracts the best research, then fewer pedagogical articles will be submitted and published elsewhere than might seem justified in light of the fact that nearly all music theorists are also teachers.¹

In the intervening 40 years since SMT's founding, the discipline of music theory in North America has evolved and grown, as has the number of universities offering music theory majors and degrees (that is, distinct from composition, musicology, or music education). Although more undergraduate core music theory classes are now taught by faculty trained as music theorists, the practice of assigning performers and composers to teach theory classes is still widespread (and may be a financial necessity in many institutions). A search of the College Music Society's online *Directory of Music*

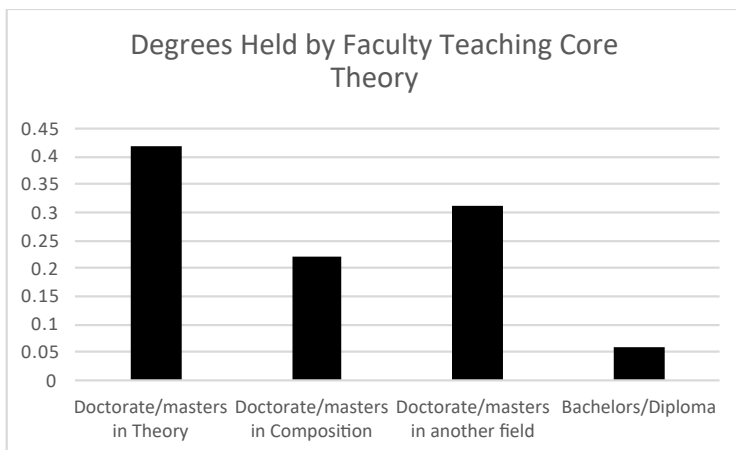


Example 1
Ranks of Faculty Teaching Music Theory Core (CMS Data).

¹ There may be other factors at work in the low proportion of pedagogy articles published in mainstream theory journals, such as a disciplinary bias toward theory over practice. No matter the reason, the result is a lack of visibility in our field for pedagogical research. I am hopeful that the recent shift to online delivery for *JMTP* will increase its visibility and readership.

Faculties, made in January 2018 and filtered by teaching specialization, produced 5,848 names of faculty teaching across North America in the following core areas of music theory: Rudiments, Harmony, and Ear-training/Sight-singing/Solfège. Example 1 shows their faculty ranks: only half (54%) are in tenure-track positions, 15% are in full-time non-tenure positions (visiting professors, instructors, or lecturers), and nearly a third (31%) are part-time and *emeritus* faculty.

Example 2 sorts faculty by degree and primary specialization: theory, composition, or other (such as performance or musicology). Of faculty with graduate degrees who teach core music theory classes, 42% have music theory as their specialization, 22% composition, and 31% other. In addition, 6% of those teaching core theory classes have no graduate degree. In other words, a little over 40% of faculty teaching our undergraduate theory courses are primarily music theorists by training, with almost 60% of faculty coming from outside our discipline. These faculty have much to offer our undergraduates, including their direct involvement with music performance and their understanding of the musical and historical contexts in which the works we study were composed. Students look up to performance faculty as role models who hold professional positions similar to those to which the students aspire. Yet these faculty typically are not trained in music theory pedagogy, and may rely on textbooks, classroom methods, and repertoire by which they themselves were trained decades ago, unaware of the many changes in our discipline since that time.



Example 2
Specializations of Faculty Teaching Music Theory Core Courses (CMS).

Training the Next Generation: Pedagogy Courses and Curricula

Thus we come to the question suggested by the title of this paper: how are we training the next generation of teachers? Knowing that potentially 60% of the faculty who will teach music theory are trained primarily as performers, conductors, composers, and musicologists, how can we help to prepare our current students in these majors for their potential roles as future theory teachers? One answer to this question is to offer theory pedagogy courses for non-theory majors, as well as graduate degree programs and certificates in theory pedagogy that may be pursued concurrently with master's and doctoral study in performance or other area. Data reported here may serve as a resource to faculty who are considering adding such programs. Example 3 denotes six institutions (with a check mark) that offer master's degrees specifically in music theory pedagogy, or whose MM or MA in theory has a specified option of a pedagogy focus for its coursework and thesis.² Ten additional schools (those marked with a star) offer a certificate in theory pedagogy or have a certificate program currently under development. The master's degrees surveyed require 30–35 credit hours of study, including one or two semesters of theory pedagogy, other theory courses selected from a list of options (usually counterpoint, keyboard skills, and upper-level analysis courses), and a few courses from outside of music theory, possibly in education. As culminating activities, the master's degree usually offers a supervised apprenticeship or internship teaching a course in the undergraduate curriculum, a graded teaching demonstration for faculty observers, a written research project, and sometimes a skills exam (e.g., sight singing, keyboard skills, four-part writing, and/or figured bass).

Certificate programs typically enroll students who are concurrently matriculated in another graduate degree, and who wish to receive pedagogy training to enhance their portfolio of skills for the job market. These programs range from 12–18 credits and include many of the same elements as the full master's degree, but with fewer required theory courses and (usually) without a final research project. Certificate students less often teach a theory class on their own, but are instead assigned a faculty mentor whom they observe and for whom they teach occasional short topics in class. They may also assist with homework grading and/or tutoring students outside of class. As the culminating event of the certificate, the student teaches one

² Example 3 summarizes results of a query to SMT-announce and an internet search for course listings. The list may be incomplete due to limitations of the search engine. Faculty in the institutions identified were asked to complete a survey about their course and curriculum.

Appalachian State University Arizona State University★ Bowling Green State University California State University, Northridge East Carolina University Eastman School of Music✓ + (★) Florida State University + ★ Indiana University Juilliard School Kent State University Mannes School of Music + Manhattan School of Music + McGill University+ Michigan State University✓ + (★) North Dakota State University✓ Northern Arizona University Ohio State University★ Peabody Institute✓ Pennsylvania State University Rowan University Southern Methodist University✓ + University of Colorado, Boulder	University of Florida University of Houston University of Iowa* University of Kansas University of Kentucky, Lexington★ University of Louisville, Lafayette University of Maryland University of Massachusetts, Amherst (★) University of Michigan★ University of Minnesota University of North Carolina, Greensboro★ University of North Texas University of Northern Colorado University of Oklahoma University of Oregon University of South Carolina University of Southern Mississippi University of Tennessee, Knoxville✓ + ★ Western University Youngstown State University
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✓Masters in theory pedagogy (or theory with pedagogy thesis)

★ Certificate program in theory pedagogy

(★) Certificate program under development

+ Two (or more) semesters of theory pedagogy offered

* Minor in theory pedagogy

Example 3

Universities that Offer Music Theory Pedagogy Courses in North America ($n = 42$).

or more complete class sessions, observed and graded by faculty, either for enrolled undergraduates or in a “mock” teaching session before faculty and peers. Associated with that final teaching project, the certificate student may be required to develop materials such as a syllabus or curriculum plan, lesson plan, class handouts, and homework assignments. Because students enrolled in these programs are not music theorists, some survey respondents expressed concern about pedagogy students’ basic part-writing and voice-leading skills. Several universities have instituted part-writing examinations, either within the pedagogy course or as a culminating exam for the certificate, and others require supervised grading sessions where certificate students learn to spot part-writing errors and how to follow a grading rubric.

Apart from degree and certificate programs, theory pedagogy courses have sprung up at many universities and music schools as required courses for theory majors and

elective courses for students in other majors.³ Although typically aimed at graduate students, some pedagogy courses enroll undergraduates as well. Example 3 lists forty-two schools that offer at least one semester of theory pedagogy; those marked with a plus sign offer a two-semester sequence or more.⁴ Of the schools listed and sent a theory pedagogy survey, all but three responded with completed surveys (a 93% response rate). I suspect that the high response rate is associated with the high value and sense of ownership that instructors feel for this particular course. Many respondents volunteered comments that captured this sentiment. One said, “I feel that to do this course ‘right’... requires an enormous investment of time and energy. It is a labor of love, though.” Another remarked, “[I]t remains one of the most popular graduate/upper-division courses [here]... . For my part, I believe it to be the most challenging and rewarding class I offer, and I think the students who have taken it feel likewise.” A third respondent offered, “It may be the most enjoyable class I teach! It never fails to stimulate, and I learn so much from the discussions.”

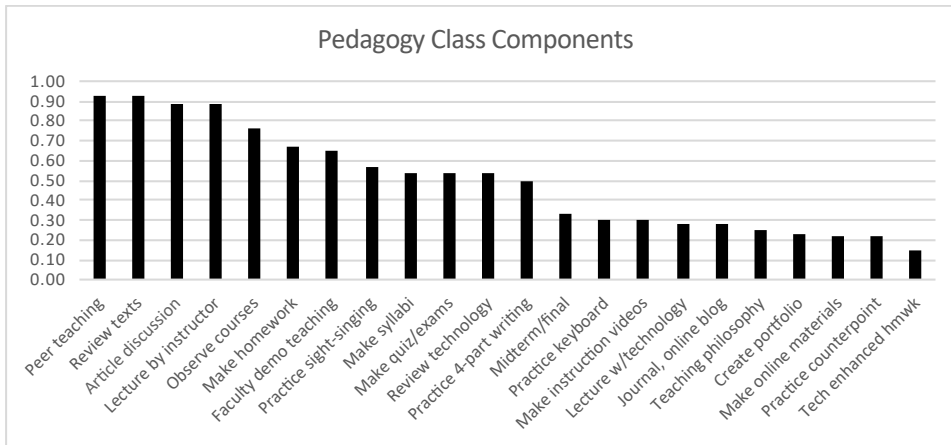
Course Content and Organization

What does a music theory pedagogy class typically entail? The survey asked instructors to identify from a list of choices which components their course included, to specify texts and readings, and to describe their course organization and modes of assessment. Instructors were also given the opportunity to volunteer any additional information they wished, and to describe how the course fit into a pedagogy major, minor, or certificate, if any. Example 4 shows faculty responses to the list of course components.

The top five, identified by over 75% of faculty, were: (1) demonstration teaching by students (either for peers in the pedagogy course or in actual undergraduate theory classes), (2) review of textbooks, (3) discussion of articles in pedagogical journals, (4) lectures on pedagogical topics by the faculty, and (5) required observations of classes in the undergraduate theory curriculum. We will return to the top three in a moment, with more detail. The next group of activities, cited by 50–70% of faculty surveyed, focused primarily on practical skills: creating syllabi, quizzes, exams, and

3 Before researching this paper, I believed Pedagogy of Theory classes to be a fairly recent phenomenon, perhaps dating to the 1960s. However, an inquiry to the Registrar at the Eastman School of Music resulted in a course listing from the 1931–32 course catalog. I do not know when other universities began offering the course.

4 The outlier is the Mannes School of Music, which offers four semesters of theory pedagogy: one semester is devoted to harmony, one to analysis, and two to ear-training and dictation.



Example 4

Course Components in Music Theory Pedagogy.

homework assignments, and practicing sight-singing and four-part writing. It also included reviewing online materials and computer-assisted instruction, as well as demonstration teaching by the faculty member. About 20–30% of faculty engage technology in a purposeful way, requiring students to incorporate presentation software and other technology into their lectures, to create instructional videos, online materials, and technology-enhanced homework assignments, or to keep a journal or online blog. Some reported using technology to facilitate conversations or guest lectures with theory pedagogues and textbook authors from remote locations. One course component not found among the choices on the survey, but volunteered by 25% of faculty teaching the course, was the creation of a written teaching philosophy for inclusion with job applications. Some respondents included other professional development activities as well, such as developing a CV and cover letter, preparing for a job interview, and creating a teaching demonstration video. Finally, 23% of respondents require that students create a teaching portfolio or notebook to consult, once graduated and teaching professionally. This resource might include anything from teaching philosophy to textbook reviews, from course handouts to syllabi, homework samples, and grading rubrics, as well as links to teaching videos.

Faculty comments indicate that demonstration teaching by students is the heart and soul of most pedagogy courses. This may be explained in part by the deep satisfaction that comes from observing the marked improvements in virtually every student from the first teaching demonstration to the last. It may also be attributable to

what researcher and educator Ken Bain calls a “natural critical learning environment” in the pedagogy classroom—natural, because the skills to be learned are embedded in authentic tasks that students find inherently interesting; and critical, because it teaches students to think critically, pose important questions, and reason from the evidence presented (Bain 2004, 99). The teaching demonstration is an authentic task that mimics in small-scale the career for which students are preparing, and the discussion by peers that follows each teaching demonstration provides a natural platform for critical thinking and for direct application of lessons learned to one’s own future teaching. Faculty attest that teaching the pedagogy class never fails to provide new insights into their own teaching as well.

Demonstration teaching benefits both the student who is teaching the lesson and the peers who serve as the make-believe undergraduates they teach.⁵ In most classes, peer teaching is followed by a class discussion in which students provide constructive criticism of their peers, citing areas of strength and those needing improvement. Sometimes this critique is framed around a rating scale and rubrics for evaluation that were created collaboratively by the class itself, and in others with a scale provided by the instructor. Among the criteria shared for evaluating student teaching were: organization and pacing of the lesson, accuracy of content, fluency of musicianship (singing in tune, playing the piano with musicality), teaching style, interactivity with students, incorporation of appropriate musical examples and sounding music (including singing), and effective use of the classroom space (chalkboard, piano, technology, proximity to students). In some curricula, students submit teaching videos for critique by peers and instructor in advance of in-class teaching demonstrations. The experience of evaluating one’s peers (with tact and a mindset of helpfulness, of course) allows students to think critically about what they have seen, and to assess its strengths and weaknesses in relation to their own teaching experiences. Group discussion is followed by faculty feedback, either during class, in written form, or in a one-on-one appointment with each student. In most

⁵ One challenge of peer teaching is to get the pedagogy students to mimic an undergraduate classroom experience accurately. Students need to pretend that the topic is new to them and to ask realistic questions for clarification. Meanwhile, the student teacher needs to learn how to interact with an uncooperative or over-eager student. One technique to achieve this simulation—originating with Steve Laitz (The Juilliard School, personal communication)—is to distribute “personality cards” to the class before each peer teaching session. The cards I have developed describe some behavior for the pretend students to enact during the lesson (e.g., “Student is texting during class.” “Student stayed out late partying and can’t stay awake.” “Student loves theory and raises a hand or volunteers an answer for every question.”).

classes, the teaching demonstrations are video-recorded, and the student is given an opportunity to view his or her own video after the fact, and to provide a written self-assessment as well. The teaching demonstration usually requires a written lesson plan, class handouts, and development of a homework assignment. In many schools, classmates are required to work through the homework assignment and the group grades them, for practice in accurate and consistent scoring.

Demonstration teaching in the pedagogy class is not the same as experiencing real undergraduates in the classroom, of course, and some programs provide opportunities for the pedagogy students to observe faculty teaching the existing first- or second-year theory classes offered in a given semester, and to teach short topics (ca. 15-20 minutes) in these classes. A few programs give pedagogy students a full class to teach for enrolled undergraduates as a culminating project. Having a class of “real” undergraduates in front of pedagogy students gives them authentic experience with managing their time, handling student personalities, answering unexpected questions, singing and playing in front of a group, and assessing student learning in real time. This prepares students for their eventual teaching career, and also for the job interview that precedes it, where they will teach an unfamiliar group of students in a high-stakes demonstration of their skills.

The second most-cited component of a theory pedagogy course is the textbook review. Faculty described many different ways in which this component might be realized. In some classes, the instructor or library holds a collection of texts on reserve for examination. Students choose among them to write a short research paper that compares and contrasts the authors’ approaches (overall or to a particular assigned topic). At some institutions, students keep a journal, portfolio, or notebook with evaluations of texts for future reference or for an open-note examination. Some teachers bring texts to class for “show-and-tell,” to walk students through the conceptual and pedagogical differences between them, noting for example how the Table of Contents might imply a linear approach to harmony and voice-leading versus a vertical approach to chord labeling and principles of chord succession. Such demonstrations can incorporate classic texts—some no longer in print—to discuss their pedagogical roots. For example, texts by Hindemith, Salzer and Schachter, and Schoenberg illustrate the impact that the diaspora of German and Austrian music theorists to the U.S. had in the 1940s and 50s (Hindemith 1946, Salzer and Schachter 1969, Schoenberg 1954). The pedagogical approach and repertoire covered in texts by Cooper, and by Cogan and Escot, may be used as examples of the Comprehensive Musicianship movement of the 1960s and 70s in the U.S. (Cooper 1973, Cogan and

Escot 1976; see also Marvin 2018 for discussion). Other teachers leave students on their own to complete textbook reviews, testing their ability to glean the authors' pedagogical intent and assessing their understanding on an exam or graded portfolio. Finally, some instructors focus on a preferred text or approach and compare other texts to this standard. For example, at one large university students shape their first peer teaching assignment around the appropriate chapter in the Kostka, Payne, and Almén (2018) text. After receiving peer and faculty feedback on their teaching, students read about the same topic in five other textbooks and revise their lesson based on new perspectives gained. They then have the opportunity to teach the revised lesson to students enrolled in the undergraduate core. In contrast, another school requires only two texts, both heavily influenced by Schenkerian theories: Aldwell, Schachter, and Cadwallader (2011) and Salzer and Schachter (1969). After working with these texts, students compare the core texts' pedagogical approach with other texts that espouse a different approach to harmony instruction, like Piston and DeVoto (1987) or Kostka, Payne, and Almén (2018). This latter approach—incorporating “legacy” texts like Salzer and Schachter and Piston (first edition, 1941)—is unusual, though not without value; more often, students survey more recent texts to get a sense of the most up-to-date pedagogical trends.

The third-cited activity for pedagogy instructors was discussion of relevant articles and book excerpts. Three books dominate the field as required or recommended texts for the course (see Appendix): Rogers (1984/2004), recommended by 77% of survey respondents, Karpinski (2000) recommended by 30%, and Bain (2004) recommended by 26%. The Appendix also lists other books and articles recommended by two or more respondents. The two journals from which most recommended articles come are now both freely available online to students and faculty: *Journal of Music Theory Pedagogy*, founded in 1987 and available online since 2013; and *Engaging Students: Essays in Music Pedagogy*, founded in 2013, with six online volumes published. Notable too was the fact that four respondents cited *The Norton Guide to Teaching Music Theory* (2018), a collection which at the time of the survey had not yet been published, but had been seen in page proofs at several conferences. The teaching resources cited run the gamut from the very practical, but now thirty-year-old, Rogers text to the most current books and journals. Rogers' opening section on “philosophical orientations” is very much in need of an update, as is his bibliography, but the practical sections on teaching techniques, mind training, and ear training still provide the invaluable advice of a seasoned theory teacher. A number of the more recent publications cited address active-learning strategies for music theory classrooms and opportunities to diversify the curriculum.

In some pedagogy classrooms, students read and discuss the controversial “manifesto” published a few years ago by the College Music Society (Campbell, Myers, and Sarath 2014). This document, called “Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors,” was written by a CMS Task Force whose members included three ethnomusicologists, a music educator, a community-music specialist, a music theorist, a university orchestra conductor, and a jazz studies and improvisation professor. Not surprisingly, given the background and composition of the task force (and particularly its three ethnomusicologists), the document calls for more diverse repertoire for study and performance in the undergraduate curriculum and a new emphasis on improvisation, movement, and creative activities, especially in the theory and aural skills classrooms. A discussion of their recommendations is certainly relevant to the theory pedagogy class, as is the cogent rebuttal published in the *College Music Symposium* by a group of music theory pedagogues two years later (Chattah, Hoag, Sayrs, Laitz, and Snodgrass, 2016). The authors of the manifesto also claim that “recent research about perception, cognition, and motivation to learn is at odds with much traditional music instruction” (Campbell, Myers, and Sarath, 2014, iv). I would argue that the authors of the manifesto were simply unaware of recent scholarship on the teaching and learning of music theory, which very expressly addresses cognition, motivation to learn, improvisation in the classroom, and diversity of repertoire (in particular, popular music, jazz, and world music). For example, a tally of recent articles published in the *Norton Guide to Music Theory*, plus five years of *Engaging Music* (2013–17) and *Journal of Music Theory Pedagogy* (2010–15) results in 47 articles that address student motivation, cognition, and theories of effective teaching and learning; 15 on improvisation, creativity, and movement; and 21 on diversifying repertoire in the core curriculum.

Since the authors of the manifesto—respected educators with many years of teaching experience—may not be aware of these resources, it is even more likely that students in our theory pedagogy classes are unaware of them. It is therefore up to those teaching theory pedagogy to assign readings from this recent literature and to work through these ideas with pedagogy students, or else we may find that we are awarding certificates to students whose pedagogical mindsets are somewhat old-fashioned and don’t take advantage of what current scholarship in teaching and learning has to offer. The publications listed in the Appendix are a good place to start. Textbooks that embrace diverse repertoires are also important to review (e.g., Holm-Hudson 2016, Snodgrass 2015), and students should be encouraged to experiment with

teaching pieces drawn from popular music and jazz, film and TV music, video-game music, or show tunes. The *Norton Guide to Teaching Music Theory* has an entire group of essays on “Expanding the Canon” that includes pedagogical advice for teaching pop-rock, jazz, and world musics, as well as considerations of race, ethnicity, and gender in creating an inclusive repertoire for music theory instruction. Introducing students to current research in theory pedagogy can help them see new ways to teach that don’t simply echo the ways they were taught, and can unleash their creativity in the classroom.

The two remaining course components that pedagogy instructors cited most are the lecture by instructor and observation of courses in the undergraduate core. It should go without saying that observing undergraduate theory classes taught by different professors (or teaching assistants) creates another of Bain’s “natural critical learning environments.” Here, students observe teaching role models as they engage in the work to which students aspire, and they are invited to think deeply about which aspects of the observed teaching were successful (or not) and to reflect upon this, in a journal entry, short paper, or class discussion. Even a less-than-successful class observed can lead students to reflect upon what went wrong, and how the instructor might have framed the class differently to improve the outcome. Observation of the regularly scheduled theory or aural skills classes also affords the pedagogy student an opportunity to see how the instructor paces the class, effects transitions between activities, and interacts with students—for example, correcting a student with a wrong answer, setting the key and tempo for a singing or dictation exercise, bringing an inattentive or disruptive student back on task, and handling the unexpected.

Within the pedagogy classroom, the lecture by instructor might be more interactive than the word “lecture” connotes, since the teacher aims to model best practices. That means minimizing what Alison King (1993) calls the “sage on the stage”—the all-knowing professor who speaks for the full class period with little student interactivity—in favor of the “guide on the side”—a faculty facilitator, who assists students in constructing their own learning through active participation (King 1993, Marvin 2018). This latter approach, known as constructivist, inquiry-based, or problem-based learning, encourages students to be active participants in their own learning, interacting with the material under study rather than passively receiving it. Thus, for example, the pedagogy teacher who “lectures” on methods of solmization in aural skills training would have students sing melodies with both fixed- and moveable-do, compare la-based and do-based minor, or perform rhythms with traditional modes of counting and the takadimi system; students would experience and discuss

the merits and challenges of each (Hoffman, Peltó, and White, 1996). Topics listed by survey respondents that might lend themselves to this type of interactive and participatory lecture include curriculum design, philosophical orientations, history of theory pedagogy, creating a lesson plan, modes of assessment, review of counterpoint or four-part writing guidelines, instructional technologies, piece-centered teaching, diversity in the classroom, learning disabilities and student accommodations, preparation for the job search, and ideas drawn from education research outside of music theory (such as the flipped classroom, backwards design, just-in-time teaching, and community engagement).

How is the typical music theory pedagogy class organized with respect to topics and ordering? While courses tend to share the basic components shown in Example 4, the syllabi for these classes can look quite different. For schools with more than one semester of study, some devote semester one to diatonic topics (written and aural), with chromaticism, form, and post-tonal topics reserved for semester two. Other schools separate “written” skills into one semester and aural skills into the other. Yet others cover basic topics in the core curriculum (fundamentals, aural skills, diatonic/chromatic harmony) in semester one, saving the scholarship of teaching and learning and recent pedagogical trends for semester two. Within the stand-alone one-semester pedagogy course, some are divided into three or four multi-week units (e.g., teaching philosophies and curriculum design, fundamentals, aural skills, harmony) while others divide the semester in half, covering pedagogical topics and theories of learning in the first half of the course and devoting the second half to peer teaching experiences. Another design devotes the first half of the semester to aural skills and the second half to written theory topics. Organizational schemes can be as diverse as those who teach the courses. One respondent has nine units: pedagogy of theory, aural skills, keyboard harmony, rhythm, form, and counterpoint, followed by curriculum design, a history of pedagogy, and teaching theory outside the U.S. Another begins with a quick overview of tonal theory and textbooks, followed by demonstration teaching by the faculty member (harmony and aural skills topics) and then by students. This opening gambit is followed by a series of pedagogical topics: diversity in theory, teaching in hybrid or flipped classrooms, topic-centered vs. piece-centered approaches to teaching, post-tonal theory and aural skills, popular music in the undergraduate classroom, writing a teaching philosophy, performance and analysis, and a final demonstration teaching by the students.

Implications for the Future

It is easy to imagine that theory pedagogy courses might be offered only at highly specialized institutions with large theory faculties, but this is not the case. I was surprised and gratified to discover theory pedagogy courses at forty-two institutions with music programs of varying sizes (and there are some that I undoubtedly missed), as well as ten certificate programs, either in place or under development. This bodes well for the discipline in a number of ways. For music theory students enrolled in Ph.D. programs, it provides mentoring for their experience as teaching assistants and realistic preparation for a career path that will inevitably combine scholarship with teaching. These students will arrive at a first job, not only with a freshly minted Ph.D. and a start on a publishing career, but also with knowledge of typical curricula, the pros and cons of current textbooks, techniques for engaging students, and real experience in the classroom. For those majoring in performance, conducting, and composition, such courses offer an opportunity for students to brush up on their own theory and aural skills, and to understand the pedagogical contexts into which their previous theory training fits—so as to replicate a successful curriculum or to know where and how to suggest changes to improve a curriculum. These graduates will arrive with knowledge of multiple approaches (rather than defaulting to those that they had as an undergraduate) and of diverse repertoire, current books and journals, and online resources that can inform and inspire their theory teaching. Of course they will arrive with some theory teaching under their belts—even if only demonstration teaching for their peers—so that when they teach their first class in the new job, it is not actually their first theory class ever. This training gives performers or composers a distinct advantage in the job market, since they can demonstrate the kind of versatility that is needed in faculty hires today, especially at smaller colleges. It will prepare them well for the job interview's sample teaching, whether the subject is music theory, music appreciation, orchestration, or something else.

Finally, the presence of theory pedagogy courses at our institutions raises the level of teaching and learning across academic generations.⁶ The graduate-student

⁶ Faculty who wish further professional development in music theory pedagogy and reinvigoration of their theory teaching now have a number of summer opportunities. In alternate years, the Gail Boyd de Stwolinski Center (Steve Laitz, director), the publisher of *Journal of Music Theory Pedagogy*, will sponsor a "Pedagogy into Practice" conference. The first juried conference of papers and workshops took place in Cleveland, TN in June, 2017. See reviews in *Journal of Music Theory Pedagogy* 31 by J. Daniel Jenkins and Angela Ripley (2018) and in *Music Theory Online* 23, no. 2 (2017) by Greg McCandless. Every third year, Gary S. Karpinski organizes and sponsors the Workshops in Music

performer taking your pedagogy class today may one day become the faculty member who prepared the new undergraduate sitting before you. The music-education student in your pedagogy class today may develop the high-school AP Theory class that prepares a future first-year student who aces your placement test and arrives enthused about music theory. As theorists, performers, and other musicians in graduate school work intentionally to create highly musical, interesting, diverse, and relevant music theory classes, the result is better-prepared and motivated students entering our classrooms in the foreseeable future—and that benefits us all.⁷

Theory Pedagogy at the University of Massachusetts, Amherst. Here he gathers 5–6 noted pedagogues for a week of talks and activities around the topic of pedagogy. Finally, the group that publishes the online journal, *Engaging Students*, has held a series of summer FlipCamp “unconferences,” that invite attendees to flip the conference protocol and participate actively in creating their own paper sessions, rather than relying on a program committee. These unconferences have been held in 2013, 2015, 2016, and 2018 at various locations around the country.

⁷ An earlier version of this paper was presented at “Sharing Ideas in Music Theory: A Continuing Colloquy,” held at the China Conservatory of Music (Beijing, China), March 17–21, 2018 and will appear in the *Proceedings* from that event.

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Appendix

Books and Articles for Theory Pedagogy Courses Most Recommended by Survey

Books:

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The Hidden Curriculum in the Music Theory Classroom

CORA S. PALFY AND ERIC GILSON

Conferences and journals within the field of music theory have shown a shift in the representation of popular music, non-Western repertory, and nontraditional analytical approaches within paper presentations, poster sessions, and articles. Despite an advancement beyond the traditional canon within the larger discipline, many music theory classrooms still reflect a Western Art Music-heavy canon and, inherently, a system of valuation that can marginalize students within an increasingly socially and culturally diverse university system. A survey-based study investigating the influence of this valuation system was run with the cooperation of twenty-one North American colleges and universities. Using both qualitative and quantitative questions, the research showed that many students find that the more “influential” composers within music theory significantly fall within the Western Art Music tradition. Despite student interest in diverse repertory and the efforts of faculty to include it, it appears that students continue to perceive that the W.A.M. canon is still the integral, defining genre for music theory as a field. This study reveals a “hidden curriculum,” or an implicitly taught concept or group of concepts that is conveyed indirectly through course material, examples, or pedagogical focus.



Musical art, as we hear it in our day, suffers if anything from an overdose of masterworks; an obsessive fixation on glories of the past. This narrows the range of our musical experience and tends to suffocate interest in the present.¹

The above quote from Aaron Copland expresses a sense of frustration about the state of both music performance and composition and the limited lens through which we often value music. Though Copland is not speaking to it directly, at a broader level, he is also commenting on how pedagogues instruct both students and audiences in what and, perhaps more importantly, who is important. While in the 1960s, modernity and a focus on concepts and rigorous, category-based methodologies for teaching and learning predominated, what Copland is responding to is a larger set of problems and questions that are still relevant within both music performance and academe: who is allowed to have a voice? Who is allowed to set traditions? Who is viewed as valuable, and who is expendable in the eyes of canonical “tradition” and conceptual integrity?

These questions, which have long been debated by those in music academia,² are

¹ Copland (1963, 42).

² See, for instance, Joseph Kerman and Kofi Agawu’s heated exchange over what should be studied and

pertinent to consider in the context of the contemporary music theory classroom. Contemporary students are often recruited by institutions of higher learning explicitly because of those students' diverse, multicultural backgrounds as well as a variety of skill levels, backgrounds in, and understanding of music fundamentals.³ In the context of our classrooms, pedagogues face a challenging task: we must somehow appeal to all students while still imparting a curriculum that prepares them for work in a continuously-evolving field. It is, therefore, imperative to consider how we, as pedagogues and mentors, appeal to each student and help all students understand that their perspectives, experiences, and backgrounds are valued within the discipline of music theory.

Because centering students and their backgrounds within the classroom is such an integral task for instructors, In collaboration with a statistician (Eric Gilson), I designed a survey to help instructors reflect critically on what values are communicated by music theory instruction and curriculum.⁴ Though we could have examined many variables, our team examined the use of repertoire and how that repertoire communicates who is important within the field of theory and composition. My collaborator and I designed a survey that asked students to explicitly list composers they remembered having studied ("Identify three [or more] composers that are representative of the music you study in your music theory classroom."). There was no bound or delimiter put on this variable, and we found that student responses were wide-ranging in terms of markers

how beginning in the 1980s and 90s (Kerman 1980; Agawu 1997, 2004). See also Citron (1990); Goehr (2007); Bergeron and Bohlman (1992); and Casement (1996).

3 One might look to any number of institutional "diversity statements," very commonly cited on the Mission Statement pages of University websites. This is one example from an institution that participated in the study described below: "The University of North Georgia prepares students to lead in a diverse and global society. Essential to this mission is an environment that is welcoming, respectful, and inclusive of individuals and groups from a range of social, economic, and cultural backgrounds - an environment that embraces varied perspectives, values, and unique experiences" (Diversity at UNG 2017). The implicit message is that not only does UNG help students to function in a global setting, but they do so by creating a global setting on campus. This sentiment is mirrored in many other statements of the same ilk.

4 My collaboration with Gilson included the study design, how the questions were engineered, and the variables we were investigating. Because I had a strong bias that our hypothesis was correct (not only because of my background teaching and learning music theory, but also due to the preliminary results of a pilot study), Gilson analyzed and compiled the data presented in the "Results" section of this paper independently. Gilson's collaboration was crucial in making sure that questions were presented as neutrally as possible and that data was analyzed and compiled without bias. The study was approved by and run under Elon University's Institutional Review Board, and was circulated online through the Society for Music Theory listserv in the summer of 2017.

of diversity: not only were composers from almost every imaginable musical genre listed, but students also listed people of widely varying identity backgrounds (gender, nationality, religion, sexuality, ethnicity, etc.). When the same question was reworded with the delimiter of perceived importance (“Which composers do you identify as most influential in the music theory classroom?”), our team found, in both the pilot study and replicated in the broader data presented in this article, that the answers significantly shifted. When focusing on who was “most important” within the music theory classroom, the wide-ranging diversity reflected in the responses to the original question was not present; instead, students responded with composers whose names will sound familiar to any seasoned musician: to a significant degree, the students identified the men of the Western Art Music canon.

This significant change in responses between the two questions compared shows that, though students are exposed to music within the classroom that is decidedly diverse in nature, their perceptions of importance do not reflect that diversity. This is indicative of, what in educational psychology, is known as a “hidden curriculum”: a concept or idea that, though not explicitly taught to students, is communicated by the classroom or curricular design. The presence of a hidden curriculum in a classroom, though not always problematic, can impart and reinforce a message about who is and can be important; thus, it is important to note its presence and understand its effects.

In the next section, we explore more deeply the concept and effects of the hidden curriculum. Finally, our survey data is provided and explained, showing the significant effects of the hidden curriculum within the music theory classroom.

What is a “Hidden Curriculum”?

A hidden curriculum is a concept or idea that is implicitly taught through the way courses are structured, content is communicated, conceptual examples are chosen, or by the personal biases of the professor. The term “hidden curriculum” became en vogue after functionalist educator Philip Jackson used it in the late 1960s to understand disciplinary structures and their impacts on children.⁵ The term’s use has grown and expanded as it has been recognized within both elementary, secondary, and higher education settings. Researchers have highlighted a variety of ways in which hidden curricula might manifest, such as classroom arrangement, location of schools, textbook choice and emphasis, teaching styles, erasure of peoples from historical texts

⁵ Jackson (1990 [1968]).

and narratives, and so on.⁶ While a hidden curriculum can manifest in manifold ways, the most important effect of a hidden curriculum is the way in which it implicitly communicates a system of values. Psychologists Marina Gair and Guy Mullins note that hidden curricula are “the values and norms that get embedded into the way that we structure our courses, the way that we structure our curriculum, the way that we structure the organization. And I think many of these elements may be established as intended, as well as unintended.”⁷ That is, a hidden curriculum is an element of the classroom that communicates meaning but is not openly acknowledged as part of the formal curriculum.

As Gair and Mullins imply, a hidden curriculum need not be intended in order to be successfully communicated; indeed, Jackson’s early work examined the way that classroom rules, such as waiting your turn, raising your hand, not interrupting, and the like implicitly teach “conformity to institutional expectations.”⁸ However, hidden curricula may also be overt: for example, pedagogues are often asked to identify broader, more far-reaching goals for class activities and inform students of this broader goal (e.g. argumentative writing, critical thinking). While these larger goals are not the course-specific outcomes for which we might aim in an analytical paper about a Brahms *Lied*, effective persuasive argumentation is an implicitly-taught skill that students will acquire as a result of having participated in the paper-writing process. These underlying objectives are often a topic of discussion in the classroom as students work towards improving their writing and research practices.

Though the idea of a “hidden message” may sound insidious to some, this message may communicate many types of values that do not necessarily have negative valence. Communicated values depend on students’ perceptions and how they are personally affected by the presence of a hidden curriculum. Jane Martin, a seminal educational researcher who has focused on the hidden curriculum in classrooms, explicitly speaks to this in her 1976 article addressing the topic. She states,

Actually, a hidden curriculum is not only of some setting but is at some time; therefore, we cannot even assume that a single setting will have identical hidden curricula at different times. Settings change, and as they do some learning states may become extinct as new ones emerge. ... A hidden curriculum, like a curriculum proper, is of

⁶ Margolis et al. (2001).

⁷ Gair and Mullins (2001, 26).

⁸ Jackson (1990 [1968], 4–6). Jackson’s work has an almost Foucaultian flare to it in the way it inspects subordination and discipline.

some setting, at some time, and for some learner.⁹

It is important, in Martin's estimation, to examine the curriculum within its context with an eye towards both its positive and negative effects.

Consider, for example, the physical structure of the classroom: in a classroom that is arranged in rows facing the blackboard and professor, the desk placement/position communicates a structure within the classroom that emphasizes the authority of that professor. It is difficult, for instance, for students in this configuration to converse with each other; the front row has to uncomfortably twist their bodies to hear or speak to those in the back of the room if a discussion format is being engaged. This example, which is highlighted in Brookfield and Preskill's discussion of democracy in the classroom, may have both negative or positive impacts on the classroom—in certain contexts, it may encourage a level of respect or reverence for the teacher, who may feel that it is important that attention be focused on them (such as a chemistry professor demonstrating a dangerous lab); in a different, discussion-based context, though, it may discourage dialogue across students.¹⁰ Thus, depending on the context of the classroom, this classroom arrangement might or might not be a problem, and may also never be identified as an integral factor because of its subtle communication of a system of values about authority and democracy.

Making the hidden curriculum visible, therefore, is vital to understanding its impacts. The invisibility of the hidden curriculum has many implications for its impact—because hidden curricula are an invisible element in the classroom, they can often go unnoticed and unaddressed. In the broadest sense, this is what creates such difficulty with a hidden curriculum: unless it is noticed, problems or successes directly associated with it go unresolved or addressed.

Though often unnoticed by both teachers and students, hidden curricula have large effects on students' perceptions of the class, material, and themselves.¹¹ This is especially problematic with hidden curricula that have negative consequences for students, as they can convey subtle messages to students that are biased, untrue, or, at worst, offensive and derogatory. For example, historian and educator Christopher Leahey examines the deleterious effects of American History textbooks that have "whitewashed" historical facts, excluding influential people of color, motivations for

⁹ Martin (1976, 138).

¹⁰ Brookfield and Preskill (2012, Ch. 1).

¹¹ See Margolis (2001), an edited collection highlighting the many ways in which hidden curricula affect student perceptions.

wars, etc. He finds that students who are exposed to “whitewashed” textbooks are unable to approach current and historical events with a critical lens that is unbiased and empathetic towards non-white and non-American peoples.¹² Martin notes that unnoticed negative hidden curricula can impact what students understand to be important, who can participate, and whether they pursue careers in a field.¹³ The impacts of this concept, then, are staggering and deserve recognition and discussion.

So how does the idea of the hidden curriculum relate to our work within the core music theory classroom? In music theory, the choice of repertory within the classroom and textbooks is one way a course structure communicates identity-based values. My own experience as a student, as well as my experiences both in front of the classroom and designing curricula, suggest to me theorists’ and pedagogues’ choice of canonic repertoire can inadvertently communicate a hidden curriculum to students because it is comprised of such a specific set of composers, who all tend towards a particular set of demographics: Pierre-Antoine Kremp notes that the Western canon is comprised of “Wagner, Beethoven, Brahms, Mozart, Tchaikovsky, Strauss, Bach, Berlioz, Ravel, Schumann, Schubert, and Mendelssohn,” which is supported by historical surveys of American orchestral performance (Table 1).¹⁴ An implicit message from the canon might be: to be considered a master and produce masterpieces in the context of the Western Art Music (W.A.M.) canon, one necessarily needs to fit a set of very specific demographics (a majority are white, cisgender male, of Western-European, often German or Austrian descent, Christian, and heterosexual).

It is unlikely that the composers selected by Kremp, and who are regularly emphasized in the classroom, were selected because of this set of demographics. Generally, the included composers are understood to be artistic greats who have composed standard masterworks known to a wide audience. The presence of certain composers and not others within the canon is a result of their inclusion not just within venues for musical performance and art or institutions of higher education, but also through references made to them in popular culture (film, television, and other forms of entertainment).¹⁵ The names on this list are particularly familiar to students of

12 Leahey (2010, Ch. 2).

13 See Martin (1976 and 1985).

14 Kremp (2010, 1077). Mueller (1973), Dowd et al. (2002), and Kremp each investigated the repertoire performed by major American orchestras over different time periods.

15 A pertinent example would be Howard Shore’s inclusion of Wagnerian leitmotivic techniques in the soundtrack for *The Lord of the Rings* trilogy. Another would be the semi-cliché inclusion of the “Dies Irae” Gregorian chant in film scores such as *The Shining*, *The Lion King*, or *It’s a Wonderful Life*. One

Top five composers accounting for the most performances in a given time period.

Time period	Top five composers and their respective percentages of all performances	Combined percentage of top five composers
1842–1857	Mendelssohn (14.4); Beethoven (12.1); Weber (10.6); Mozart (8.6); Spohr (6.6)	52.3
1848–1873	Beethoven (17.0); Mendelssohn (10.9); Schumann (8.0); Liszt (7.3); Mozart (6.9)	50.1
1874–1889	Beethoven (15.0); Wagner (8.1); Liszt (6.4); Tchaikovsky (5.0); Brahms (4.3)	42.7
1890–1905	Wagner (13.1); Beethoven (8.5); Liszt (6.4); Tchaikovsky (5.1); Mendelssohn (4.7)	37.8
1906–1921	Wagner (12.8); Beethoven (7.8); Liszt (5.2); Tchaikovsky (5.0); Brahms (4.3)	37.8
1922–1937	Wagner (10.2); Beethoven (7.3); Brahms (4.9); Mozart (4.1); Strauss, R. (4.0)	30.5
1938–1953	Beethoven (7.9); Wagner (6.7); Brahms (6.0); Mozart (5.6); Strauss, R. (4.5)	30.7
1954–1969	Beethoven (8.8); Mozart (7.2); Brahms (5.5); Wagner (4.2); Tchaikovsky (3.4)	29.1

Table 1

Taken from Mueller (1973).

music, who regularly encounter these composers in performance ensembles, private lessons, music history courses, and music theory. A cursory glance in the composer index of widely adopted music theory textbooks demonstrates that these are also the composers who comprise a majority of repertoire represented in the text, which therefore encourages emphasis on canonical composers both during class time and in out of class assignments.¹⁶

It is, in part, because of the content of the courses within the core theory progression at many institutions, which focus on concepts drawn from the W.A.M. repertory (such as scales and melody, basic harmonic progressions with traditional functionality, classical phrase types and form, etc.), that these composers get chosen; their works efficiently and effectively convey what needs to be accomplished in the

might also note the inclusion of music from Wagner's *Der fliegende Holländer* or Rossini's *Il Barbiere di Siviglia* in the Merrie Melodies and Looney Tunes series.

¹⁶ Many current editions of standard core theory textbooks, such as Clendinning and Marvin (2016) or Laitz (2016), do include a number of non-canonical examples. However, the proportion of repertoire and composers drawn from non-canonical works is smaller and, thus, communicates lesser canonical importance due to that proportional skew. For example, Marvin and Clendinning include 20 pieces by Bach, 7 by Beethoven, 12 by Mozart, etc., but, for non-canonical composers, only one by George Gershwin, 2 by Scott Joplin, etc. Laitz similarly includes 26 by Bach, 63 by Beethoven, 71 by Mozart, etc., in comparison to the non-canon composers: one by Billy Joel, one by Robert Lamm, one by Maceo Pinkard, etc.). This trend holds across other similar textbooks in use.

classroom. It is, indeed, logical that these W.A.M. composers are being emphasized: the canon has formed the curriculum, and so there is a reciprocal reinforcement of that canon through the curriculum. Thus, some might argue that this obviates the need to address the issue of a hidden curriculum. However, an emphasis on diverse works to which students relate may provide an adequate incentive to encourage them to nurture interest in or even enter the broader field of music theory.

The increasing identity-based diversity in higher education,¹⁷ in addition to diverse skill levels, raises questions about the value of diversity in our classrooms: is a repertoire which reflects that diversity valuable? Does the inclusion of a more diverse body of music matter to students, and does it affect the way in which we communicate disciplinary value to our students? Research on what is called “culturally responsive” or “culturally relevant teaching” shows that emphases on diversity indeed does matter to students and has an impact on their lives both within and outside of the university setting. Studies suggest that inclusion of diverse activities, faculty, students, and curriculum at the university level contributes positively to campus climate,¹⁸ and contributes positively to life skills beyond the classroom.¹⁹ Further, benefits abound within the classroom; not only is including multiple skill levels shown to be beneficial for student performance,²⁰ but also collaborations and dialogue with students from wide-ranging backgrounds importantly improve classroom performance from engagement, to motivation, feelings of empowerment and ownership of material, and overall curricular success.²¹ These results have been demonstrated in a number of

¹⁷ The U.S. Department of Education reported in 2015 that the government was taking increasingly active measures to encourage minorities to enroll and finish degrees from institutions of higher education (Fact Sheet 2017). Though there was a slight dip in the overall upward trend, the National Center for Education Statistics has recorded a steady rise in the number of minorities enrolled as undergraduates in degree-granting postsecondary institutions, and the NCES projects a continued rise through 2026 (The Condition of Education 2017). These trends are also supported by the United States Census Report from 2016 on higher education (Ryan and Bauman 2016).

¹⁸ Miley (2001, 247).

¹⁹ “All told, the student-reported outcomes strongly suggest that interacting with diverse peers, faculty, and curricula as an undergraduate has a substantial positive effect on the development of skills needed to function in an increasingly diverse society as well as other academic skills important to the learning process” (Hurtado 2001, 199).

²⁰ See Palfy (forthcoming); Alpert and Bechar (2008); or Jones et al. (1990).

²¹ See Stainback and Stainback (1996); Putnam (1998); Orfield (2001); and Ginsberg and Wlodkowski (2015).

different subjects, from math, science, writing, and, pertinently, music.²² Educational researchers Margery B. Ginsberg and Raymond J. Wlodkowski note, “Just as cultural wealth in everyday life generates the opportunity to leverage personal interests, in the classroom, it enhances the opportunity for academic success.”²³

There is a maxim that is pertinent when considering the specific effects of an erasure of cultural diversity within the classroom: “If you can’t see it, you can’t be it.”²⁴ This motto insinuates that, if you are not represented in a particular role (such as women in professional roles within STEM fields), it is hard to envision yourself taking that role (there is a noted male dominance in declared STEM majors at both the undergraduate and graduate level).²⁵ Similarly, some students may, then, understand the prevalence of white, Christian, Austro-Germanic, straight, cisgender men represented in the repertory as a bar for entry into the field of music theory, whether that message is intentional or not. These students may receive the message that not only are they not valued, but that they should not (and cannot) participate in either theory or composition. Thus, it is important that pedagogues interrogate the way representation and diversity are reflected in our classrooms not simply through the students that are present, but by what music and composers they are presented with and how those pieces and people are emphasized.

Survey-based Study on the W.A.M. Canon Hidden Curriculum in Music Theory Classrooms

An IRB-approved survey-based study was run in order to investigate the influence of this canonic valuation system with the cooperation of 21 North American colleges and universities (n = 121).²⁶ Our experiment was motivated by the potential disparity between the diversity of musics being represented in the classroom, music theoretical journals, conferences, and books, and the musics and composers students are understanding as representative of the field and study of music theory.

22 See Steele (2011), Peters (2016), Neihart (2007), Huang (2009), and Adams (1992).

23 Ginsberg and Wlodkowski (2011, 23–4).

24 While it is unclear where this quote originated, it is generally attributed to Marian Wright Edelman, an American activist. It is also sometimes worded as, “You can’t be what you can’t see.”

25 See Heilbrunner (2012), and “State of Women and Girls in STEM” (2017).

26 This number was tested for its ability to gauge statistical significance, and was found to be an appropriate sample size.

In a pilot study, it was shown that, despite active inclusion of popular, non-Western art music, and world musics by pedagogues, students remained attached to the idea that music theory as a field of study was characterized primarily by the work of composers within the W.A.M. canon, such as Beethoven, Bach, Mozart, and Schubert. The Primary Investigators (P.I.s) were interested in whether this effect would be replicated with a larger sample size. We hypothesized that there would be a significant difference between what repertory and composers students reported being used in the classroom and which composers they considered to be the most important and defining for the field of music theory. We further hypothesized that those identified as “influential” would be significantly defined as belonging to the W.A.M. canon.

Methodology

Undergraduate students were recruited in the summer of 2017 through an email through the Society for Music Theory listserv.²⁷ The email, which was circulated by individual teachers to their students, asked participants to take an online survey which collected both qualitative and quantitative data about their experiences and perceptions of their time in the undergraduate core music theory classrooms. For free qualitative responses, the P.I.s coded responses for similar themes that arose within the answers. For composer-based questions, the P.I.s coded student responses based on whether composers cited were canonical or non-canonical. The P.I.s chose to limit the definition of W.A.M. canon, for the purposes of this study, to the composers specified by Kremp²⁸ and have also added those composers associated with the Second Viennese School (Arnold Schoenberg, Anton Webern, and Alban Berg) because of their nominal and historical association with those earlier roots.²⁹

Subjects

121 undergraduate students from colleges and universities across North America

27 Because of the broad number of schools from which we received the responses, the P.I.s felt confident that this was a large enough sample size for significance. Further, while we could not control that teachers who already address issues of cultural diversity in the classroom may have self-selected into participating, the range of responses and institutional backgrounds appears to be broad enough that this sample should be considered relevant to test the hypothesis proposed.

28 Kremp identifies the Western Art Music Canon as consisting of “Wagner, Beethoven, Brahms, Mozart, Tchaikovsky, Strauss, Bach, Berlioz, Ravel, Schumann, Schubert, and Mendelssohn” (2010, 1077).

29 Dowd et al. (2002).

were recruited to participate in this study.³⁰ These institutions represent both private and public institutions, and both schools of music, music departments, and conservatory-structured institutions. Students who had taken at least one course in music theory were asked to participate, and the students ranged from first-year students to seniors. The participants ranged in age from under 18–54, however 95.83% of the participants were ages 18–24 ($n = 115$). The participants were 40% male, 55.83% female, with 4.17% identifying as transgender, gender fluid, or “other”. Participants were undergraduates, 97.48% ($n = 116$) of whom were pursuing music majors. The participants ranged in school year (first years, $n = 12$; second-year, $n = 47$; third-year, $n = 42$; fourth-year, $n = 14$; and fifth-year or above, $n = 4$). Each participant volunteered to fill out an online questionnaire and was reimbursed with a \$5 Amazon gift card for their contribution.

Apparatus

We prepared a four-section survey using the Qualtrics interface. The survey could be taken online on personal computers or cellular phones, and the interface collected both qualitative comments and quantitative data.

Procedure

The survey collected information pertaining to questions of institutional and classroom diversity, defining “composers,” student suggestions for increasing diversity and multicultural engagement in the classroom, and demographic information of the participants. For quantitative data, Likert scales of 1–7 (1 = low, 4 = neutral, 7 = high) were consistently used to measure reactions. Though participants were asked a number of qualitative questions to provide context for their responses, a crucial set of questions were inserted as question numbers 12 and 13 in the survey. These questions, which asked, “Q12: Identify three (or more) composers that are representative of the music you study in your music theory classroom.” and “Q13: Which composers do you identify as most influential in the music theory classroom?”, respectively, were used as the statistical data set which, when measured against each other, could answer the hypothesis proposed, thereby evidencing the presence or absence of a hidden curriculum through student perceptions.

30 Institutions included Oberlin Conservatory, University of Texas at Austin, Lander University, West Liberty University, Nazareth College, Western University, University of Western Ontario, SUNY Potsdam, East Carolina University, Appalachian State University, University of Cincinnati College Conservatory of Music, University of North Georgia, William Paterson University, Macalester College, Eastman School of Music, University of Houston, Connecticut College, Gettysburg College, Youngstown State University, Morningside College, and Northwestern University.

Results

For section one, which measured perceptions of university and classroom inclusiveness, ratings were measured through Likert scales from 1–7, and the categories were averaged against the total population of participants. The results, provided in the graphs below, demonstrate that participants understand their departments to be recruiting a diverse student body.³¹ Figure 1 shows that 50% of participants agreed/strongly agreed that their institution recruited diversely. Students also find their music departments or schools of music to be emphasizing diversity and inclusion in the curriculum in a range of ratings—Figure 2 shows more variation between the responses, with only 36.67% of participants either responding with agree/strongly agree.

4 - My school/department of music emphasizes diversity within the student population.

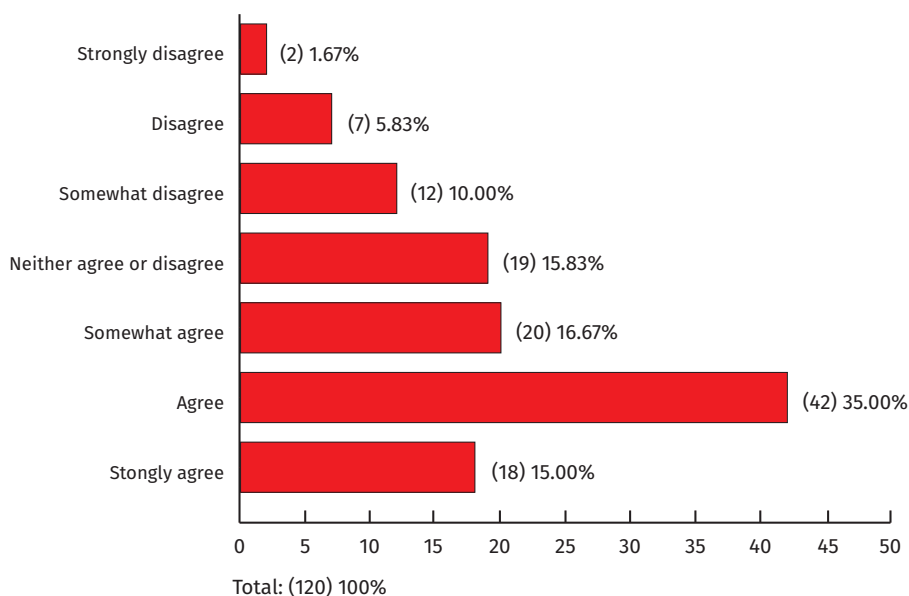


Figure 1
Results on Population Diversity.

³¹ Each figure provided displays the range of responses, statistical response rate, and original wording of the prompt.

5 - My school/department of music emphasizes diversity within the music curriculum.

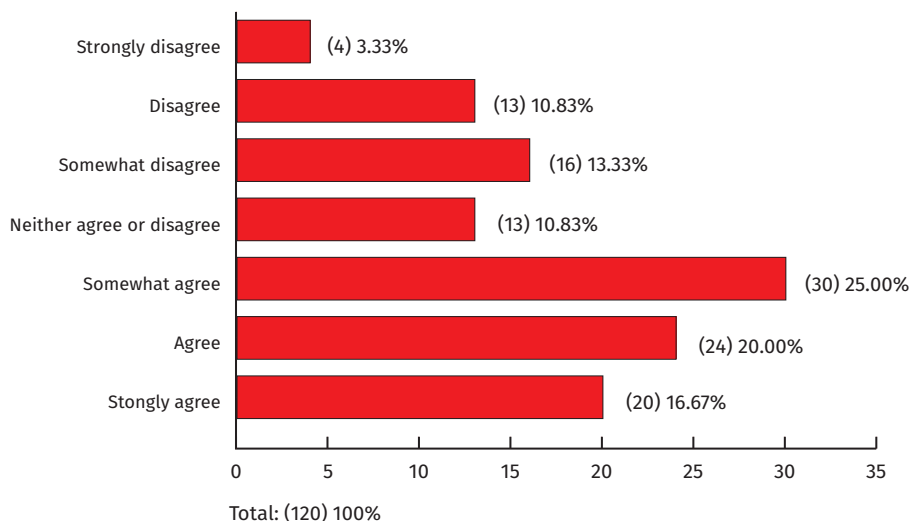


Figure 2
Results on Diversity within Music Curriculum.

With regards to the theory classroom specifically, students report that teachers within the music theory classroom are integrating music from other cultures and beyond the Western Art Music genre, as well as discussing topics that engaged ideas and music theoretical subfields related to diversity. Figure 3 shows that 64.16% of students either agree/strongly agreed that their professors were including repertoire beyond the W.A.M. canon. Figure 4, shows that 73.34% of students either agree/strongly agree that they know about subfields emphasizing diverse subjects within the discipline of music theory.

It was also integral that we evaluated how often students were having discussions regarding themes of diversity (such as how music relates to race, religion, sexuality, gender, etc.). Participants were further asked to evaluate whether they viewed discussions of diversity as relatable to the field of music theory, and whether they felt that these discussions had a place within the music theory classroom. Figure 5 shows that 40.83% students reported that they agreed/strongly agreed that these discussions were relatable to music theory, and Figure 6 shows that 54.17% of students agreed/strongly agreed that these discussions belonged in the music theory classroom. Table 2 shows a summary of qualitative responses to a prompt asking participants to explain

6 - My music theory professor discusses topics related to diversity within the classroom (for example, topics relating to race, gender, sexuality, religion, etc.).

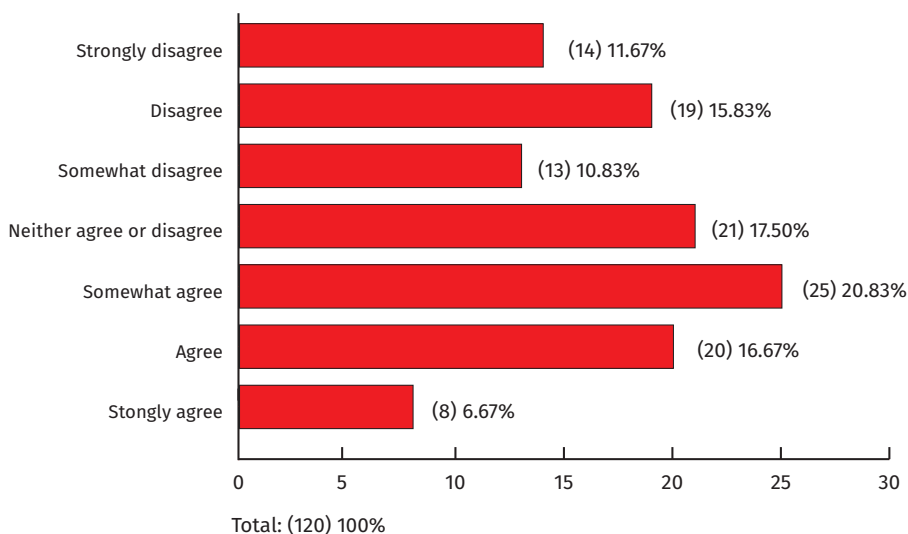


Figure 3

Results on Discussions of Diversity within the Music Theory Classroom.

2 - I am aware that there are subfields of music theoretical inquiry, such as studies in popular music analysis, sexuality and gender studies, music and religion, music and the body, music and film, etc.

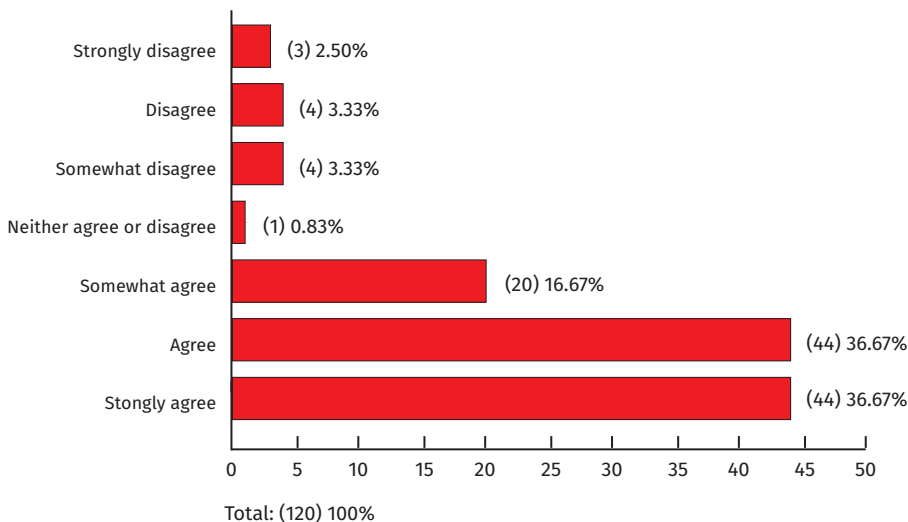


Figure 4

Results on Awareness of Music Theoretical Subfields Related to Diversity.

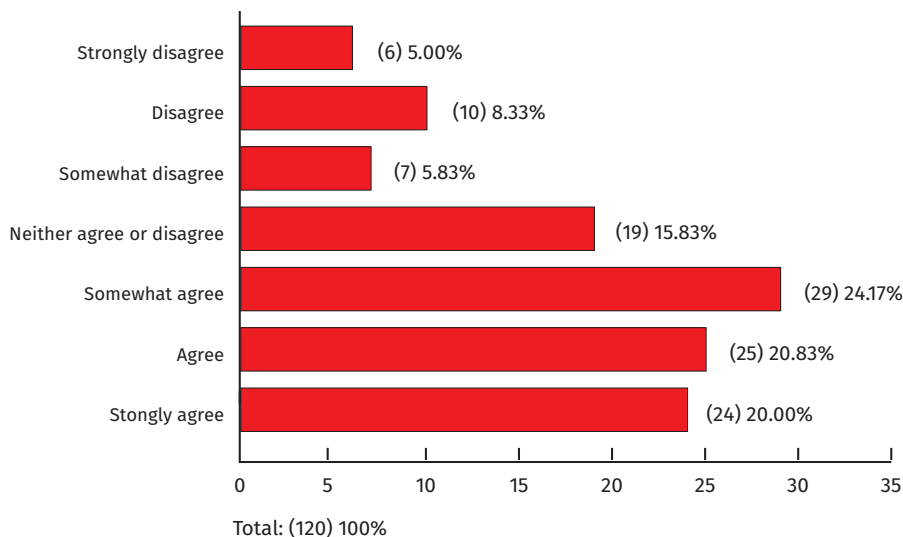
7 - I find topics of diversity (race/religion/gender/sexuality) relatable to the field of music theory.

Figure 5
Results on Relatability of Diversity of Music Theory.

Response	Number of Participants who responded within this theme
No opinion.	1
It does not have an impact/doesn't matter.	8
That should be included in musicology or ethnomusicology, not theory, which should only study structure.	13
I did not know music theory could involve discussions of diversity.	2
Art is often inspired by diversity	11
Music is a part of human life, so studying it from a number of perspectives is appropriate to understanding its function in life.	6
Diverse perspectives are part of how music evolves.	2
Gives a better perspective on how different groups of people create music.	13
Gives us more to listen for.	2
It should depend on the needs of the class.	1
It's good to expose yourself to as many types of music as possible as a music student.	1
It helps our discussions/experiences have an impact on our lives beyond music theory.	2
Diversity is important to discuss in all subjects.	6

Table 2
Participant responses to the question, "If you thought discussions of diversity were not relatable to the field of music theory, why not? If you did, why?"

why they thought discussions about diversity should or should not be included in the music theory classroom. These answers were sorted thematically.

Finally, participants were also asked to perform two qualitative tasks in section one. The first, shown in Table 3, was to define “composer” so that the study had more context for how students understood the term. They were also asked to list any women, people of color, and non-Western composers they studied in the classroom. Again, sorted for like answers, Table 4, 5, and 6 show these responses respectively

Response	Number of Participants who responded within this theme
Someone who creates/writes music.	58
Someone who writes music that is meaningful to people.	2
Any person who engages in activities to produce sound (often reference the organization of sounds/silence).	5
Someone who creates music in any genre, but has a background in music theory and an understanding of harmony.	5
Someone who writes in the classical music genre.	4
Someone who writes original music.	19
Composer creates music, performer performs music.	1
Composer writes music using musical notation/in such a way that it can be communicated to someone else.	18
Someone who creates music as their profession.	2
Someone who creates a musical work of art.	4

Table 3
Participant definitions of “composer”, grouped by theme.

In section two of the survey, Questions 12 and 13 asked students to list composers the students thought were representative (Question 12) or most influential (Question 13) of the music studied within their music theory classes. These responses were coded into “Canon” and “Non-Canon” composers. For the purposes of this study, we defined “Canon” composers as those specified by Kremp or those associated with the Second Viennese School.

We were interested in both how many students included a non-canon composer in each of their lists and what proportion of non-canon composers were included. Question 12 measures if non-canon composers were included in the curriculum from the student’s perspective, counting each response as either a 1 (canon) or 0 (non-canon). Question 13 measures student perception of composer importance by counting how often non-canon composers were identified. Finally, we were also interested in how the metrics changed between Questions 12 and 13, as this gives a measure of whether non-canon composers were included or excluded and, ultimately, a clearer picture of student perceptions.

Response	Number of Participants who responded within this theme
None.	32
Shulamit Ran	2
Bjork	7
Liza Lim	1
Clara Schumann	44
Pauline Oliveros	2
Hildegard von Bingen	9
Barbara Strozzi	2
Imogen Heap	1
Kaija Saariaho	2
Fanny Hensel	13
Amy Beach	7
Jennifer Higdon	5
Taylor Swift	3
Beyoncé	2
Ruth Crawford Seeger	5
Alma Mahler	1
Avril Lavigne	1

Response	Number of Participants who responded within this theme
Katrina & The Waves	1
Pat Benetar	1
Meghan Trainor	1
Norah Jones	1
Marianna Marines	1
Grażyna Bacewicz	1
Carole King	1
Josephine Lang	1
Élisabeth Jacquet de La Guerre	2
Chen Yi	1
Ethyl Smyth	1
Natalie Boulanger	2
Julia Wolfe	1
Lili Boulanger	3
Augusta Holmes	1

Table 4
Female composers identified.

Response	Number of Participants who responded within this theme
None.	39
Clifford Brown	1
Duke Ellington	11
William Grant Still	2
Julius Eastman	2
Charlie Parker	3
Miles Davis	5
Wayne Shorter	1
Thelonious Monk	2
John Coltrane	5
Scott Joplin	14
W.C. Handy	2
Moses Hogan	1
Damien Sneed	1
Beyoncé	3
Ella Fitzgerald	1
Louis Armstrong	2
Bruno Mars	2

Response	Number of Participants who responded within this theme
Pharrell Williams	1
The Penguins	1
The Meters	1
Thad Jones	1
Gregory Porter	1
Prince	1
Bobby McFerrin	1
Javier Alvarez	1
Arturo Marquez	1
Chen Yi	1
Billy Strayhorn	1
Count Basie	1
Eubie Blake	1
Jimi Hendrix	1
Sidney Bechet	1
Charles Mingus	1

Table 5
Composers of color identified.

Response	Number of Participants who responded within this theme
None.	52
Shulamit Ran	1
Béla Bartók	1
Igor Stravinsky	3
Sergei Rachmaninoff	2
Dmitri Shostakovich	1
Sergei Prokofiev	1
Pytor Tchaikovsky	4
Toru Takemitsu	2
Nikolai Rimsky-Korsakov	1
Modest Mussorgsky	2
Arturo Marquez	1
Javier Alvarez	1
Chen Yi	1
Astor Piazzola	1
George Enescu	1
Ravi Shankar	1
Tan Dun	1

Table 6

Non-Western (not American or Western European) composers identified.

Whether a student mentioned a non-canon composer is a Bernoulli random variable,³² which estimates as its parameter the proportion of students that mentioned a non-canon composer. Our null hypothesis is there are no non-canon mentions, and we are using the significance level. Unlike most estimates of the expected value, we know the small sample distribution exactly. In this case, it is a Binomial distribution.³³ To test our hypothesis, we construct the 95% confidence interval for our expected value and check if 0 is contained within it. Because we are interested in the possibility that our parameter θ could be 0, we used the Clopper-Pearson confidence interval for the Binomial.³⁴ In particular, we calculate the confidence interval using the Beta Distribution³⁵

32 This is a distribution based on a variable that has two potential outcomes; in this case, canon or non-canon.

33 A binomial distribution is a frequency distribution of the possible number of successful outcomes in a given number of trials in each of which there is the same probability of success.

34 A binomial proportion confidence interval is an interval estimate of a success probability p when only the number of experiments n and the number of successes n_s are known.

35 In probability theory and statistics, the beta distribution is a family of continuous probability distributions defined on the interval $[0, 1]$ parametrized by two positive shape parameters, denoted

$$\beta\left(\frac{\alpha}{2}, x, n - x + 1\right) < \theta < \beta\left(1 - \frac{\alpha}{2}, x + 1, n - x\right)$$

For Questions 12 and 13 this distribution gives the confidence intervals for a student mentioning a non-canon composer as:

Question 12	Question 13
[0.3444, 0.5307]	[0.0963, 0.2380]

Table 7

Confidence intervals between question 12 and 13.

This result shows that we reject the null hypothesis that our parameter is 0 at the $\alpha = .05$ significance level for both Question 12 and Question 13. Given these confidence indicators, we reject the null hypothesis as 0 is not contained in either confidence interval.

We used a *t*-test to determine if the fraction of non-canon mentioned by students was significantly different from zero.³⁶ Our null hypothesis in both cases is that the population mean is 0 (meaning there would be no difference in the responses). The relevant summary statistics are given in the table below.

Summary Statistic	Question 12	Question 13
<i>n</i>	117	114
$\bar{x}$	0.183274	0.118421
<i>s</i>	0.243169	0.302784

Table 8

Summary statistics for t-test.

This gives a *p*-value of 2.35256×10^{-13} for Question 12 and a *p*-value of 2.93228×10^{-5} for Question 13. In both cases, we reject the null hypothesis that the fraction of non-canon mentioned by students is 0.

We test if the proportion of mentions differs between the two questions. Normally, this would be a two-proportion *z*-test. Our data is not independent between the two questions due to the paired nature of the data; we use the McNemar test instead.³⁷ This test checks whether the marginal probability of the contingency table for Question 12

by α and β , that appear as exponents of the random variable and control the shape of the distribution.

³⁶ A *t*-test is commonly used to determine whether the mean of a population significantly differs from a specific value (called the hypothesized mean) or from the mean of another population.

³⁷ In statistics, McNemar's test is a statistical test used on paired nominal data. It is applied to 2×2 contingency tables with a dichotomous trait, with matched pairs of subjects, to determine whether the row and column marginal frequencies are equal.

is yes is equal to the marginal probability of Question 13 being yes.

	Q12 Y	Q12 N	
Q13 Y	11	7	18
Q13 N	37	59	98
	48	66	114

Table 9
McNemar Test results.

The test statistic is $\chi^2 = \frac{(7-37)^2}{7+37} = 20.4545$, which results in a p -value of 6.10644×10^{-6} . The difference in responses between the two questions is significant well below the .05 significance level, hence we reject the null hypothesis that the proportion of non-canon mentions is the same between the questions.

A paired t-test is used to check if the percentage of non-canon mentions differs between Questions 12 and 13. Our data violates both the normality and no outliers assumptions of the paired t-test. The t-test is robust to normalcy deviations as we have a large enough sample due to the central limit theorem (Figure 6).

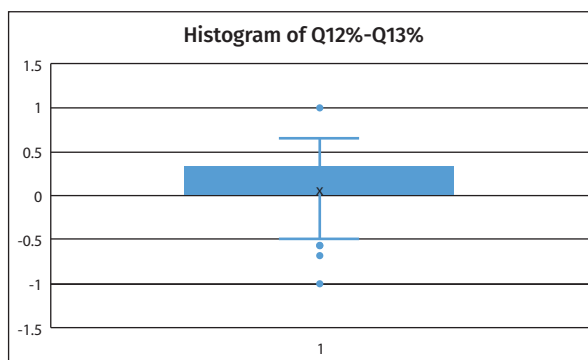


Figure 6
Histogram of Q12%-Q13%.

This histogram shows that there are 9 outliers. One outlier at a difference of 1 and eight below a difference of -.5, four of which have a difference of -1. We ran a paired t-test both with and without the outliers to check the result's robustness. We use a one-sided t-test to show that the proportion of non-canon mentions in Question 12 is higher than the proportion in Question 13.

	With Outliers	Without Outliers
Count	114	105
mean	0.05984057	0.11788
SD	0.33285611	0.231607
t-value	1.93628023	5.481708
p-value	0.02764364	1.26×10^{-7}

Table 10
Paired t-test results.

The data shows that we can reject the null hypothesis that the two questions have equal proportions in favor of Question 12 having a higher proportion. The removal of outliers strengthens the result in the test, as the majority of them are in the opposite direction.

We also analyzed if there was any difference in perception between the different types of university music programs. The universities were categorized into Schools, Departments, and Conservatories, based on the program names self-indicated on the 21 institutions' websites. To test if there was a difference in the mentions between the institution types, we used a Chi-Squared to test for independence.³⁸ Below are the breakdowns of mentions by type.

Question 12			
University	Non-Canon	Canon	Total
School	11	27	38
Department	25	24	49
Conservatory	15	14	29
N/A	0	1	1
Total	51	66	117

Question 13			
School	Non-Canon	Canon	Total
School	8	30	38
Department	6	41	47
Conservatory	4	24	28
N/A	0	1	1
Total	18	96	114

Table 11
Chi-Squared test for independence between variable and control questions.

This gives a test statistic for Question 12 of $\chi^2_3 = 5.9667$, resulting in a p -value of .11324. The test statistic for Question 13 is $\chi^2_3 = 1.349924$, resulting in a p -value of .71731. Neither of these is significant at the $\alpha = .05$ significance level. It is possible that

³⁸ A chi-squared test, also written as χ^2 test, is any statistical hypothesis test where the sampling distribution of the test statistic is a chi-squared distribution when the null hypothesis is true.

the single student who did not answer which school they are attending weakens the test. This results in $p = .0744966$ for Question 12 and $p = .55922$ for Question 13, which does strengthen the test, but not enough to reject the null hypothesis.

We used the ANOVA test to check if the proportion of non-canon mentions differed by University type.³⁹ We tested both including and excluding the single student who did not answer the question about which school they attended. In all cases, we fail to reject the null hypothesis, indicating there is not a difference in responses based on institution type. The table below summarizes the p-values.

<i>p-value</i>	Q12%	Q13%
Including no School	.110391	.589306
Excluding no School	.065738	.366282

Table 12
ANOVA to test for differences between University type.

Discussion

The above results demonstrate that, at the university setting and within the classroom, identity-based diversity is valued and encouraged through recruitment, teaching strategies that center diverse voices, and repertoire choice. However, despite both student interest in and classroom inclusion of non-canon composers (shown by Question 12), students are perceiving an implicit message in the music theory classroom that only W.A.M. canon composers are important and integral to the study of music theory (shown by the significant difference in their responses to Question 13, $p = 6.10644 \times 10^{-6}$). The significant rise in the proportion of canon composers mentioned when students are asked who is “influential” in their classrooms highlights a hidden curriculum that is present in the minds of students despite the efforts of pedagogues and institutions to diversify repertoire (demonstrated by the presence of more non-canon composers in Question 12 and qualitative answers to questions shown in Tables 4, 5, and 6).

Many professional musicians and contemporary theory teachers understand that a message of exclusion is, indeed, not the one intended. However, our results raise questions about whether the canon should still be emphasized in the same way in our classrooms. This difficult question has been acknowledged and addressed within the Society for Music Theory and its constituent publications and events in a number of ways. There have been both informal and formal discussions regarding its value

³⁹ Analysis of Variance (ANOVA) is a statistical method used to test differences between two or more means.

for students in sessions for the Popular Music Interest Group, the Committee on the Status of Women, and the Music Theory Pedagogy Interest Group. The field of music theory itself has also become more inclusive and reflective of the diversity in musical repertory: conferences and journals within the field of music theory have shown a marked shift in the representation of popular music, non-Western repertory, and nontraditional analytical approaches within their paper, poster sessions, and articles. Within the Society for Music Theory, there are currently 27 interest groups that allow scholars to explore diverse topics and concepts in current music theory (such as the Analysis of World Music Interest Group, Committee on Diversity, Global New Music Interest Group, and Scholars for Social Responsibility).⁴⁰

The canon has also been actively discussed with regards to the musical needs of the contemporary music student—in a joint Society for Music Theory and American Musicological Society conference in 2011, a panel entitled “Common-Practice Period Repertoire No Longer Speaks to Our Students; It’s Time to Fire a Cannon at the Canon” was a source of fiery debate for researchers.⁴¹ Additionally, the 2018 CSW-sponsored panel is themed “Minimizing Implicit Bias to Improve Campus Climate: Developing Inclusive Classrooms and Faculty Search Processes,”⁴² and the 2018 Theory Pedagogy Interest Group sponsored a panel entitled “Engaging Students in Fundamentals Courses,” which discussed issues of diversity and inclusion.⁴³ Further, in 2017, Harvard University discarded the traditional music curriculum in favor of one that was more flexible and responsive to the needs of contemporary musicians and music-makers.⁴⁴ This has spurred many institutions to reconsider the nature of their music curricula, in particular the music theory curriculum, with regards to what characterizes and contributes to a successful professional musician. These dialogues and curricular overhauls reflect a trend towards a more specific representation of student interests and needs.

Despite the diversification of the larger discipline, many music theory classrooms still reflect a W.A.M.-heavy canon and, inherently, a system of valuation that can marginalize students within an increasingly socially and culturally diverse university

⁴⁰ Interest Groups, SMT 2018.

⁴¹ Burstein et al. (2011).

⁴² Desai-Stephens et al. (2018).

⁴³ Fankhauser et al. (2018).

⁴⁴ Leifer (2017).

system.⁴⁵ At the core of the American university system, a connection to a Western-Europe-based philosophy continues to place an emphasis on the canon as a marker of professionalism and expertise. Historian and educational researcher Michael Soldantenko notes,

As disciplinary-fettered faculty came to control departments and associations [in the 1940s and beyond], the professionalization of the professorate served to secure faculty's pedagogic authority. To join the ranks of this guild and receive this authority, the adept had to participate in a long apprenticeship during which he or she acquired a particular cognitive base—the discipline's tradition. This valued knowledge was contained within a canon that each acolyte had to master. As the adept became initiated and credentialized, she or he reproduced the same power and authority relationship through her or his management of the curriculum.⁴⁶

When we consider this standardization, and, in effect, the effort on the part of faculty members to prove their credentials were (and are) legitimate through knowledge of the W.A.M. canon, the impacts on what is taught and emphasized in the classroom must also be recognized. How does a standardization and emphasis on a regularized repertory across schools/departments of music send a message to students about their perspectives? How does it affect efforts to provide examples beyond that repertory? Is there really even an effect at all upon student perception? What our study shows is that, indeed, this emphasis does have an impact—students are understanding a system of valuation that prioritizes canon composers despite exposure both in the classroom to diverse composers and university settings of cultural inclusivity. This means that the canon may not be reaching students at a personal level; they may not identify with those pieces of music and composers so regularly emphasized within the classroom.

One of the potential effects of students getting the impression that only canon composers are “influential” in the field of music theory is that the students who do not fit the description of those canon composers (white, cisgender male, of Western-European, often German or Austrian descent, Christian, and heterosexual) may feel that they are not able to continue in their musical careers as composers or theorists. To reiterate, this is likely not the intention of any pedagogue, but rather an effect of the classroom structure. However, a more important and accurate message to students should be that aptitude for the subject, not a demographic, is the only barrier for entry; this would be emphasized by acknowledging and attending to the identified

⁴⁵ See “Fact Sheet” (2015), “The Condition of Education” (2017), and Ryan and Bauman (2016).

⁴⁶ Soldatenko (2001, 197).

hidden curriculum.⁴⁷

What Can We Do?

The final piece of information collected from the study was participant suggestions for increasing multicultural engagement in the classroom. We grouped the suggestions by theme and have provided those suggested actions in Table 8 below. These responses were coded thematically, and the responses may have been recorded under multiple themes depending on the length and detail of the response. We hope that by engaging student suggestions about curricular structure regarding diversity and inclusion, theory pedagogues can continuously improve the ideas and perspectives presented in the theory classroom.

Response	Number of Participants who responded within this theme
Don't include diverse repertory, the standard W.A.M. repertoire is fine as it stands.	10
Include repertoire falling outside of the Western art or Western tradition (such as from east Asian, Middle Eastern, African, Latin American cultures, etc.)	23
Exploration of music from the standpoint of instrumental development and how they influenced music from different cultures.	1
Study non-classical, popular genres, and modern pieces.	20
Include more 20 th and 21 st century art music pieces and less from earlier eras.	3
Include modern theoretical techniques.	2
Don't prioritize harmony and melody over other musical elements (such as timbre, location, rhythm/meter, etc.).	2
Include more composers of color/non-Westerners/women. Provide a focal point section that studies only composers from these demographics deliberately.	27
Expand/change theory requirements to cover more ground outside of standard theory courses	5
Student suggestions for composers or artists to study.	1
Compare and contrast exercises that allow the Western canon to help draw stylistic distinctions from other genres and musical cultures	5
Be transparent with students about the lack of diversity, discuss the exclusion of people of color and women from the curriculum.	29
Composition projects/Composition of non-traditional music.	3
Include ideas from musicology and ethnomusicology in the music theory classroom.	5
Discussion of current events; tie it to the music and concepts being studied.	1
Encourage group work in the classroom so that students also are experiencing diversity amongst themselves in the classroom community	1

Table 13

Student suggestions for increasing diversity within the classroom.

⁴⁷ While it is clear that students are coming away with an unintended piece of knowledge from our theory classrooms, it is relatively unclear the impact this may have on their continued involvement with the field of music theory. This is a limitation for the current study and is a potential topic for a follow-up study.

The table has quite a range of ideas and suggestions—students provided obvious solutions, such as the inclusion of non-Western repertory, composers of color, and women, to more complicated solutions, such as in-class group work, composition projects that allow them to stretch the boundaries of traditional W.A.M. style, and compare and contrast projects and discussions that engage diverse repertoire. The prompt also gave those students who felt the curriculum was fine an outlet to note that they had no problem with a focus on W.A.M. This is an important reminder that some students (and, indeed, some pedagogues, too!) feel satisfied by the current state of the curriculum. Pedagogues should carefully consider institutional goals when weighing solutions to hidden curricula.

Many of the participant comments mirror Jane R. Martin's four solutions to hidden curricula—she suggests doing nothing, changing, abolishing, or embracing the identified hidden curriculum.⁴⁸ I have provided some explanation of these and examples of their implementation when relevant below:

1. Do nothing: This option may be of use when pedagogues perceive the hidden curriculum to be a non-issue and not harmful to students (which, indeed, some readers may). As a hidden curriculum is based on context, pedagogues working at conservatories that focus on professional classical performance styles might choose this option. Further, private teachers might evaluate the goals of their students: this solution may not be appropriate for a jazz player, but for a student interested in historical performance practice, it works well for the context.
2. Change the structure of the classroom: This would require pedagogues not only to acknowledge the hidden curriculum but also to identify those pieces of content or course structure that are communicating an implicit system of valuation. The pedagogue would then redesign the classroom structure to avoid or abolish these elements. In a music theory classroom, this might mean reconsidering how canon-based concepts are prioritized, rebalancing focus on other musical parameters, such as style, genre, rhythm and meter, timbre, and other concepts that are often not the primary focus in core theory. Teachers might also restructure classrooms to balance how and when canon composers and repertoire are emphasized; soliciting student feedback regularly on the state of representation through formative evaluation surveys could assist in this process.
3. Abolish the setting: This option has already been implemented with some of the more radical curricular changes in the North American schools and departments of music, such as Harvard's. This would mean ridding the curriculum of taught music theory courses that center only canonic repertoire.

⁴⁸ Martin (1976, 144-45).

This leaves open the opportunity for curricular redesign or the creation of a new series of classes that focus on different aspects of music.

4. Embrace the hidden curriculum: Music theory pedagogues can choose to be transparent with students, fully disclosing that there is a hidden curriculum present and, thus, allowing the students the chance to consider the structure, design, and messages of valuation within the curriculum to which they are exposed. This option encourages students to question the curriculum freely, think critically about moments of erasure, and potentially highlights the role of history and culture in the music they consume and study.

I leave it to pedagogues, who know their specific institutional goals and missions, to select from this list (or consider other alternatives). Each solution is not necessarily appropriate to every school, and, thus, there may be different variations or combinations that might satisfy institutional philosophies of learning. In my teaching, I call out the erasure implied by the W.A.M. canon, and work in each class session to bring new voices that represent the diversity of backgrounds in my students each semester. This selection does require extra thought and preparation, such as learning new histories, critically thinking about where cultures and concepts will overlap, and often time-intensive repertoire searches that are occasionally not fruitful. In choosing a solution, it is beneficial to consider how that shift in pedagogy will impact one's teaching and the effort it requires. Simply uncovering the hidden curriculum challenges teachers to pinpoint what they believe is integral to learn as a music major and what will be most useful as a professional musician—from that vantage point, pedagogues can then make a decision about which solution may be useful for their teaching context.

While pedagogues may find a solution amongst those four options that appeals to the environment at their institutions, there is a message from the qualitative responses that is crucial to note. The most important and repeated suggestion is the that it would simply be helpful for professors to recognize the hidden curriculum within the core curriculum and be transparent with students about its limitations. Communication, in this instance, may be one simple but important intervention that everyone can easily implement in their classrooms.

Conclusion

The purpose of this study was to demonstrate student perceptions of a hidden curriculum that is embedded within the structure of contemporary core music theory classrooms. Though the results of our study show that this hidden curriculum is significantly present, the quantitative data is made more useful and detailed by the

inclusion of participant comments. The comments show that not only are students interested in engaging music theory from a perspective of diversity, but they also feel that it would improve their learning, engagement, and felt inclusion in the curriculum. There were some participants throughout the qualitative response sections that expressed sincere frustration with the canon and its lack of diversity, or who reported feeling left out within their classroom because of the exclusion of repertoire outside of the canon. It is these students who we want to address by acknowledging the presence of a hidden curriculum. As pedagogues and scholars, we should encourage and engage all students to grow their understanding and passion for music and music theory through their personal relationship with the topic.

What is fascinating to me from the qualitative responses participants gave is that pedagogues *are* including composers outside the W.A.M. canon within core theory classroom, and so, perhaps, pedagogues are chipping away at the identified hidden curriculum. Students can, on the whole, readily identify women, people of color, and non-Western composers that have been included in the curriculum. This means that those composers were emphasized in the classroom in such a way that they were not merely given passing reference, but were dwelt upon and made meaningful to the students such that they were remembered later. Particularly interesting is the range of genres, styles, and time periods upon which students drew—participants shared that jazzers, contemporary composers, popular music artists, hip-hop artists, etc. were representative of their classroom experiences with theory. Varied specific examples, such as Toru Takemitsu, Chen Yi, Ravi Shankar, Augusta Holmes, Conlon Nancarrow, Beyoncé, Taylor Swift, Miles Davis, and many others, were cited as characterizing students' remembered experiences within the classroom. This shows a broad range of women, people of color, and international composers and performers being discussed and analyzed regularly. Perhaps this sign of change within our classrooms reflects the diversification evidenced by publications, presentations, and scholarly activities within music theory as a discipline.⁴⁹

⁴⁹ We would like to express our sincere gratitude to those who made this article and study possible. Many thanks to all the students who contributed their time and shared their experiences in the survey, and further thanks to those theorists who facilitated the disbursement of the survey. Sincere thanks to Robin Attas, who assisted in the creation of questions, Deandra Little and Amy Overman, who assisted in drafting and supporting the study, and Elon University, which provided funding through the New Faculty Research Grant in 2017. Finally, sincere thanks to Allison Wenthe, who read and provided detailed

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The Mini-lesson: Active Learning and Engagement in the Undergraduate Classroom

ANNA STEPHAN-ROBINSON

This article presents the “mini-lesson,” an assignment in which undergraduate students teach classmates theoretical concepts in excerpts of their own choosing. By presenting and observing mini-lessons, students actively engage with course material, start to grasp the relevance of theory study, and encounter a diverse corpus of examples including some familiar music. In this article, I address the problems mini-lessons solve, describe procedures for implementing them, enumerate benefits, and finally consider potential pitfalls for instructors who choose to include them in their own classrooms.



Introduction

You walk into the classroom, take a seat among the students, and direct your attention to a student at the front of the room. He hands out two pages of a score and says, “I found an example of a common-tone modulation in Charles Wood’s anthem ‘[Hail, Gladdening Light](#).’ The music modulates around measure 40 from E major to C major, two keys related by chromatic mediant. I’ll start the recording around measure 34 and play through the fermata in measure 51.” Your class listens while following along. The presenter continues, “Even though there’s a three-sharp key signature, it’s in E major at the beginning of the excerpt, because of all the D-sharps. It comes to a big half cadence on the word ‘shine,’ and then after a rest, we hear just the note B. In E, this is ‘sol,’ but then it resolves as ‘ti’ to a C-major chord. That’s why I think this is a common-tone modulation. It stays in C until measures 50-51, where the second tenor part has ‘E-F#-G#,’ landing on an E major chord. The music is going back to the main key, A major, so that E chord functions as V of A.” Classmates, about half of whom know the piece from singing in choir, ask a few questions: why is the chord in measure 46 spelled so strangely? How did the presenter find this example? The presenter doesn’t know the answer to the chord-spelling question, but in response to the second question, he says that he noticed the modulation while working on the piece in choir rehearsal. As a section leader, he was coaching other students and thought that learning the solfège would help them to audiate the pitches in the passage. His classmates, satisfied with the answer, briefly look down and type on their mobile devices as you switch places with the presenter, turning to the topic of the day.

This essay presents the “mini-lesson,” an assignment in which undergraduate students teach classmates theoretical concepts in excerpts of their own choosing. By presenting and observing mini-lessons, students actively engage with course

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material, begin to grasp the relevance of theory study, and encounter a diverse corpus of examples including some familiar music. In the remainder of this essay I examine the challenges mini-lessons address, describe procedures for implementing them, enumerate benefits, and finally consider potential pitfalls for instructors who choose to include them in their own classrooms.

Challenges

Music professors often bemoan students' apparent inability to apply concepts taught in the classroom to other settings. Students seem to divide their knowledge into little boxes: in the theory classroom, they spell and identify chords; in the applied studio, they memorize scales and mark phrasing; in ensembles, they listen for and adjust intonation; and in the music history classroom, they remember dates and style periods. Called "silo thinking" in a recent essay on music-history pedagogy, the problem has long existed across disciplines.¹ For music majors, such compartmentalization invariably accompanies a view that academic classes serve as hoops to jump through, as necessary but irrelevant tasks that students must "get out of the way" in order to spend time on activities they deem important for meeting professional goals, such as individual practice. Try as they might, faculty members sometimes fail to help students overcome these habits of compartmentalization.

Many students may find music theory irrelevant in part because we do not always include enough music they know, like, care about, or encounter outside the classroom. We spend hours selecting music that most clearly exemplifies topics, balancing theoretical content with considerations such as visual clarity, and thereby introduce our students to repertoire while teaching harmonic, formal, and rhythmic concepts. Yet our students' unfamiliarity with the common-practice repertoire from which many examples are drawn can cause disconnection. Students enter college with disparate backgrounds: a pianist who has studied privately since early childhood sits in the same classroom as a clarinetist who played in public school bands and a self-taught guitarist who barely reads musical notation. The excerpts found in textbooks

¹ Haefeli (2016, 13). Non-integration of curriculum is also addressed in the recent and controversial "[Manifesto](#)" issued by the College Music Society's Task Force on the Undergraduate Music Major, but music- and non-music students have long compartmentalized their studies. Nearly six decades ago, for example, Richard Byrns (1960, 46) wrote about a "pragmatic barrier," represented by a student's asking, "sometimes resentfully, 'just what good is this course anyway?' ... Whatever the form of the question, it arises from the student's reluctance to study a subject for which he can see no 'practical' value."

and anthologies—indeed at times in our classrooms—may well be familiar to only a few students. To be sure, exposure to canonical repertoire does enrich students’ lives, but a student who rarely encounters familiar pieces receives a subtle message that may be interpreted in several ways, such as: “My music isn’t valued here”; “These concepts don’t apply to my music, therefore my music is considered deficient by this program, and further, my musical experiences are deficient”; or “what I am learning in class has little-to-no relevance to the music I am most interested in.”

In recent years, music scholarship and pedagogy have made great strides toward relevance and diversification.² Advocates rightly argue that opening new avenues for musical research promotes inclusion and equity in our fields; it is vital for students and scholars to see themselves represented in order to imagine their professional futures in music. But a wider-ranging repertoire of study also brings specific pedagogical advantages. If examples come from a mixture of styles and sources, our students will more likely encounter music that they already know and care about. In turn, this familiar music can help students see how theory relates to everyday experience.

Furthermore, to the extent that students already know pieces, they can concentrate on the topic at hand rather than having to divide their attention between the sounds and the theoretical concepts. Stuart Folse, for example, suggests incorporating well-known popular songs to facilitate learning: “students find it easy to recall musical patterns that aurally resemble other works *familiar to them*. ... since students are *exploring a familiar genre*, they are able to perceive and discuss musical concepts unencumbered by details of musical styles that are often distant (historically and sometimes, aesthetically) from their personal experience.”³ Melissa Hoag takes a different approach to using music that students already know, incorporating both popular examples and music from departmental ensembles’ concerts.⁴

Many contemporary textbook authors agree that the lack of diversity in repertoire and concomitant use of unfamiliar music diminish pedagogical effectiveness; in fact, some authors distinguish their textbooks or anthologies specifically through music choice.⁵ Approaches to broadening repertoire vary. For instance, one textbook

2 Just a few examples would include the well-attended session on “Mentorship and Diversity” at the 2017 Annual Meeting of the Society for Music Theory and the blog [Musicology Now](#) from the American Musicological Society.

3 Folse (2004, 66, emphasis added).

4 Hoag (2013, 11-14).

5 For example, see the “Preface” of Turek and McCarthy (2014, xxi): “The average student entering a college music program is less familiar with the repertoire that is the focus of the traditional theory

intersperses common-practice and post-tonal excerpts with vernacular styles that range from jazz standards to twenty-first-century R&B, while a recent anthology that encourages in-class performance contains music for nearly all instruments commonly studied in universities.⁶ We may celebrate the spectrum of music found in these publications, yet no single book can fully combat the problem; any excerpt—whether by Ferdinand David or Dave Matthews—may or may not be familiar to any given student. Since music departments serve a range of students, music faculty almost by definition will understand relevant and diverse repertoire differently, depending upon the population they are trying to reach. A conservatory student knows different music than does a liberal-arts or community-college student; all three deserve a suitable experience in the theory classroom.

The Mini-lesson as Solution

If we accept the premise that repertoire affects students' perception of music theory's relevance, and acknowledge that even the most diverse instructional material invariably falls short, a question still remains: how can we increase the likelihood that our students will encounter music that they care about? The obvious solution is to ask the students themselves. Readers of this journal may open each semester with a survey that includes a question such as, "name two pieces that you know and like."⁷ Though a good start, this still obligates the professor to track down the music and analyze it for appropriate theoretical content.⁸ Surely it would be better for students to find their own examples. With this in mind, I have formalized the task into a required assignment. Students examine their own music for theoretical content, and share their findings during class time in brief **mini-lessons**. This assignment guarantees that at least some students will be familiar with the musical examples, gives students valuable presentation and peer-teaching experience along with opportunities to

course then we all would wish. And the traditional theory course does a less-than-perfect job of proving its relevance to these students. As a result, too many students 'compartmentalize' their classroom learning [...] without fully realizing its value or applying it in the pursuit of their personal musical goals." Among the recent group of instructional materials with a focus on musical diversity, we might single out Bribitzer-Stull (2014), Snodgrass (2015), and Holm-Hudson (2016).

6 See Turek and McCarthy (2014) and Bribitzer-Stull (2014).

7 See, for instance, Jimenez (2016, 10).

8 An unfortunate anecdote: I used to include such a question on a survey at the start of each semester, and invariably lacked the time to analyze the pieces, thereby relegating to the category of busywork my students' efforts to answer the question.

engage actively with music theory concepts, and affords many other benefits that I detail below.

The idea of having students find examples in their own music is not original to me.⁹ Some textbooks include related suggestions, as in Miguel Roig-Francolí's chapter on modulation:

Modulation is one of the most essential harmonic processes in Western tonal music. It provides tonal variety necessary in complete compositions, it provides both a harmonic drive and tonal goals for long-range formal designs, and it contributes to creation of a tension between tonal definition and tonal instability, a basic element in formal generation of large movements. You have played many modulations in your life as a performer, and any of the compositions in your repertoire can illustrate modulating processes in one way or another. Find several of these modulations in pieces you perform, and bring them to class as examples. Specifically, try to find the following cases of modulation:

1. A modulation you especially like, perhaps because it leads from one key to another in an imperceptible, smooth way; or because it is very well crafted and perhaps you had always noticed how beautiful and effective the passage was; or because it is very surprising and you had always been struck by the boldness of harmonic motion in that passage; or for whatever other reason you may like it. [...]¹⁰

Unfortunately, such prompts typically appear in sections that seem ancillary or optional, for example under the heading "Review Questions" or in shaded boxes titled "Practical Application and Discussion," from which the previously quoted passage is taken.¹¹ Given the wealth of content in theory textbooks and the limited time we have with our classes, it seems likely that students will simply skip over these passages, and instructors may do so as well. Roig-Francolí implicitly acknowledges this danger in his Preface, suggesting: "Students are encouraged to discover and discuss the practical application of the harmonic concepts studied in each chapter [...] The importance of these sections, which will help students make the connection between what they study in theory class and their performance experience, cannot be sufficiently emphasized."¹² In an effort to sufficiently emphasize this vital interconnectivity between theory study and my students' other musical endeavors, I have developed the mini-lesson as a required assignment that students do not have the option of bypassing.

⁹ See, for instance, Rosenberg (2014, 168).

¹⁰ Roig-Francolí (2011, 485).

¹¹ "Review Questions" appear in Clendinning and Marvin (2016). "Practical Application and Discussion" boxes are in Roig-Francolí.

¹² Roig-Francolí (2014, xii). Note also that the discussion refers only to harmonic concepts. The Preface is presumably directed at the instructor, as it is followed by "A message to the student."

Procedure

My undergraduate students are required to present several mini-lessons per semester, each of which counts for three percent of the semester grade. Each mini-lesson lasts about five minutes and focuses on a single theoretical idea. Since one goal of this assignment is to give students presentation experience, they must arrange any logistic preparations, including copying handouts and cuing up recordings.¹³ I schedule mini-lessons at the beginning of the period so that students can set up before class. Students sign up in advance, and I allow a maximum of two per day, except during periods with a major exam or special event scheduled.¹⁴ In a typical mini-lesson, the student briefly introduces the piece and summarizes the concept it exemplifies, and then either plays a recording or performs the excerpt live. The student might subsequently comment about the piece or concept (for instance, noting an atypical resolution or harmonic progression). At this point, I solicit questions and comments from the rest of the class; if none are forthcoming, I offer my own. Using the rubric given in **Appendix 2**, I grade the mini-lessons using criteria of correctness, clarity of presentation, and preparation. Classmates also fill in the rubric and provide comments.¹⁵ Doing so requires them to attend to the presentations, and I believe that students will take the presentations more seriously if they know that their peers are listening closely.¹⁶

In my four-semester theory sequence, I require students to present two mini-lessons in each of the second and third semesters, and three in the fourth. My first-year students often find the transition to college stressful, and some would be unduly intimidated by having this requirement, so I do not require mini-lessons during Theory

¹³ For further details, see **Appendix 1**, the assignment prompt I give to my students.

¹⁴ Since the signup (handled through our course blog) is time-stamped, I enforce a first-come, first-served rule, which in my classroom seems to encourage a bit of healthy competition.

¹⁵ I recently started using an online version of the rubric using Google Forms, which expedites the task of distributing comments to the presenters. Often, I can give feedback to students on the same afternoon as their presentations.

¹⁶ Though the main purpose of the peer rubric is to keep the audience members focused on the presentation, an additional benefit may accrue. The rubric gives students practice making “evaluative judgements,” defined as “the capability to make decisions about the quality of work of self and others” in Tai, Ajjawi, Boud, Dawson, and Panadero, (2017, 5). Tai et al. identify two complementary tasks in evaluative judgement: students must recognize elements of quality work and must assess whether any given work meets the appropriate criteria. The peer rubric gives students experience in applying these skills.

I. By the time they reach Theory III and IV, though, students are more comfortable presenting to their classmates. Many of my students clearly enjoy introducing music they love to others, garnering a feeling of expertise or authority from doing so. Peer feedback reinforces this; on several occasions a student has complimented another on his or her “good find.”

The specific technique I have developed for the mini-lesson assignment works well in my program, but with some adaptations, mini-lessons will work in a wide variety of instructional settings.¹⁷ For example, teachers with larger classes might require fewer lessons overall; in lecture classes, mini-lessons could be offered as an extra-credit opportunity with required advance vetting by the instructor. Alternately, in programs that emphasize technology, students might create electronic mini-lessons that could be compiled into a video library and uploaded as a student resource. Conservatory professors might require that all mini-lessons feature live performance. I allow students to present on any concept covered in class and encourage them to choose repertoire from any source, but other instructors might wish to limit allowable topics or genres. Mini-lessons could also be adapted for other courses in a typical music curriculum, such as ear training or music history.

Benefits

My students have reaped many benefits from mini-lessons, both in theory class and more broadly. Students are more engaged when learning about music they know and like, and I can revisit the music to further support this engagement. Mini-lessons bring serendipity into the classroom, as students encounter extra-curricular or understudied theoretical topics. Students who have presented mini-lessons also appear to attend more closely to theoretical content in their own music, thereby discovering the relevance of theory and better understanding the music they study. Indeed, the score study, listening, and presentation involved in mini-lessons all represent the kinds of active learning that many professors aim to foster. Additionally, presenters gain valuable public-speaking experience and practice using music-theoretical terminology. Finally, mini-lessons can lead to problem solving. I will examine each of these positive effects in turn.

Increased engagement paves the way for other benefits, and mini-lessons

¹⁷ I teach at a primarily undergraduate-serving, public, regional, comprehensive university. My classes range from 10-15 students and meet for three hours per week. All music students take the entire theory and ear-training sequences with me.

invariably increase engagement by bringing in examples of music that at least some students care deeply about. Though on occasion the presenter is the only person in the room who knows the music, students often draw from their applied repertoire or ensemble music. The latter strategy guarantees some degree of familiarity.¹⁸ Some students enjoy presenting popular music; I have had students discuss mainstream songs like the Beatles' "Yesterday" and "Guns and Ships" from *Hamilton*, as well as fairly obscure ones like Twenty-One Pilots' "House of Gold."¹⁹ Well-known examples, whether popular songs, large ensemble literature, or solo repertoire, often elicit positive comments such as, "I love this song!" or "Great song!" (usually including at least one exclamation point).

Not only do mini-lessons increase engagement while students present them, they also give me a better way to learn about the music my students are studying.²⁰ Moreover, repertoire chosen for mini-lessons often includes additional concepts beyond the presenter's specific point.²¹ By knowing their music, I can help make theory class engaging and relevant for my students by revisiting pieces both later in the semester and with future classes.

Mini-lessons also impart a benefit that I had not anticipated when I started requiring them: they can touch upon secondary concepts that typically receive little or no emphasis in a theory curriculum, but are important nonetheless. A sampling of extra-curricular topics my own students have encountered would include tablature, melisma, piano pedal markings, and notational conventions in percussion and

18 Since applied faculty often assign the same pieces to multiple students, solo repertoire is often known by several classmates.

19 As part of my post-mini-lesson discussion, I often ask whether students know the piece just presented; only one student other than the presenter knew "House of Gold."

20 Students choose theoretical topics for mini-lessons, and I encourage them to construe their own repertoire very broadly to include listening repertoire and music they encounter off-campus; as a result, I have added many interesting examples to my teaching repertoire. To name just a few concepts I have learned about from students: compound melody in the Partita in A minor for Solo Flute, BWV 1013 by J.S. Bach; the Neapolitan in the theme from *Thunderball* by John Barry; chromatic mediant relationships between minor keys in Vaughn Williams's song "The Vagabond"; motivic augmentation in Beethoven's *Choral Fantasy*; the mediant triad in the theme from *The Office*; and 2+2+4 sentence structure in "The Love of L'Histoire," a multi-percussion solo by Charles DeLancey.

21 For example, one of my students discussed closely-related modulation in Bellini's aria "Malinconia, ninfa gentile," and I noticed that the introduction also featured a prominent Neapolitan chord, which the class had not yet studied.

classical guitar music.²² In addition, mini-lessons often reinforce subjects that form part of a curriculum but receive minimal emphasis. Examples of these from my recent experience include text-painting, instrumental transpositions, and the importance of fluency in reading C-clefs. Extra-curricular topics often arise from classmates' questions. A student who successfully fields such questions gains a safe opportunity to be the local expert in some area of music, a position in which all students will find themselves in the future. Therefore, I always deflect questions to presenters, even if other students direct questions to me. If necessary, I clarify confusing answers. Instructors who fear relinquishing any classroom control will find it difficult to refrain from jumping in with answers, but I believe the benefits to students outweigh any possible confusion. By embracing these serendipitous moments, an instructor can model curricular integration rather than compartmentalization.

Mini-lessons further resist compartmentalization by helping students understand that the concepts they learn in theory class apply to their solo repertoire, ensemble music, and other music they perform, listen to, and care about. Put another way, mini-lessons show students the relevance of music theory to music study. This may seem an obvious point to readers of this journal, but I have heard many student remarks to the contrary. Now, though, students sometimes express surprise to learn about this relevance in peer-evaluation rubric comments. Anecdotally, my interactions with students further support the notion that mini-lessons influence their views on the relevance of theory. After having required mini-lessons for several years, I find my students more likely to speak to me outside of class time, excited about finding a chord in their solo repertoire or a thematic transformation in an ensemble piece. My applied-music colleagues similarly relay anecdotes in which students discuss theoretical elements during lessons, often in the context of asking the applied teacher to confirm the student's proposed analysis.

The benefits of mini-lessons extend beyond the theory classroom. Countless studies show that active learning promotes longer-term knowledge than does passive absorption like reading and observing lectures.²³ Mini-lessons require students to actively apply their knowledge as they examine their own music. To present a successful mini-lesson a student must understand a concept well enough to recognize

22 For example, in percussion music staff position indicates instrument rather than pitch height. When first seeing guitar music, non-guitarists are regularly baffled by performance instructions such as uncircled Arabic numerals, circled Arabic numerals, and the italicized letters "*p i m a c*," which all have specific meanings.

23 See, for example, Cherney (2008) and Warburton and Volet (2012).

it unaided, either through score analysis or listening. The mental activities students undertake could almost be used to define Bloom's taxonomy of cognitive domain learning: they remember and comprehend concepts, apply theoretical knowledge, analyze musical content, and synthesize their understanding in order to present it concisely to classmates.

Students giving mini-lessons also gain practice speaking in public, both in general and about music in particular, skills that will serve musicians well. Though the main topics in my syllabi encompass the normative harmonic, rhythmic, and formal features of common-practice/post-tonal music, I would be neglectful if I refused opportunities to help my students develop these communication skills.²⁴ Beyond the general, mini-lessons give students practice using appropriate vocabulary to talk with musicians about music. As Sara Haefeli notes, "music students may be passionate about works or performances, but often do not have the skills to communicate their musical insights ... we want students to be able to not only identify, classify, and label specific musical phenomena, but to also appraise, differentiate, evaluate, and argue effectively about music."²⁵ A music history professor, Haefeli refers to written rather than oral communication, but her points apply broadly, and mini-lessons give students these valuable experiences.

Finally, mini-lessons encourage (or sometimes even require) students to develop creative strategies to solve problems they encounter while preparing their presentations. For instance, some students find examples through score analysis, but do not have recordings. Playing live in class has its own benefits, but some students pursue alternate strategies. Examples from my classes include a saxophonist recording a pianist playing a church hymn, and a vocalist recording himself and his accompanist rehearsing an aria. Other students conduct as their classmates sight-sing examples. Yet other students have encountered the opposite problem: having a recording but lacking sheet music. A percussionist in this circumstance produced a fairly detailed transcription of a popular song; his main topic was modulation to the relative major, but he also showed polyrhythms, which the students had learned in ear-training class.

Though not every mini-lesson is an unqualified success, occasionally students display remarkable creativity in relating theoretical concepts to their own music. In

²⁴ Oral communication skills consistently appear at or near the top of lists of skills employers look for. See, for instance, Portland Community College's "[10 Top Skills That Employers are Looking for In Employees \(2017 Edition\)](#)," The Balance's "[Top Skills and Attributes Employers Seek](#)," and the University of Kent's "[What are the top ten skills that employers want in graduates?](#)"

²⁵ Haefeli (2013, 39-40).

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Blade, Benjamin Finley
TapSPACE Publications LLC, 2010

Example 1

Annotated score and video of Finley, "Blade" (student analysis).

one of my all-time favorite mini-lessons, another percussion student exceeded my expectations in this respect. I had taught the common-practice tonic/dominant phrase model, and my student applied this to a contemporary unpitched multi-percussion piece. He analyzed an excerpt of *Blade* by Benjamin Finley as analogous to a parallel interrupted period; specific instrumentation and rhythmic figures represented tonic, predominant, and dominant functions. Example 1 presents his annotated score and a video of him performing the excerpt. He shared his interpretation with classmates, adding that considering the piece in this way uncovered connections between two disparate styles of music. His classmates were convinced, and I believe his lesson gave them insight into percussion music in general. Hearing from a peer rather than a professor surely made the ideas more memorable and immediate.

Potential pitfalls

As with any teaching technique, mini-lessons can contain pitfalls. Instructors who wish to start assigning them should have a plan in mind for each of the following situations. Most obviously, students sometimes present incorrect analyses, and instructors must correct errors tactfully to avoid embarrassing the presenter. Students have less experience with time management than faculty have, and can ramble well past the five-minute mark. They also occasionally run into what we might call the “excerpt problem,” in which the example gives insufficient musical context for classmates to hear and understand the theoretical idea featured. Other potential issues include problems related to the use of classroom technology, and the occasional cavalier attitude to filling out the peer-evaluation rubric, on which students sometimes disregard areas for improvement or write gratuitously negative comments.²⁶ Some students might turn to outside resources such as Timothy Cutler’s [website of tonal theory examples](#) rather than finding their own examples.²⁷ Finally, just as with any other assignment, some students insufficiently prepare for their mini-lessons, and therefore do a poor job.

The effectiveness of a mini-lesson can hinge on which specific topic a student

²⁶ Of these two extremes, my students tend to be too nice, but once or twice I have had to redact a scathing comment.

²⁷ By doing so, of course, students cheat themselves of the opportunity to learn about the connections among their various pursuits, so instructors may wish specifically to forbid this practice. I have not found it to be common in my classes, though. This may be in part because in my small department, I regularly observe students performing solo repertoire, and often speak with applied-music teachers and conductors. Therefore, I have some knowledge of the music my students are working on at any time.

discusses. Easiest for students to handle are those that can be dealt with atomistically, such as a specific chord or thematic transformation. Many of my students have found success with examples of phrase structure and cadences as well, but longer forms can present a serious challenge within the time constraints of a mini-lesson. However, some of my more ambitious students have made creative use of sound-editing software to produce excerpted recordings.

One last concern is enforcing the mini-lesson requirements. Every semester some students avoid making their presentations until late in the semester, especially in the lower-level classes. I think they are scared, either of public speaking or of making mistakes in their analyses.²⁸ To try to combat this problem, I regularly remind students of the importance of mini-lessons with respect to both their learning and their grades. I also emphasize that students need not understand every detail of a passage, just the main point of the mini-lesson.²⁹ Nonetheless, a few of my students have earned lower grades because they failed to present all their required mini-lessons. A possible solution would be to include a requirement in the syllabus that all course components must be completed to pass the course or a requirement that students must present their first mini-lesson by a certain date in the semester.

Conclusion

Many college instructors try to incorporate real-world examples into their teaching. Music theory instructors try to do so as well, but the size of our real world—all the music our students might ever encounter—makes this a daunting task. When our students find and teach their own relevant examples, they start to see the applicability of theory study, engage actively in their own learning, and encounter broader repertoire in our classrooms. Our students also gain valuable experience speaking in public, including specific practice communicating about music. By presenting mini-lessons and observing their peers, our students learn about interconnections among

²⁸ I refer here to the common discomfort with public speaking that many adults experience, which I believe can be alleviated with positive experiences such as presenting successful mini-lessons. Some students, however, might experience intense anxiety that can qualify them for accessibility services. I would urge instructors to discuss such cases on an individual basis with campus disability coordinators to work out alternate arrangements, such as allowing a student to pre-record a mini-lesson rather than presenting it live.

²⁹ As every theory teacher knows, examples with extremely limited harmonic content are rare; therefore, students in earlier levels are more likely to find examples with some concepts they have not yet studied.

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theory and applied study, ensemble performance, and everyday music, whatever that may mean to them. Mini-lessons may oblige instructors to sacrifice a bit of lecturing time, but this is easily outweighed by the great and lasting benefits to students.

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Appendix 1: Mini-lesson Prompt

Background and overview

Concepts you learn in Music Theory class are broadly applicable beyond the specific pieces we study in the classroom. For example, you can find embellishing tones in popular styles, various diatonic triads in contemporary choral music, or thematic transformation in your solo repertoire. A great deal of research has shown that students learn more thoroughly when they actively engage with course material; two millennia ago, Roman philosopher Seneca the Younger wrote, “*Homines dum docent discunt*,” or “Men [sic] learn while they teach.”

In order to strengthen your learning and to encourage you to connect your music theory study with other aspects of your musical life, you will be required to present “mini-lessons,” in which you find examples from your own repertoire³⁰ of theory topics and teach them to your classmates. Each mini-lesson will be a brief presentation focusing on a single idea. As the teacher, you will decide upon the most effective way to teach the topic, but certain elements will be required. At minimum, the mini-lesson will contain a live or recorded performance of the excerpt to be analyzed, and copies of the sheet music for class members (with possible exceptions to be discussed below).

Specific requirements

- **Number:** Starting with the second semester of music theory, students are required to present the following number of mini-lessons per semester. Each is worth 3% of your semester grade.
 - Theory 2: 2 mini-lessons
 - Theory 3: 2 mini-lessons
 - Theory 4: 3 mini-lessons
- **Length:** Mini-lessons should be no longer than 5 minutes.
- **Content:** The mini-lesson should focus on a single theoretical concept that we have studied in class. Generally, it is a good idea to choose a topic that we have finished studying, so you can be confident that you fully understand it. You may go back as far as late in the previous semester, but recent material will be fresher in your and your classmates’ minds. Although your music may

³⁰ “Your own repertoire” is defined broadly. It may include solo music, etudes, or other music studied in your applied lessons; music performed or rehearsed in large or small ensembles; and music you listen to (including popular styles). If you have any questions about allowable repertoire, ask the instructor.

have some elements that are more advanced than your study thus far, you should have a good grasp on the specific topic of the lesson. The point is to teach your classmates rather than to figure things out as you go along.

- Single concept: You may NOT do a “double mini-lesson.” If a piece has two separate concepts that you wish to explain, do two different mini-lessons on the same piece. You may NOT do a “double mini-lesson.”
- Sound: The mini-lesson should include the musical excerpt played at least once, and possibly more than once. You may perform it live or play a recording. If you plan to play a recording, be sure you familiarize yourself in advance with the audio equipment (ask me or a music technologist if you have any questions).
- Handouts: Provide a one-page handout for each class member; identify the composer, title, opus number, and movement (if applicable). These should be handed out at the beginning of your lesson. The handout should show the excerpt to be played without extraneous information. If the piece is for some kind of ensemble, the handout should include all parts (a reduced score is acceptable). Similarly, a handout for an accompanied solo instrument should include the accompaniment. Annotate the music to show the concept (for example, you might provide roman numerals, circle motives, or label cadences).
 - Possible exception: if your lesson focuses on a piece for which the score is not available (such as a popular or electronic piece), AND the concepts are audible without notation, you may present your lesson as an “aural analysis.” This will be much more challenging for your classmates to grasp, however, and is generally not recommended. It will require you to guide your classmates’ listening carefully; done poorly, it will lead to frustration on your and your classmates’ parts.
 - Possible alternative: uploading the excerpt to the course blog would be an acceptable alternative way to provide classmates with sheet music. However, in my experience, these can sometimes be hard to read, and/or students can have technical challenges with image formats, etc. Thus, mini-lessons are sometimes less effective if handouts are not provided in paper format.
- Grading and feedback: The mini-lesson rubric includes criteria for grading. This rubric will be filled out by both the professor and your classmates. Your grade will be the average of the professor’s grade (weighed at 2/3) and your

classmates' average grade (1/3). General criteria include correctness (does the excerpt contain the concept as you said it does?), clarity (do you present the material clearly? Is your lesson easy to follow?), and preparation (was your lesson ready to go at the appointed time?).

- The rubric includes space for comments. I will transcribe your classmates' comments (anonymously) and put them in your Google Doc along with your grade.
- Signup: Mini-lessons are assigned on a first-come, first-served basis. A maximum of two per class period are allowed. Sign up in advance on the course blog. Under the blog heading, click on "Mini-lesson signup" and add a comment including the date, composer/piece, and topic of your lesson.

Appendix 2: Peer-review Rubric

Students receive one copy of this page, and several copies of the slip on the following page. They also have a link to an online version of the rubric.

(5) Content	5 The excerpt contains an instance of the concept, which is correctly analyzed at a level appropriate to the student's knowledge level.	4 The excerpt contains an instance of the concept; the analysis is not quite correct, but close.	3 The excerpt contains an instance of the concept; the analysis is incorrect.	2 The excerpt contains a related concept.	1 The concept does not occur in the excerpt; nor does anything remotely related.
(3) Clarity/ delivery		3 The following criteria are all met: a) Student speaks clearly and coherently. b) The example is easy to read and the instance in question is clearly marked/annotated (unless student uses directed questions). c) The student explains the concept well, or uses directed questions effectively.	2 Two of the criteria listed are met.	1 One criterion is met.	0 None of the criteria are met.
(2) Preparation			2 All elements are ready at the appropriate time (e.g., recording is cued, sheet music is quickly handed out or posted on the blog before class time). The composer and title (and title of the larger work, if appropriate) are clearly indicated.	1 Some elements are ready at the appropriate time, but others require waiting/downtime.	0 Few to no elements are ready. The class must wait a long time.

Date: _____						Your name: _____						
Presenter: _____						Composer: _____						
						Title: _____						
Content [5]	5	4	3	2	1							
Clarity/delivery [3]			3	2	1	0						
Preparation [2]				2	1	0	Total: _____					
Comment: _____												

The History of Music Theory and the Undergraduate Curriculum

ROBERT W. WASON

Since the 1950s we have made tremendous progress in our knowledge of the history of music theory; yet, apparently very little has filtered down to undergraduate textbooks. The present paper shows that other fields—particularly philosophy and mathematics, whose histories are intertwined with ours—make much more use of their own history in undergraduate education. The paper then provides a view of a historically and theoretically based curriculum that Matthew Brown and R. Wason taught at the Eastman School in 1999-2000. It finishes with a call for a “liberal book” on music theory for undergraduates, as one writer on science education has called books that provide a richer intellectual context for the scientific skills they teach (Michael R. Matthews, *Time for Science Education: How Teaching the History and Philosophy of Pendulum Motion Can Contribute to Science Literacy* [NY: Kluwer/Plenum, 2000]). That author contrasts this to “professional texts,” which “lack a story line: concepts, definitions, refinements, model problems and end-of-chapter exercises are the staple” (323)—an apt description of many undergraduate music theory textbooks as well.



I.

The years since the end of World War II have seen remarkable growth in our knowledge of the history of music theory. One thinks, for example, of Ratner’s articles on 18th-century theory from the late 1940s and 50s, Strunk’s *Source Readings* of 1950, or certain articles in the newly conceived encyclopedia, *MGG*, such as Palisca’s survey, “Kontrapunkt,” published in 1958.¹ The pace picked up considerably in the 60s through 2000, with the appearance of at least five historical translation series² and many groundbreaking articles and books, the latter including SMT prize-winners.³ The

This article originated as a keynote lecture for the forty-fifth annual meeting of the Music Theory Society of New York State (April 2-3, 2016), held at the Mannes School of Music at the New School. This version reflects the occasional nature of the work’s origins, and the original lecture with voiceover can be found as a PowerPoint file at this journal’s website: <http://jmtpp.appstate.com/articles>.

1 Ratner (1949 and 1956), Strunk (1950), and Blume (1949-).

2 American Institute of Musicology, Armen Carapetyan, Director; Yale University Press Translation Series, Claude V. Palisca, ed.; Brooklyn, NY and Ottawa, Canada: Institute of Mediaeval Music, Musical Theorists in Translation; Colorado College Music Press Translations, Albert Seay, ed.; University of Nebraska Press, Greek and Latin Music Theory, Thomas J. Mathiesen, ed.

3 I note that 2018 was a banner year for the history of theory, with *two* SMT prize winners: Hicks

2002 *Cambridge History of Western Music Theory*⁴ was essentially a stocktaking of this development, greatly aided by the work carried out at the Prussian State Institute for Music Research in Berlin. The Berlin *Geschichte der Musiktheorie* commenced publication in 1984; nine volumes were available by the mid-‘90s when the Cambridge history got underway.⁵ There’s still plenty to do in the history of music theory. Much of the virgin territory provisionally mapped by Ian Bent in an SMT keynote address nearly a quarter of a century ago remains unexplored.⁶ Still, my teaching of the early history of theory since about 1990 has shown me that the story already revealed is a very long, rich, and interesting one.

In fall 2015, for example, I began my course by talking about music theory in cuneiform writing, carved with a wedge-tipped reed on clay tablets in ancient Mesopotamia. In Example 1 we see, from a number of different angles, a relatively late tablet dating anywhere from the Kassite to the Neo-Babylonian period, c. 1600 to 530 BCE, the most recent date contemporaneous with Pythagoras. The chronology is given in Example 2.

CBS 10996 was of interest to scholars first for its mathematical content, but later was found to contain music theory as well, demonstrating the close relationship between them. Once an earlier tablet was deciphered, it was possible to reconstruct the names and placement of fourteen intervals: the seven possible scalar fifths/



Example 1

Tablet CBS 10996, at the Museum of the University of Pennsylvania.

(2017), and Parkhurst (2017).

4 Christensen, ed. (2004 [2002]).

5 Zaminer, ed. (1984-2006). The projected total of fifteen has been revised: eleven volumes have appeared; the twelfth and last is apparently still underway.

6 Bent (1993).

fourths (counting the tritone) and the seven thirds/sixths, squeezed into a mod-7 octave as shown in Example 3. The interval names enabled scholars to read the tablet “Fragment 7/8o,” summarized in part in Example 4. Its harp tuning method amounts to a series of “modulating” scales that adumbrate the Greek *tonoi*. Thus the basic materials of Ancient Greek music theory very likely came from Mesopotamia.⁷

Music in ancient Mesopotamia and Egypt

Marcelle Duchesne-Guillemin

The civilization which began at Sumer developed contemporaneously with that of Ancient Egypt. As is well known, the latter was very much influenced, from the New Kingdom onward, by the Babylonian and Hittite off-shoots of the Sumerian culture. One of the most striking elements of Sumerian culture is the sudden appearance about 2600 B.C. of instruments (harps and lyres) so elaborate that they presuppose a long previous development of which no trace is left. Here it may be convenient to give some indication of the conventional chronology followed:

Mesopotamia		Egypt	
Prehistoric period	pre-3000 B.C.	<i>Predynastic</i>	pre-3000 B.C.
		First and second dynasties	3000-2780
<i>Sumerian civilization</i>		<i>Old Kingdom</i>	
Early dynastic	2900-2370	3rd-beginning 11th dynasties	2780-2040
Royal cemetery of Ur	2600	<i>Middle Kingdom</i>	
Sumero-Akkadian period	2370-2100	11th and 12th dynasties	2040-1730
3rd dynasty of Ur	2100-2000	Hyksos period	1730-1562
<i>Babylonian civilization</i>		<i>New Kingdom</i>	
Old Babylonian	2000-1600	18th dynasty	1562-1308
Kassite invasion and		19th and 20th dynasties	1308-1085
hegemony	1600	<i>Late period</i>	
Rise of Assyrian power	1350-1000	21st-26th dynasties	1085-525
<i>Assyrian empire</i>	1000-612		
Neo-Babylonian period	612-539		
<i>Achaemenid period</i>	539-330		
<i>Parthian period</i>	250 B.C.-A.D. 330	<i>Ptolemaic period</i>	306-30 B.C.
		<i>Roman period</i>	1st century B.C.-6th century A.D.

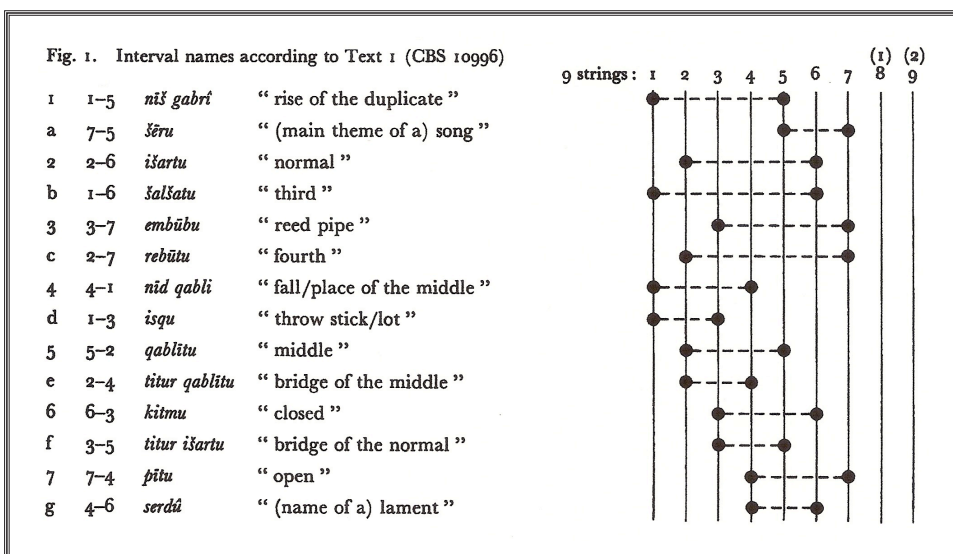
World Archaeology Volume 12 No. 3 *Musical instruments*

© R.K.P. 1981 0043-8243/81/1203-0287 \$1.50/1

Example 2

Mesopotamian Chronology (from Duchesne-Guillemin 1981).

⁷ The best introduction to this topic is Kilmer and Mirelman 2001.



Example 3

Mesopotamian interval names transcribed from CBS 10996 (from Kilmer 1984).

Well here's Pythagoras in Example 5, perhaps just back from Babylonia, where he is alleged to have traveled, carrying an anachronistic "book," of all things. It was the Ancient Greeks who put the theory into *Musica Theorica*,⁸ for Pythagoras proposed a *structural explanation* of certain preferred intervals, i.e., *their ratios*, and started an unbroken tradition of music-theoretical thought that goes on to the present day.⁹ I'd ask the authors of the undergraduate books telling us of Pythagoras's discovery to keep in mind, however, that an interval as a "ratio" is not immediately intuitive to most musicians. Surely Aristoxenus's competing idea that an interval is a distance along an imaginary line gets much closer to our musical intuition. The controversy surrounding these ideas remains worthy of discussion today, and as the first true "music theorist" with a name, Aristoxenus, who actually set ground-rules for music composition, surely should be given his due! Yet, admittedly, the *musical* conception

8 "[T]hat the methods worked was sufficient justification to the Babylonians for their continued use. The concept of proof, the notion of a logical structure based on principles warranting acceptance on one ground or another, and the consideration of such questions as under what conditions solutions to problems can exist, are not found in Babylonian mathematics." Kline (1990, v.1, 14).

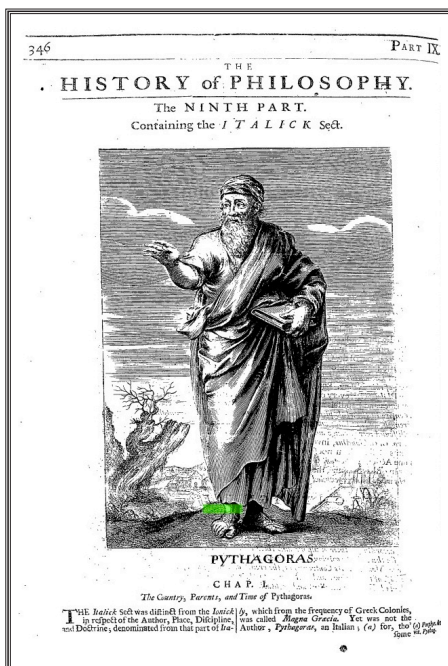
9 See the catalogue of Phanes Press, David Fideler, editor. Today's practitioners are surely outliers, but they do exist.

	Thetic notation	Dynamic notation
	I II III IV V VI VII VIII IX i.e.	'Starting-note'
<i>isartum</i> -tuning		
<i>kitmum</i> -tuning		
<i>embubum</i> -tuning		
<i>pitum</i> -tuning		
<i>nit/d</i> MURUB-tuning		
<i>niš</i> GABRI-tuning		
<i>qablutum</i> -tuning		
<i>isartum</i> -tuning		

FIG. 1.

Example 4
Mesopotamian scales (from Wulstan 1968).

of “interval” was of secondary interest, especially during the Classical Period, for the musical ratios and proportions were regarded as instantiations of *harmonia*—the structure of the human soul, and of the very Universe itself. *That* was the point! The salubrious effect of music so constructed prompted Plato (on the left in Example 6) to make it foundational to education in his ideal republic.¹⁰ Nine hundred years later, *musica*, the further development of these “universal” ratios and proportions by



Example 5
Pythagoras, from Stanley (1701).

My whirlwind tour winds up here with the advent of the Modern Theory of Harmony that most of you know well, and is meant to show that when compared either to the histories of other academic disciplines, or of Western Art Music of quite recent vintage that most of our colleagues specialize in, we’re in very good shape.

Pythagoreans, Neo-Pythagoreans and Neo-Platonists, became part of the curriculum dubbed *quadrivium* by Boethius (Example 7). Along with *arithmetica*, *geometria* and *astrologia*, and the preparatory curriculum later called *trivium*—*grammatica*, *rhetorica*, and *dialectica*—it was taken into the new universities in the 13th century (Example 8).

Miraculously, *musica* survived a withering critique during the Scientific Revolution of the 17th Century.¹¹ In Book I of his *Traité de l’Harmonie* of 1722 (Example 9) “Du rapport des Raisons & Proportions Harmoniques,” Rameau returned to what I call the “Classical Theory of Harmony” of Pythagoras and Plato as transmitted by Zarlino (who revised it to include imperfect consonances). Rameau developed it further to include dissonances as well—quite an extraordinary step.¹² The possibility of “dissonant harmonies” had arrived!

¹⁰ See “Republic III,” especially 401.d-402.a, on music and poetry as essential curricular components. Cooper (1997, 1038f).

¹¹ Cohen (1984).

¹² Rameau (1722).



Example 6
Raphael's Scuola de Atene (1509-11);
Apostolic Palace, Vatican City.



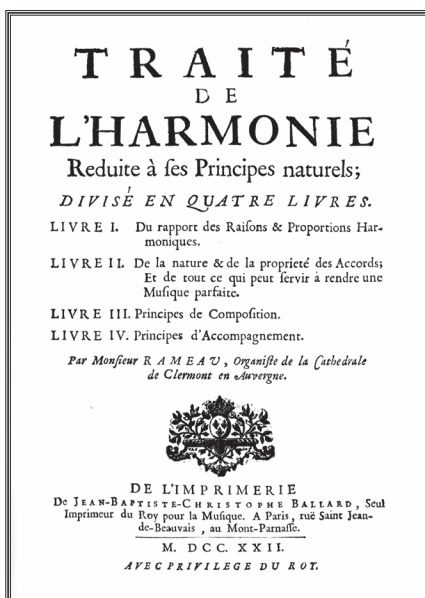
Example 7
Boethius teaching his students. Initial from folio 4r of a ms. of *Consolation of Philosophy*
(Italy? 1385); MS Hunter 374 (V.1.11), Glasgow University Library.

Indeed, while *Philosophia* was the pinnacle of university study, its recorded history may be shorter than that of music theory, which likely arose from music making and teaching in Mesopotamia between 2000 and 3000 BCE, as we have seen. As the title



Example 8

The Trivium and Quadrivium. From Smits van Waesberghe (1969).



Example 9

Rameau's Traité de l'harmonie (1722).

of one of my undergraduate books put it, *History Begins at Sumer*.”¹³ Little did I know it at the time, but it’s our history too as music theorists. Thus our story *should* be of interest to many who read about music theory, music in general, or cultural history—and to others reading in allied disciplines such as mathematics and language study, from which music theorists have long borrowed. Told well, it *can* be of interest to undergraduates too. Yet in my perusal of today’s most-used theory textbooks, I didn’t turn up much history of theory. True, old Pythagoras enters occasionally to introduce intervals, and Fux tries to motivate counterpoint within a discussion confined to harmony. And then there’s Guido’s hand..... But that’s about it. And these appearances are almost never integrated into the larger narrative: they’re usually in text boxes or appendices.

I wondered whether the situation was similar in other fields of study. On checking, I found that, unlike the history of theory at Eastman, the history of mathematics *is* taught in the undergraduate program at RIT and at my own University. And several authors—a couple even of trade books—have shown that new developments in mathematics and the sciences were sometimes prompted by the search for solutions to real-world problems.¹⁴ The discussion of *musical* problems and the differences of approach of the various theorists dealing with them could make interesting reading as well, the most obvious cases in point being the varied reactions to the new tonal language of the eighteenth century and the musical languages of the twentieth. Perhaps there’s an undergraduate music theory “reader” on tonality in that idea.

II.

I come now to Part IIA of this paper: a few telling remarks on two classic undergraduate theory textbooks. In the B section of Part II, I’ll move to undergraduate textbooks in other subjects, for I chose a title that avoids the phrase “undergraduate curriculum in music” because I think that parts of our story can be told in synergetic courses co-taught by music theorists and specialists in other disciplines, and, most important, that undergraduate teaching in other disciplines may hold lessons for our own teaching. In Part III, I’ll tell you about a core freshman course centered on theory, analysis and history of theory that Matthew Brown and I co-taught, and in Part IV, I’ll attempt to answer two questions: 1. why has so little of the history of theory filtered down to undergraduate texts; and 2. what’s to be gained by integrating some of it into those texts?

¹³ Kramer (1959).

¹⁴ For example, see Kline (1953), Matthews (2000), and Sobel (1995).

As a representative of the Eastman School, I begin appropriately with one of Allen Irvine McHose's "green bibles," as Eastman students of the late 1940s through the 60s called them, *The Contrapuntal Harmonic Technique of the 18th Century*, published in 1947. Example 10 reproduces the cover of the "green bible"; Example 11 shows an interesting page that fits well with where I left off in my resume of the history of theory—Rameau, the practical theorist, with regard to whose method McHose has written (starting on the previous page):

...The practice of arranging the three notes of a triad in such a way as to have either the root, third, or fifth as the lowest note is called the *theory of inversion*...established by Jean Philippe Rameau during the 18th century. The student will find that this theory of inversion is the foundation approach to understanding the structure of music during the 18th and 19th centuries.

It was Rameau's belief that major and minor keys were established by chord progression. His approach to proving this theory was through the theory of inversion. His method of attacking the problem confined itself to analysis of the music being composed by his contemporaries. His first step was to write, on a third staff placed below each line of the score, the root of every chord. The following Bach chorale illustrates Rameau's method of procedure: [See Ex. 11.]

The succession of roots written on the accompanying staff below each line of composition is called the *fundamental bass* by Rameau. The next step in Rameau's analysis is to study the distance between each two bass notes in order as the composition progresses.¹⁵

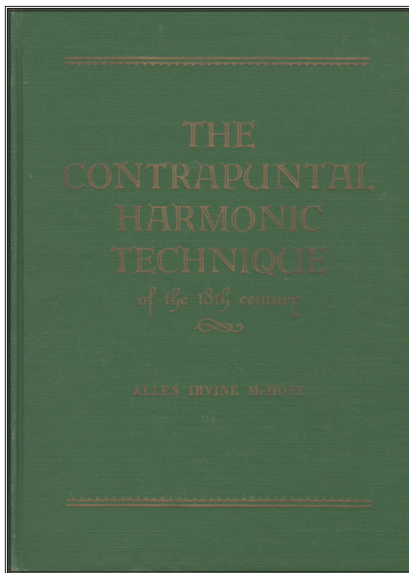
My first impression is that while not poetry, the meaning of these staccato, declarative sentences could not be clearer. At the same time, McHose follows good scholarly practice: he's also clear about just where he's coming from. Yet, when he claims that Rameau attempted to prove his theory by analysis of the music being composed by his contemporaries he exaggerates.¹⁶ Rameau's work was hardly a "corpus study," as McHose advocates.

I've shown this particular page because of the Bach chorale with a fundamental bass. The young reader may get the impression that Rameau analyzed Bach, which is false.¹⁷ Rameau, the most famous French composer of his time, was probably unfamiliar

¹⁵ McHose (1947, 2-3).

¹⁶ There are perhaps a half dozen "analyses" in all of Jacobi's massive edition of Rameau's complete theoretical works (not yet available when McHose wrote, nor was Gossett's translation of the *Traité*). See Rameau (1971) and Erwin R. Jacobi, ed. (1967-72).

¹⁷ The analysis is not by Rameau. I double-checked with Thomas Christensen, *the* expert on Rameau, just to be sure I hadn't missed some new discovery. Perhaps because of McHose's book, I once heard a colleague at Eastman claim that "Rameau developed his theory to analyze Bach"—not a colleague in Theory or Musicology, I hasten to add.

**Example 10**

The “green bible”: McHose 1947.

INTRODUCTION 3

tion approach to understanding the structure of music during the 18th and 19th centuries.

It was Rameau's belief that major and minor keys were established by chord progression. His approach to proving this theory was through the theory of inversion. His method of attacking the problem confined itself to analysis of the music being composed by his contemporaries. His first step was to write, on a third staff placed below each line of the score, the root of every chord. The following Bach chorale illustrates Rameau's method of procedure:

Ex. 9. Was Gott tut, das ist wohlgetan

fundamental bass

The succession of roots written on the accompanying staff below each line of a composition is called the *fundamental bass* by Rameau. The next step in Rameau's analysis is to study the distance between each two bass notes in order as the composition progresses. Considering the interval of a fourth as the inversion of the fifth, the intervals appear in the fundamental bass of the preceding example in the following frequency:

PRIME	FIFTH APART	SECOND APART	THIRD APART
6	26	2	4

That is, there were six repetitions of the same chord, twenty-six progressions with the roots of the chords a fifth apart, two progressions with the roots of the chords a second apart, and four progressions with the roots of the chords a third apart. This table, however, does not give the true facts of the theory of fundamental bass, and further analysis is necessary.

The following chorale is found in C. Heinrich Graun's *Psaltem*:

Example 11

McHose on Rameau (McHose 1947: p. 3).

with some North German musician known principally as a virtuoso organist (though Bach certainly knew Rameau's music very well indeed). I *wish* Rameau had done this analysis; I'd like to see just how he would have handled the two stepwise progressions (questions McHose begs in his literalist interpretations), especially the second one. As is well-known, Rameau essentially forbade stepwise progressions, what might be called Rameau's law of chord progression, if we had music-theoretic laws named for their inventors as the sciences have. But he did *think* about them and develop clever work-arounds, and I doubt McHose has. Nonetheless, given the music theory of the time, McHose's book gets a pretty good grade in light of the present project, since he integrates his own work within the larger history of theory knowledgeably and convincingly.¹⁸

I now turn to a book that appeared fifteen years later, in 1962: Allen Forte's *Tonal Harmony in Concept and Practice*, a pioneering effort at adapting ideas drawn from 18th-century figured-bass theory and Schenker to the American pedagogy of harmony. When Forte's book first appeared, Schenker's *Harmony*, and Salzer's *Structural Hearing*,

¹⁸ He also recounts that history competently as he would have learned it from Shirlaw (1917), the authority of the time, whose book centers on Rameau.

were well-known.¹⁹ But Forte never mentions Schenker's name until the second edition of 1974, when he includes an excellent chapter on "Large-Scale Arpeggiations, Passing and Auxiliary Notes," the opening page of which carries the footnote, "Although the influence of Heinrich Schenker is apparent in other portions of the present volume, it is most explicitly evident in this chapter. The author's indebtedness, which extends over a period of many years, is gratefully acknowledged."²⁰ Given the simplified voice-leading graphs Forte uses to make his points, as well as the chapter on "linear intervallic patterns" (a new idea in the second edition, inserted into the earlier chapter on "linear chords"), the acknowledgement is essential, but as Forte admits, the rest of the book—in the first edition as well, I'd add—shows the influence of Schenker, though primarily the influence of his later works, which were not translated at that point.

Despite his departure from conventional theory of the time, Forte is anxious to be seen as imparting a tradition, writing that "... many characteristics of the present textbook are deeply rooted in tradition as indicated by the passages quoted at the head of each chapter."²¹ Let's look at the beginning of Ch. 1 as an illustration. Jean Benjamin de Laborde (a librettist, historian and composer—one of Rameau's students, in fact—) writes, presumably in Forte's translation:

Composition consists in two things only. The first is the ordering and disposing of several sounds...in such a manner that their succession pleases the ear. This is what the Ancients called melody. The second is the rendering audible of two or more simultaneous sounds in such a manner that their combination is pleasant. This is what we call harmony, and it alone merits the name of composition.

Not surprisingly, Laborde sides with Rameau in the Rameau vs. Rousseau controversy. Rousseau took the anthropological view that melody reigned supreme, while Rameau was the theorist of "harmony" steeped in the tradition, though he would radically redefine it theoretically in both Book I and Book II of the *Traité*.²² Yet Forte leaps to the end of the quotation: harmony = composition—case closed. What a missed opportunity to bring up an interesting debate, at least briefly, and to contextualize the study of harmony: melody *did* come first, of course, but it was *analyzed* harmonically—by the ancient Greeks!

¹⁹ Schenker (1954); Salzer (1952).

²⁰ Forte (1974, 397).

²¹ Forte (1962, iii).

²² For more on the controversy between Rousseau and Rameau, see Verba (1993, 38ff.).

As excellent as the core harmony-pedagogy is in Forte's book, he's a bit late in acknowledging the book's debt to Schenker and doesn't try hard enough to integrate the quotations from the history of theory into its overall narrative. In the book's defense, Appendix Two in the first edition provides a one-line biographical note and dates on each of the authors quoted, but inexplicably, it was removed from the second and third editions, and none of the entries gives us any indication as to *why* the writer in question was quoted. Thus, the quotations ultimately seem like 18th-century window-dressing. Confronting, in *greater depth*, Schenker, 18th-century history of theory—two topics that fit together rather well, after all—and their implications for the American teaching of harmony, would have improved the book.



I turn now to undergraduate textbooks in five other subjects: mathematics, biology economics, psychology and philosophy. I emphasize at the outset that there's nothing comprehensive, or "scientific" about what I'm about to say: I worked completely ad hoc, largely from responses by colleagues in these fields I asked for "standard undergraduate textbooks."

I'll start with three books in mathematics, first the book on "contemporary abstract algebra."²³ Despite the title and relative youth of the discipline, the author writes that "...every undergraduate mathematics course should have a liberal arts character. I have tried to achieve this with comments, historical notes, quotations, biographies and photographs, and in general, by my approach to the entire subject" (Gallian 1990, xi). Biographies of 29 mathematicians are spread throughout the book, their ordering based on text topic rather than chronology. The book also includes a two-page "Index of Mathematicians," (Gallian 1990, A 39-40) listing, by my rough count, nearly one hundred names, often with multiple page references; those whose longer biographies are provided are bolded out. Of course, some of this historical approach is motivated by the general scientific practice of attributing solutions and innovations to those individuals who discovered or invented them. The seven-page "Index of Terms" (Gallian 1990, A-41-47) bears this out, but there's little overlap with the Index of Mathematicians, the page entries of which mark more than a mere mention of an eponymous inventor of a technique.

Next, I turn to James Stewart's calculus text of 2005. It's very long, colorful, and uses text boxes, pictures and marginal commentary frequently, presumably so that

²³ Gallian (1990).

the text looks more inviting. In short, the book is a 21st-century computer-generated textbook, and weighs in like one, looking more like an encyclopedia volume (if you remember those), than a “book.” It uses two devices rather well to contextualize the technical content: “applied projects” (e.g., “the calculus of rainbows,” Example 12) and “writing projects” (e.g., “Newton, Leibnitz and the Invention of Calculus,” Example 13); moreover, the marginalia occur frequently, and often consist of historical commentary. The project types and their clear ground-rules and bibliographies are particularly suggestive for us. “Applied projects” suggests compositional assignments, while “Writing Projects” suggests analytical or history-of-theory papers.

then, the restriction on r is due to the fact that the tracheal wall stiffens under pressure and a contraction greater than $|r_0|$ is prevented (otherwise the person would suffocate).

(a) Determine the value of r in the interval $[r_0, r_1]$ at which r has an absolute maximum. How does this compare with experimental evidence?

APPLIED PROJECT

The Calculus of Rainbows

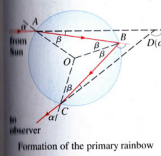
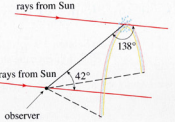
Rainbows are created when raindrops scatter sunlight. They have fascinated mankind since ancient times and have inspired attempts at scientific explanation since the time of Aristotle. In this project we use the ideas of Descartes and Newton to explain the shape, location, and colors of rainbows.

1. The figure shows a ray of sunlight entering a spherical raindrop at A. Some of the light is reflected, but the line AB shows the path of the part that enters the drop. Notice that the light is refracted toward the normal line AO and in fact Snell's Law says that $\sin \alpha = k \sin \beta$, where α is the angle of incidence, β is the angle of refraction, and $k = \frac{4}{3}$ is the index of refraction for water. At B some of the light passes through the drop and is refracted into the air, but the line BC shows the part that is reflected. (The angle of incidence equals the angle of reflection.) When the ray reaches C, part of it is reflected, but for the time being we are more interested in the part that leaves the raindrop at C. (Notice that it is refracted away from the normal line.) The angle of deviation $D(\alpha)$ is the amount of clockwise rotation that the ray has undergone during this three-stage process. Thus

$$D(\alpha) = (\alpha - \beta) + (\pi - 2\beta) + (\alpha - \beta) = \pi + 2\alpha - 4\beta$$

Show that the minimum value of the deviation is $D(\alpha) \approx 138^\circ$ and occurs when $\alpha \approx 59.4^\circ$.

The significance of the minimum deviation is that when $\alpha \approx 59.4^\circ$ we have $D'(\alpha) = 0$, so $\Delta D / \Delta \alpha \approx 0$. This means that many rays with $\alpha \approx 59.4^\circ$ become deviated by approximately the same amount. It is the concentration of rays coming from near the direction of minimum deviation that creates the brightness of the primary rainbow. The following figure shows that the angle of elevation from the observer up to the highest point on the rainbow is $180^\circ - 138^\circ = 42^\circ$. (This angle is called the *rainbow angle*.)

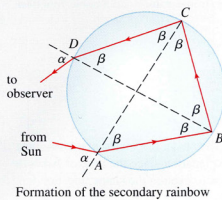



Example 12
Applied project from Stewart (2005, 277).

Certainly the most relevant book to my project of any of the non-music ones was David Burton’s 1980 book on number theory, the oldest book—and the oldest discipline—of the three.²⁴ In the preface, the author writes:

²⁴ Burton (1980). The book remains in print in newer editions.

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Formation of the secondary rainbow

2. Problem 1 explains the location of the primary rainbow but how do we explain the colors? Sunlight comprises a range of wavelengths, from the red range through orange, yellow, green, blue, indigo, and violet. As Newton discovered in his prism experiments of 1666, the index of refraction is different for each color. (The effect is called *dispersion*.) For red light the refractive index is $k \approx 1.3318$ whereas for violet light it is $k \approx 1.3435$. By repeating the calculation of Problem 1 for these values of k , show that the rainbow angle is about 42.3° for the red bow and 40.6° for the violet bow. So the rainbow really consists of seven individual bows corresponding to the seven colors.

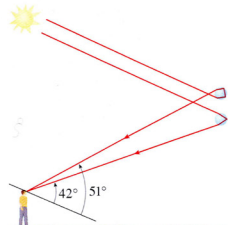
3. Perhaps you have seen a fainter secondary rainbow above the primary bow. That results from the part of a ray that enters a raindrop and is refracted at A , reflected twice (at B and C), and refracted as it leaves the drop at D (see the figure at the left). This time the deviation angle $D(\alpha)$ is the total amount of counterclockwise rotation that the ray undergoes in this four-stage process. Show that

$$D(\alpha) = 2\alpha - 6\beta + 2\pi$$

and $D(\alpha)$ has a minimum value when

$$\cos \alpha = \sqrt{\frac{k^2 - 1}{8}}$$

Taking $k = \frac{4}{3}$, show that the minimum deviation is about 129° and so the rainbow angle for the secondary rainbow is about 51° , as shown in the following figure.



Example 12 (cont'd)
Applied project from Stewart (2005, 278).

The purpose of the present volume is to give a simple account of classical number theory, as well as to impart some of the historical background in which the subject evolved.... There is a dictum which says that anyone who desires to get to the root of a subject should first study its history. Endorsing this, we have taken pains to fit the material into the larger historical frame. In addition to enlivening the theoretical side of the text, the historical remarks woven into the presentation bring out the point that number theory is not a dead art, but a living one fed by the efforts of many practitioners. They reveal that the discipline developed bit by bit with the work of each individual contributor built upon the research of many others. (Burton 1980, v-vi)

Right after the Preface, we find the table of mathematicians who contributed to the theory, reproduced here as Examples 14 and 15. The chapters dealing with techniques beholden to a particular mathematician begin not just with a biographical summary, but with an installment in the history of number theory in which the mathematician figures prominently. Scan the first paragraph on Leonhard Euler in Example 16 and you'll get the idea.

WRITING PROJECT NEWTON, LEIBNIZ, AND THE INVENTION OF CALCULUS ■ 385

rite $g = g(t)$, where t is the time measured in months. The company wants to determine the optimal time to replace the system.

(a) Let

$$C(t) = \frac{1}{t} \int_0^t [f(s) + g(s)] ds$$

Show that the critical numbers of C occur at the numbers t where $C(t) = f(t) + g(t)$.

(b) Suppose that

$$f(t) = \begin{cases} \frac{V}{15} - \frac{V}{450}t & \text{if } 0 < t \leq 30 \\ 0 & \text{if } t > 30 \end{cases}$$

and

$$g(t) = \frac{Vt^2}{12,900} \quad t > 0$$

Determine the length of time T for the total depreciation $D(t) = \int_0^t f(s) ds$ to equal the initial value V .

(c) Determine the absolute minimum of C on $(0, T]$.

(d) Sketch the graphs of C and $f + g$ in the same coordinate system, and verify the result in part (a) in this case.

29. A manufacturing company owns a major piece of equipment that depreciates at the (continuous) rate $f = f(t)$, where t is the time measured in months since its last overhaul. Because a fixed cost A is incurred each time the machine is overhauled, the company wants to determine the optimal time T (in months) between overhauls.

(a) Explain why $\int_0^T f(s) ds$ represents the loss in value of the machine over the period of time T since the last overhaul.

(b) Let $C = C(t)$ be given by

$$C(t) = \frac{1}{t} \left[A + \int_0^t f(s) ds \right]$$

What does C represent and why would the company want to minimize C ?

(c) Show that C has a minimum value at the numbers $t = T$ where $C(T) = f(T)$.

WRITING PROJECT

Newton, Leibniz, and the Invention of Calculus

We sometimes read that the inventors of calculus were Sir Isaac Newton (1642–1727) and Gottfried Wilhelm Leibniz (1646–1716). But we know that the basic ideas behind integration were investigated 2500 years ago by ancient Greeks such as Eudoxus and Archimedes, and methods for finding tangents were pioneered by Pierre Fermat (1601–1665), Isaac Barrow (1630–1677), and others. Barrow, Newton's teacher at Cambridge, was the first to understand the inverse relationship between differentiation and integration. What Newton and Leibniz did was to use this relationship, in the form of the Fundamental Theorem of Calculus, in order to develop calculus into a systematic mathematical discipline. It is in this sense that Newton and Leibniz are credited with the invention of calculus.

Read about the contributions of these men in one or more of the given references and write a report on one of the following three topics. You can include biographical details, but the main thrust of your report should be a description, in some detail, of their methods and notations. In particular, you should consult one of the sourcebooks, which give excerpts from the original publications of Newton and Leibniz, translated from Latin to English.

- The Role of Newton in the Development of Calculus
- The Role of Leibniz in the Development of Calculus
- The Controversy between the Followers of Newton and Leibniz over Priority in the Invention of Calculus

References

1. Carl Boyer and Uta Merzbach, *A History of Mathematics* (New York: John Wiley, 1987), Chapter 19.
2. Carl Boyer, *The History of the Calculus and Its Conceptual Development* (New York: Dover, 1959), Chapter V.
3. C. H. Edwards, *The Historical Development of the Calculus* (New York: Springer-Verlag, 1979), Chapters 8 and 9.

4. Howard Eves, *An Introduction to the History of Mathematics*, 6th ed. (New York: Saunders, 1990), Chapter 11.
5. C. C. Gillispie, ed., *Dictionary of Scientific Biography* (New York: Scribner's, 1974). See the article on Leibniz by Joseph Hofmann in Volume VIII and the article on Newton by I. B. Cohen in Volume X.
6. Victor Katz, *A History of Mathematics: An Introduction* (New York: HarperCollins, 1993), Chapter 12.
7. Morris Kline, *Mathematical Thought from Ancient to Modern Times* (New York: Oxford University Press, 1972), Chapter 17.

Sourcebooks

1. John Fauvel and Jeremy Gray, eds., *The History of Mathematics: A Reader* (London: MacMillan Press, 1987), Chapters 12 and 13.
2. D. E. Smith, ed., *A Sourcebook in Mathematics* (New York: Dover, 1959), Chapter V.
3. D. J. Struik, ed., *A Sourcebook in Mathematics, 1200–1800* (Princeton, N.J.: Princeton University Press, 1969), Chapter V.

Example 13

Writing project from Stewart (2005, 385–86).

I'll turn briefly now to the biology, economics, psychology and philosophy books.²⁵ The biology book, *the* standard text on the subject by Campbell and Reece, runs

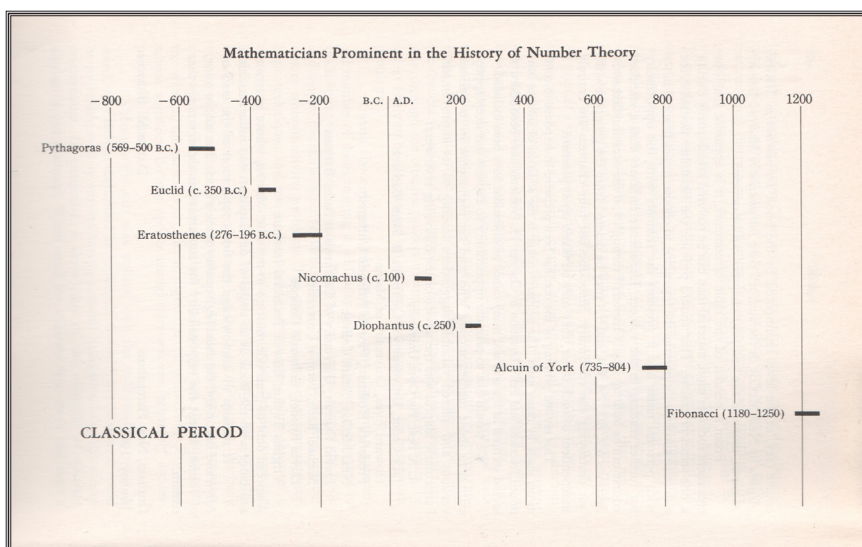
²⁵ Campbell and Reece (2005), Gwartney, Stroup, Sobel, and Macpherson (2006), and Feldman, (2005).

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thirteen hundred 8.5 x 11 pages in double column format, and weights 6.5 pounds. Talk about encyclopedia volumes! There's evidently *plenty* to learn in biology. There's no separate name index, no bibliography. Names are mentioned occasionally in the text, but no articles are cited. The economics book has a little more of a sense of history: numerous text boxes highlight the contributions of economists, historical and contemporary. Example 17 reproduces the thumbnail history of economics inside the front cover.

At the opposite extreme from the biology book stands the psychology book (Feldman 2005). It includes a name index of fifteen pages, at about 250 names per page, and a 46-page bibliography in triple-column format. I was so amazed by this that I got hold of a comparable book: it has a forty-two page bibliography in double-column format and an 8-pp. name index in quadruple-column format at c. 350 names per page.²⁶ Unlike the first book, many statements in this text are supported by citations to the bibliography, and the book begins with a brief history of psychology.

Finally, I turn to the philosophy book (most recent edition, 2013).²⁷ Not surprisingly, philosophers seem to have the best sense of their own history, and the

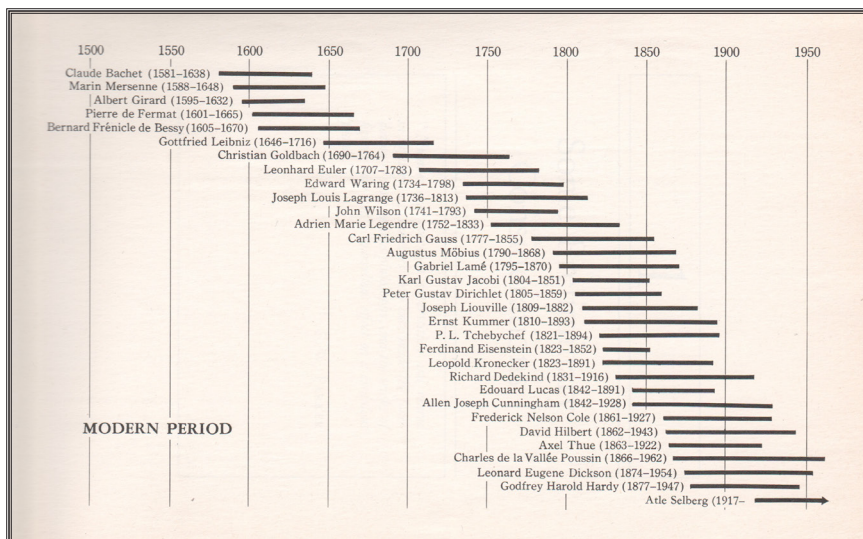


Example 14

Classical Period Number Theory Mathematicians (from Burton 1980).

²⁶ Kalat (1996).

²⁷ Feinberg (1978).



Example 15
Modern Period Number Theory Mathematicians (from Burton 1980).

7.1 LEONHARD EULER

The importance of Fermat's work resides, not so much in any contribution to the mathematics of his own day, but rather in its animating effect on later generations of mathematicians. Perhaps the greatest disappointment of Fermat's career was his inability to interest others in his new number theory. A century was to pass before a first class mathematician, Leonhard Euler (1707–1783), either understood or appreciated its significance. Many of the theorems announced without proof by Fermat yielded to Euler's skill, and it is likely that the arguments devised by Euler were not substantially different from those which Fermat said he possessed.

The key figure in 18th century mathematics, Euler was the son of a Lutheran pastor who lived in the vicinity of Basel, Switzerland. His father earnestly wished him to enter the ministry and, at the age of 13, sent his son to the University of Basel to study theology. There he came into contact with Johann Bernoulli—then one of Europe's leading mathematicians—and he befriended Bernoulli's two sons, Nicolaus and Daniel. Within a short time, Euler broke off the theological studies that had been selected for him in order to address himself exclusively to mathematics. He received his master's degree in 1723 and in 1727, when he was only 19, won a prize from the Paris Academy of Sciences for a treatise on the most efficient arrangement of ship masts.

Where the 17th century had been an age of great amateur mathematicians, the 18th century was almost exclusively an era of professionals—university professors and members of scientific academies. Many of the reigning monarchs delighted in regarding themselves as patrons of learning, and the academies served as the intellectual crown jewels of the royal courts. While the motives of these rulers may not have been entirely philanthropic, the fact remains that the learned societies constituted important agencies for the promotion of science. They provided salaries for distinguished scholars, published journals of research papers on a regular basis, and offered monetary prizes for scientific discoveries. Euler was at different times associated with two of the

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newly formed academies, the Imperial Academy at St. Petersburg (from 1727 to 1741, and again, from 1766 to 1783) and the Royal Academy in Berlin (from 1741 to 1766). In 1725, Peter the Great had founded the Academy of St. Petersburg and attracted a number of leading mathematicians to Russia, including Nicolaus and Daniel Bernoulli. On their recommendation an appointment was secured for Euler. Because of his youth, he had recently been denied a professorship in physics at the University of Basel and was only too ready to accept the invitation of the Academy. In Petersburg, he soon came in contact with the versatile scholar Christian Goldbach (of the famous conjecture), a man who subsequently rose from professor of mathematics to Russian Minister of Foreign Affairs. Given his interests, it seems likely that Goldbach was the one who first drew Euler's attention to the work of Fermat on the theory of numbers.

Euler eventually sickened of the political repression then prevalent in Russia and accepted the call of Frederick the Great to become a member of the Berlin Academy. The story is told that, during a reception at Court, he was kindly received by the Queen Mother who inquired why so distinguished a scholar should be so timid and reticent; he replied, "Madame, it is because I have just come from a country where, when one speaks, one is hanged." Flattered by the warmth of the Russian feeling towards him, however, and unendurably offended by the contrasting coolness of Frederick and his court, Euler returned to Petersburg in 1766 to spend his remaining days. Within two or three years of his going back, Euler had the misfortune to become totally blind.

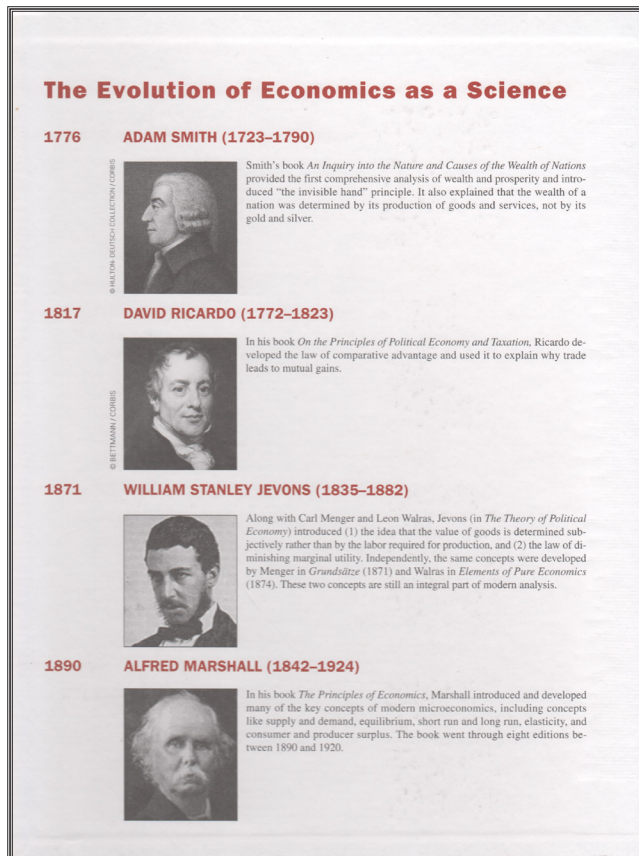
However, Euler would not permit blindness to retard his scientific work, aided by a phenomenal memory, his writings grew to such enormous proportions as to be virtually unmanageable. Without a doubt, Euler was the most prolific writer in the entire history of mathematics. He wrote or dictated over 700 books and papers in his lifetime, and left so much unpublished material that the St. Petersburg Academy did not finish printing all his manuscripts until 47 years after his death. The publication of Euler's collected works was begun by the Swiss Society of Natural Sciences in 1911 and it is estimated that more than 75 large volumes will ultimately be required for the completion of this monumental project. The best testament to the quality of these papers may be the fact that on twelve occasions they won the coveted biennial prize of the French Academy in Paris.

During his stay in Berlin, Euler acquired the habit of writing memoir after memoir, placing each when finished at the top of a pile of

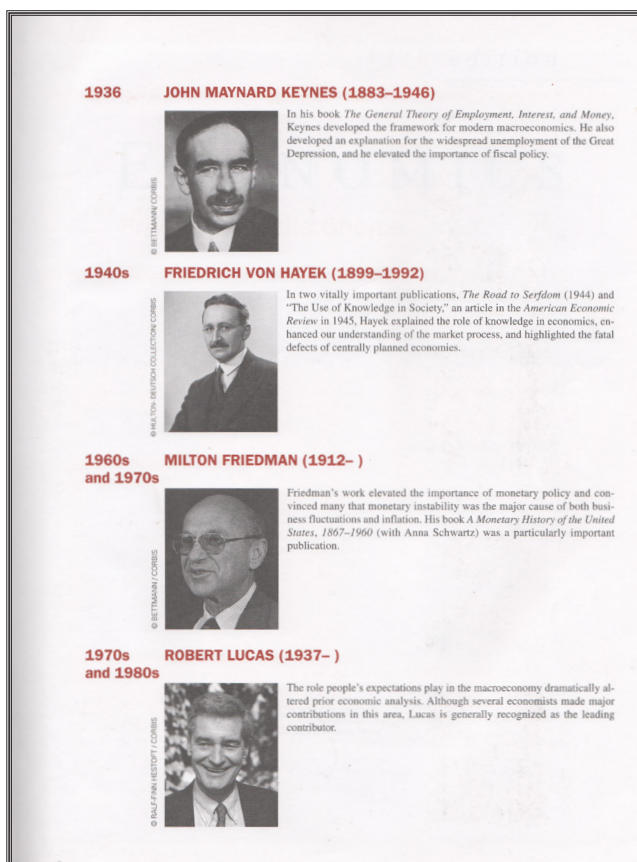
Example 16
Leonhard Euler (in Burton 1980, 134–135).

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book I examined, *Reason and Responsibility*, had an excellent mixture of a historical and topical approach. Though apparently a book of “source readings,” the large sections are topical, their internal organization chronological—highly suggestive for the music theorist. Thus the six parts of the book move smoothly from metaphysics to moral philosophy, carrying the titles, The Existence and Nature of God; Human Knowledge: Its Grounds and Limits; The Mind-Body Problem; Determinism and Free Will; Responsibility and Punishment; Self-Love and the Claims of Morality. The readings are from historical sources and contemporary interpretive essays, some commissioned especially for the book, which is a veritable model for an undergraduate history-of-theory course book, presuming we can frame comparable questions that suggest the larger categories. But that proved difficult to do in the Cambridge project.



Example 17
 Prominent Economists, from Gwartney et al. (2006).



Example 17 (cont'd)
 Prominent Economists, from Gwartney et al. (2006).

I conclude from this look at textbooks in other disciplines that we should throw our lot in with mathematics and philosophy, the two disciplines with a historical record comparable to ours—indeed, our history is mixed with theirs! At the same time, if I thought the psychologists seemed to make a fetish of citing the present, that's not a bad thing either—in moderation.

III.

In the fall of 1999 and 2000, Matthew Brown and I co-taught a first-semester freshman theory core course at Eastman. An old department chair I worked for in the early 1970s used to say that a course is barely civilized the first time through.

We got past the nascent civility phase in our two shots at it, but the course remained experimental: there were still bugs to be worked out; but we had our successes, and some ardent fans of our approach. Our goal was to focus on music theory and its history, and related compositional assignments. Most important, we wanted to instill the theoretical/analytical approach to music in our students from the first day on. We took the “historical” and “comprehensive” from Comprehensive Musicianship, but not the neutral, formulaic chronology. Instead, we developed it from the theorist’s point of view: we focused on particular theoretical topics we found essential, dealing briefly with the personalities associated with them, repertoires in chronological sequence that we knew would exemplify those topics for analysis, and compositional assignments that would emulate those repertoires. Since we worked largely before the period of the Great Composers—with exceptions, of course: we did wind up with Bach, after all!—we were able to accent the theorists that much more easily. We used 18th-century instructional manuals during the second and third units.

Example 18 shows the first page of the syllabus for the course from 2000. The three main units were: 1. Fundamentals and chant; 2. modal counterpoint and Renaissance polyphony, and 3. the figured bass and basics of the Bach chorale. Thus, by Unit III, we entered the Bach Chorale tradition of Donald Tweedy, the first theory teacher at Eastman,²⁸ and McHose, though with a vastly different run-up to it. The table of contents of the anthology we assembled for the first eight weeks is shown in Example 19. The other sources are well-known. Aldwell/Schachter was there principally to provide continuity into the next term, in which it was the course text; species counterpoint and figured bass were the basis of our chorale pedagogy. Most of our bass realizations and chorale composition came from phrase models we had presented and practiced all the way from the beginning of the course: to the knowledge of “chorale tunes” learned in Unit I on chant, we added counterpoint according to Fux in Unit II, and figured bass realization according to Bach, Handel and others in Unit III.

In our “comprehensive” course, we also controlled the curriculum for aural skills and keyboard audits, the former beginning in Unit I, the latter beginning with unit III on figured bass and the chorale, in week 9. We used the anthology and Fux’s *Sing-Fundament* for sight-singing, and the *Sing-Fundament* (F), a few things from Salzer/Schachter *Counterpoint in Composition* (SS), and Konrad Max Kunz, Op. 14, “Two-Part Canons,” for keyboard (K); the keyboard syllabus from 1999 is shown as Example 20. We got as far as elementary figured bass realization, and filling out one inner

²⁸ Lenti (2004, 184-5).

part (the alto) of a couple of Bach/Schemelli chorales with basses; we did not teach Roman numeral progressions in keyboard or in composition, though we made a point of practicing cadence formulas throughout the course, vocally, in writing and at the keyboard.

Occasional quizzes, and exams (one on each unit) tested the historical and theoretical material. Example 21 shows our theorists' biographies, all of whom (and more) we worked into lectures, though the accent was on theories in action to generate musical materials, and to use in analysis. Study for the tests and the compositional assignments (often requiring an accompanying analysis) constituted the homework.

I'll speak briefly now about the three units. Among the more difficult topic areas to motivate in a freshman theory course are theory fundamentals. We tried to motivate them historically and theoretically from the repertoire: thus, we did as many fundamental techniques as were necessary for the music at hand in Unit I, Gregorian Chant: clefs, note reading, intervals, and theory of modality. We left rhythm for Unit II, counterpoint; its introduction with species made perfect sense, and three-part counterpoint proved to be an excellent opportunity to talk about triads. We left seventh chords, scales and other tonal theory until Unit III, chorale style.

In the first lecture I warned everyone to get the piano and their preconceived notions of the division of pitch space out of their mind, and talked about the Ancient Greeks' discovery of the perfect consonances, and their reliance on these "signposts" in an otherwise uncharted pitch continuum. From there we studied their derivation of the whole step from the difference of a fourth and fifth, and the "remainder" of two whole steps from a fourth as their half step—the filling-in between the signposts, and the concatenation of these tetrachords into a 2-octave range of variable "steps" in the different genera. So that the students could get a conceptual grasp on the interval-sizes signified by ratios, I taught them basic tuning arithmetic, the Ellis 1200-cent-per-octave system, and logarithmic conversion between them (not all that tough for these kids straight out of high school, armed at that time mainly with pocket calculators, but today with phones with scientific calculator apps). I quickly turned to the diatonic genus only, but the students had at least some idea of the etymology of diatonic, chromatic and enharmonic, and the profound change in their meanings as we use them now. As the material developed, in lieu of a textbook, I distributed a detailed "Study Guide" summary to assist in test preparation.

By week three, I explored the diatonic materials in some depth in an eclectic theory + history-of-theory handout shown as Example 22. Matthew responded with a lecture on Guido's "Ut queant laxis," in which he starts with a pitch and interval

**TH 101: Freshman Theory, First Term
Course Syllabus for Fall 2000**

Brown/Wason and Colleagues

Course Description: The course is divided into three units: 1. introduction to fundamental aspects of pitch and rhythm, and to melody, motive, theme, cadence and phrase; 2. the basics of 2- and 3-part modal counterpoint; 3. fundamentals of figured-bass and early 18th-century chorale-style.

Required Materials: Brown/Wason, *Anthology of Gregorian Chant, 16th-Century Counterpoint, and Bach/Handel on Figured Bass*
Johann-Joseph Fux, *Gradus ad Parnassum*, Alfred Mann, tr. (NY: Norton, 1965 and many later editions)
J.S. Bach *371 Chorales and 69 Chorale-Basses* (NY: G. Schirmer)
Aldwell/Schachter, *Harmony and Voice Leading* Harcourt, Brace; 2nd ed. 1989.

Syllabus

I. Fundamental Aspects of Pitch and Rhythm; Introduction to Melody, Motive, Cadence and Phrase.

- | | | |
|-------|----|--|
| wk. 1 | A. | The Notion of "Interval" and the discovery of "consonance" |
| | B. | Notation as a "theory" of music |
| wk. 2 | A. | Introduction to Melody |
| | B. | Melodic Prototypes; melody composition |
| wk. 3 | A. | Theory of Mode and Scale |
| | B. | Melodic Analysis |

II. Modal Counterpoint

- | | | |
|-------|----|---|
| wk. 4 | A. | Mensuration and Rhythm in one part; pulse, accent, meter |
| | B. | species rhythm; levels of rhythm and consonance/dissonance |
| wk. 5 | A. | The Origins of Polyphony |
| | B. | Theory of Counterpoint in 2 parts |
| wk. 6 | A. | Filling in consonant harmonic space (2nd Species) |
| | B. | Delaying the progress of melodic motion (4th Species) |
| wk. 7 | A. | The origins of polyphonic melody (3rd Species) |
| | B. | Putting it all together in two-part composition (5th Species) |
| wk. 8 | A. | History of Counterpoint in 3 and more parts. |
| | B. | Theory of Counterpoint in 3 and more parts. |

Example 18

Brown and Wason TH101 Syllabus (2000).

Table of Contents

pages

1-9 Examples of Gregorian Chant

Examples of 2-part music

10 Dufay, *Benedictus*
 11 Obrecht, *Agnus Dei II*
 12 Isaac, Duo from *De Sancto Conrado*
 13-14 des Prés, *Benedictus*
 15-16 Senfl, *Igo ipse consolabor vos*
 17 Lasso, *Esurientes*
 18-28 Lasso, *12 Cantiones duarum Vocum*; Lasso, *Benedictus*

Examples of 3-Part Music

29-30 Dunstable, *Quam pulcra es*
 31 Binchois, *A Solis ortus cardine*
 32-33 Victoria, *Magnificat Tertii Toni*
 34-35 Victoria, *Magnificat Secundi Toni*
 36-37 Victoria, *Magnificat Septimi Toni*
 38-39 Lasso, *Credo*
 40-42 Lasso, (another) *Credo*
 43-44 Lasso, *Benedictus*
 45 Lasso, *Benedictus*
 46 Lasso, *Benedictus*
 47-48 Lasso, *Benedictus*
 49-50 Willaert, *Tempore Paschali*

Examples of 4-Part Music

51-53 Palestrina, *Mass: Dies Sanctificatus*
 54-59 Palestrina, *Mass: Ad Fugam*

Figured Bass

60-65 J.S. Bach, "Some Most Necessary Rules of Thorough Bass," from *The Bach Reader*, David and Mendel, ed. (NY: Norton, 1966)
 66-72 "Handel's Lessons for Princess Anne: Thoroughbass and Fugue," from Alfred Mann, *Theory and Practice: The Great Composers as Teachers and Students* (NY: Norton, 1987).

Example 19

Brown and Wason Anthology Table of Contents.

**TH 101/Fall '99
Brown/Wason**

Schedule of Assignments for Keyboard Audits

The Keyboard Audit book contains more material than you will cover in the audits, but then there will also be many different levels of experience and ability; we want to have something available to challenge all students. The following assignment list may be too easy for some students, too hard for others; in that event, your individual keyboard auditor may adjust it accordingly. The important thing is that *all* students make continuous progress from where they start.

The audit book consists of musical examples from Fux *Fundamentals of Singing*, Salzer/Schachter *Counterpoint in Composition*, and Kunz *200 Short Canons for the Pianoforte*. In the following schedule, the sources are referred to as F, SS, and K, followed by an example number.

- In the one-part Fux exercises, first be able to sing the exercise. Then play it with *each* hand, separately.
- In *all* of the two-part pieces, start by learning to sing one part at a time. Then learn to play one part at a time. In deciding on fingering, remember that your thumb, pointer and middle finger are the strongest: you'll want to favor these; avoid straining your weaker fingers.
- After you've learned to play the parts, start learning to sing (in an octave that is comfortable) one part while playing the other one; then reverse the sing/play relationship. At this point begin work on playing the two parts together. This an *ear-training exercise in hearing two-part counterpoint.*
- In the last three weeks, we will work on two chorales from the Bach/Schemelli chorales that you have already purchased. Work through each chorale, phrase by phrase; in each, practice singing the chorale tune while playing the bass line. Only when you are able to do that should you practice playing the tune and the bass. After you have learned the soprano and bass, add a *single* inner part in the right hand (an alto, below the tune), consisting of notes prescribed by the bass figures.

The following schedule gives the Monday of the week each assignment is **due**:

week	
<u>wk. 9</u> (Oct. 25)	F(one part) 1-12; SS 1-49, a-c; K 1-2
<u>wk. 10</u> (Nov. 1)	F(one part) 14-22; SS 2-26, a-d; K 5-6
<u>wk. 11</u> (Nov. 8)	F(one part) 23-33; SS 4-16, a-d; K 7-8
<u>wk. 12</u> (Nov. 15)	F(one part) 34-43; SS 3-41, a-d; K 10-11
<u>wk. 13</u> (Nov. 22)	Bach/Schemelli 60 (1st six measures); SS 5-21, e-h; K 14-15;
<u>wk. 14</u> (Nov. 29)	Bach/Schemelli 60 (finish); K 14-15
<u>wk. 15</u> (Dec. 6)	Bach/Schemelli 50; F (Duetto) 1
<u>wk. 16</u> (Dec. 14-17)	Final Examination

Example 20

Brown and Wason, TH101 Keyboard Assignments (1999).

**TH 101: Monuments in the History of Music Theory (6th
Century BCE—18th Century CE)**

Pythagoras: 6th century BCE; allegedly, the sound of hammers in a blacksmith shop (tuned by chance an octave apart) led P. to experiment with various sounding objects, and discover the ratios of the perfect consonances: perfect octave (1:2), perfect fifth (2:3) and perfect fourth (3:4). This is the origin of the notion of interval as a ratio of two quantities. The doctrine of "harmony of the spheres" is associated with P. and passed on by Plato and others.

Aristoxenus: 4th century BCE; student of Aristotle (and thought he would be his teacher's successor as head of the Lyceum, but he got cut out of the job); his *Harmonics* is the first surviving treatise on music (though not complete, much of it remains; his *Rhythmics* is more fragmentary). In opposition to the Pythagoreans, he originated the idea that an interval is a distance between two pitches.

Boethius: late 5th, early ~ Century CE; Consul to Emperor Theodoric in the final stages of the Roman Empire (executed by Theodoric, c. 542); wrote treatises on mathematics, logic, philosophy, and music; transmitted Greek learning (particularly of the "quadrivium" = arithmetic, music, geometry, astronomy) to musicians and scholars in the Middle Ages.

Hucbald: 9th century (d. 930); monk of the Abby of St. Amand; reinterpreted the Greek tetrachordal "Greater Perfect System" for use in the Middle Ages; prototypical tetrachord became "tetrachord of finals" DEFG (TST), instead of the Greek EFGA (STT); one of the first descriptions of the Medieval Modal System (the "8 Church Modes")

Guido: 11th Century; monk whose fame assumed legendary proportions; credited with the invention of: 1. Staff notation; 2. Hexachordal solfege system (from "Ut queant laxis"). Discusses modes by final and range; *Micrologus* is one of the first treatises on composition.

Prosdocimus: late 14th early 15th-century composer and professor at University of Padua; codified the principles of strict counterpoint (note against note) in 2 voices in his *Contrapunctus* (1412).

Tinctoris: Flemish 15th-century composer and author of an important treatise on counterpoint (1477); expands principles of counterpoint to cover "florid counterpoint," becoming the first to describe the use of dissonant intervals in counterpoint; distinction between written (*res facta*) and "improvised" (*supra librum*) counterpoint; voice intervals

Example 21

Theorist Biographies, from Brown and Wason TH101 curriculum.

figured with reference to the tenor; "Forget about music composed more than 40 years earlier!"

8. **Glarean:** Swiss 16th-century humanist scholar who revived Ancient Greek music theory; author of the system of 12 modes which he thought filled out the previous Medieval (8-mode) system the way it should have been all along (divide all species of the 8ve into 4th+5th and 5th+4th; cut the two 8ves that yield tritones, and you get 12).
9. **Zarlino:** 16th century composer and author of the most renowned treatise on Renaissance counterpoint; the second edition (1573) also passed on Glarean's version of the modes; voice intervals figured from the bass; recommends the use of triads.
10. **Fux:** Austrian 17th, early 18th century composer, Master of Music at St. Stephan's in Vienna, and author of *Gradus ad Parnassum* (1725), which canonized five "species" of counterpoint (1st = strict counterpoint, while 5th = florid). Mozart, Haydn, Beethoven and Schubert all studied this book.
11. **Campion;** late 17th, early 18th century author of a figured bass manual that was the first to make a fully developed method of the "Rule of the Octave" scheme for teaching keyboard players to harmonize an unfigured bass. (*Treatise on Accompaniment and Composition, according to the Rule of Octaves* [Paris: 1716])
12. **Heinichen:** 18th-century German composer and author of the most comprehensive figured-bass manual of the century (*Der Generalbass in der Composition*; Dresden, 1728); listed the figures of thirty-two "chords of thoroughbass" in numerical order; epitomizes the "Bach Style" of Northern Germany.
13. **Rameau;** the most famous French composer of the first half of the 18th century, and author of *Traité d l'harmonie* (Paris: 1722), a revolutionary work. R. developed his notion of a "fundamental bass" (*basse fondamentale*), according to which **every** "chord" had a fundamental bass that was imagined under its real sounding bass. The doctrine of **harmonic inversion** was implicit: **any** note of the chord might become the sounding bass, but the chord's identity would remain the same. Using the fundamental bass and harmonic inversion, R. was able to claim that **all** of the chords of figured-bass practice were derived from 5/3 and 7 chords. Using the fundamental bass to articulate "rules" of harmonic progression, he was the first to place various chords in equivalent functional categories.

Example 21 (cont'd)

Theorist Biographies, from Brown and Wason TH101 curriculum.

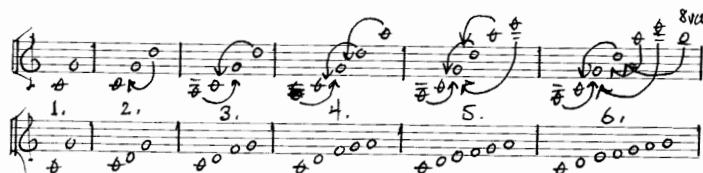
listing, according to “chunks” demarcated by cadence points (Example 23, fig. 2-3), and winds up with his own pitch-hierarchic analysis of the chant (Example 23, fig. 4), presented as a compositional method. Very ingenious! It’s long been surmised that Guido composed this chant, or altered an existing one, to demonstrate the hexachord. I like to think Guido Monaco—Guido the monk—as he is remembered today in Arezzo, would have blessed this analysis (Examples 24 and 25).

The composition of chants with analyses finished Unit I, and we were off to Unit II on counterpoint. Matthew essentially took over Unit II, since he has long made a detailed study of Fux and the species. Example 26 reproduces his method for composing a first-species counterpoint. The unit included reading and discussion of Fux as we went along.

TH 101: Lecture 3

The Gamut Generated by Fifths; Species of the Consonances; Mode

Figure 1: The Gamut (Gamma-Ut) Generated by Fifths: a theoretical explanation that may have historical significance--and certainly has practical significance.



Collection-Type

m2/M7 M2/m7 m3/M6 M3/m6 P4/5

TT

1. 4th/5th					1
2. "4th chord"		1			2
3. "I Got Rhythm"		2	1		3
4. Pentatonic Scale		3	2	1	4
5. Guido's Hexachord	1	4	3	2	5
6. Diatonic Scale	2	5	4	3	6

1

Figure 2a:

Ancient
Greek
(descending)

[A B C D E F G a] [b c d e f g a]

T S T T S T T T S T T S T T

2b:

The Medieval Gamut
(with Gamma-Ut)

[A B C D E F G] [a b c d e f g]

(T) T S T T S T T T S T T T S T T

Figure 3: 3 "Species" of the Fourth

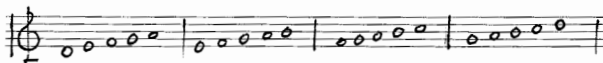


"Greek" STT (B/E) TTS (C/F) TST (D/G)



Medieval TST STT TTS

Figure 4: 4 Species of the Fifth (in Medieval Ordering)



TSTT (D/A) STTT (E/B) TTTS (F/C) TTST (G/D)

Example 22

Wason TH101 Lecture: History of Theory.

Figure 5: a. 7 Species of the Octave

TSTTTST (D/D)
STTTSTT (E/E)
TTTSTTS (F/F)
TTSTTST (G/G)

TSTTSTT (A/A)
STTSTTT (B/B)
TTSTTTS (C/C)

b. as 5th+4th, 4th+5th

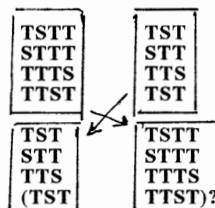


Figure 6: The 8 Medieval Modes (c. 1000AD): range (*ambitus*) is shown in solid note heads; final (*finalis*) shown with a whole note; the odd numbered modes are authentic, the even ones are plagal. Eventually, the Greek ethnic names were associated with them as follows: 1: dorian; 2: hypo-dorian; 3: phrygian; 4: hypo-phrygian; 5: lydian; 6: hypo-lydian; 7: mixo-lydian; 8: hypo-mixo-lydian.



Figure 7: The 12 Renaissance Modes (c. 1550AD): Glarean's "completion" of the Octave Species, Analyzed as Species of the 4th+5th, or 5th+4th.

TTSTTTTS (C/C) (<u>Ionian Mode</u>)	TTST TTS	4/3
TSTTTST (D/D)	TST TST	1/1
STTTSTT (E/E)	STTT STT	2/2
TTTSTTS (F/F)	TTTS TTS	3/3
TTSTTST (G/G)	TTST TST	4/1
TSTTSTT (A/A) (<u>Aeolian Mode</u>)	TSTT STT	1/2
TTSTTST (G/G)	TTS TTST	3/4
TSTTSTT (A/A)	TST TSTT	1/1
STTSTTT (B/B)	STT STTT	2/2
TTSTTTS (C/C)	TTS TTTS	3/3
TSTTTST (D/D)	TST TTST	1/4
STTTSTT (E/E)	STT TSTT	2/1

Example 22 (cont'd)

Wason TH101 Lecture: History of Theory.

Figure 1

Hymn to St. John the Baptist



That thy servants may freely sing forth the wonders of thy deeds, remove all stain of guilt from their unclean lips, O Saint John.

Figure 2

	C	D	E	F	G	A	Total
Chunk 1	1	3	1	1	-	-	6
Chunk 2	1	3	2	-	-	-	6
Chunk 3	1	2	3	1	1	-	8
Chunk 4	-	2	-	2	2	1	7
Chunk 5	-	1	1	2	3	1	8
Chunk 6	-	-	-	1	2	4	7
Chunk 7	1	2	2	1	1	-	7
Total	4	13	9	8	9	6	49

Figure 3

	U	m2	M2	m3	M3	P4	P5	Leaps
Chunk 1	-	-	3	2	-	-	-	2
Chunk 2	3	-	3	-	-	-	-	-
Chunk 3	1	1	4	1	1	-	-	2
Chunk 4	1	-	4	2	-	-	-	2
Chunk 5	-	2	4	-	-	2	-	2
Chunk 6	1	-	4	-	1	-	1	2
Chunk 7	-	1	5	-	1	-	-	1
Total	6	4	27	5	3	2	1	11

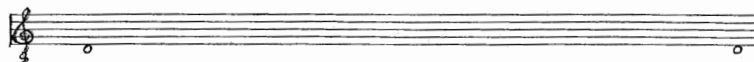
Example 23

Brown TH101 Lecture: Guido and Solmization.

Figure 4

Procedure for composing a plainchant

1. Find the final near the beginning and at end of the melody.



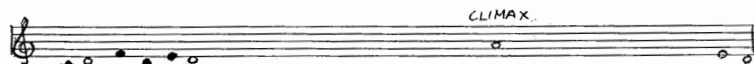
2. Reinforce the final at the end by a cadential descent of a whole step.



3. Establish the final at the start by elaborating it with the leading tone and the third above. These pitches give the melody a major or a minor feel.



4. Find a climax not more than an octave above the final and about two-thirds the way through the melody.



5. Join the beginning to the climax and the climax to the end. Make a general sketch, then fill it out in more detail. Make sure that the melody mainly moves by step and obeys the laws governing melodic leaps. Be careful that the climax is properly prepared and doesn't jump out of nowhere.



6. Check to see that you melody sounds good and has an interesting shape; it should resemble a series of waves that gently rise and fall.

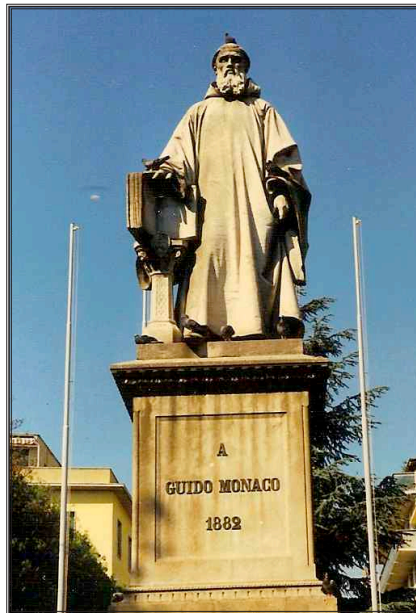
Example 23 (cont'd)

Brown TH101 Lecture: Guido and Solmization.



Example 24

Via Guido Monaco, in Arezzo, Italy.



Example 25

Statue of Guido (with pigeon on his head) in Arezzo, Italy.

Figure 3

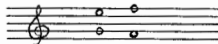
Concepts:

Monophony is a texture that consists of a single melody.

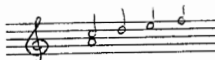
Homophony is a texture that has several simultaneous melodies that move in the same rhythm.

Polyphony is a texture that has several simultaneous melodies that move in different rhythms.

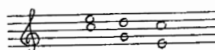
Contrary motion is a type of motion in which two melodies move in opposite directions.



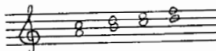
Oblique motion is a type of motion in which one melody remains fixed while the other(s) move up or down.



Similar motion is a type of motion in which two melodies move in the same direction by different intervals.



Parallel motion is a type of motion in which two melodies move in the same direction by the same interval.

**Melodic Motion and Closure**

- If the counterpoint is maximally closed, then it begins on $\wedge 8/U$ or $\wedge 5$, and ends by step up
- If a counterpoint is prototypical, then it essentially moves by whole- and half step, with no repeated tones.
- If leaps occur, then they are never larger than an octave and never encompass diminished/augmented intervals or the interval of a seventh.
- If leaps occur, then they never appear successively in the same direction and are normally approached/departed by step in the opposite direction.

Relative Motion and Closure

- If a counterpoint is prototypical, then it essentially moves in contrary motion with the *cantus firmus*.
- If a counterpoint and the *cantus firmus* move in the same direction, then parallel perfect octaves and fifths do not occur between successive notes.
- If a counterpoint and *cantus firmus* move in the same direction, then they can never contain more than four successive parallel thirds/sixths.

Vertical Disposition

- If the counterpoint is prototypical, then it begins on a perfect consonance and ends on a unison or octave.
- If the counterpoint is in First Species, then it always forms consonant intervals with the *cantus firmus*
- If the counterpoint is prototypical, then unisons only occur at the beginning or the end.

Example 26

Brown on composing first-species counterpoint.

Figure 4

Procedure for composing a First Species counterpoint

- =====
1. Find a perfect consonance at the beginning and the final at end of the melody.



2. Reinforce the final at the end by a cadential ascent by step.



3. Find a climax (i.e. single highest note) for the counterpoint; avoid putting it in the same place as the climax of the *cantus firmus*.



4. Join the beginning to the climax and the climax to the end. Make a general sketch, then fill it out in more detail. The counterpoint should mainly move by step and obey the laws governing melodic leaps, it should only use consonant intervals with the *cantus firmus* (8, U, 5, 3, 6) and should not contain parallel perfect octaves and fifths between successive notes. Only use unisons at the beginning or the end and do not repeat notes immediately.



5. Check to see that the counterpoint sounds good and has an interesting shape; it should resemble a series of waves that gently rise and fall in contrary motion with the *cantus firmus*. Get in the habit of indicating the vertical interval between the two voices; it makes it easy to spot stray dissonances and parallel perfect octaves/fifths.
- =====

Example 26 (cont'd)

Brown on composing first-species counterpoint.

In the interests of time I move very briefly to Unit III, in which Matthew and I played more or less equal roles. I started by laying out two practical problems of eighteenth-century keyboard pedagogy: how to order and teach the plethora of chords in the figured bass, which could now include virtually any interval on downbeats, and how to accompany an unfigured bass. Example 27 reproduces the handout that summarized some points from my introductory lecture. From there on, our pedagogy was not all that unusual, at least by eighteenth-century standards: we practiced figured bass realization (I avoided the term harmonization), Bach/Schemelli soprano/bass chorale completion of first an alto, and then two voices, and finally composing a chorale from a soprano cantus firmus. With preparation in counterpoint, six weeks proved to be enough for at least a solid introduction to chorale composition.

IV.

Now to the peroration and my big questions: 1. why has so little of the history of theory filtered down to undergrad texts; and 2. what's to be gained by integrating some of it into them?

I. As to the first question, I think there are at least two answers: first and foremost, there's the music itself—the reason most of us got into music theory: I wanted to know how it worked and how I could do it better, but the “how” remained secondary to the music. The beauty of mathematics resides within mathematics, that of philosophy in age-old questions that continue to fascinate. But we must deal with the constant back-and-forth between the aesthetic artifacts we hold dearly and want to elucidate, if not “explain,” and the means by which we do so, which, in the best examples of it, has its own elegance and history. Going too far in the latter direction may seem to take time away from the music, and to risk alienating those students who naively find music theory irrelevant to the “mysteries” of music. We tend to see many of these alleged mysteries instead as “puzzles.” (I think here of Richard Feynman's distinction between the two).²⁹ There are surely mysteries as well, but not all is “mysterious.”

Second, though the history of those thinking about music-technical problems is a very long one, that of the American Academic Music Theorist is very short. Before the

²⁹ Mysteries are questions we can only ask and ponder, but never answer; “puzzles” are questions that on first blush may seem just as impenetrable, but with work and thought—very likely with the work and thought of many—may ultimately be answered. Needless to say, Feynman concentrated on the puzzles. The source is an interview with Feynman on PBS, the date of which I cannot remember.

TH 101

Allowable Chords and Chord Progressions
in the Common-Practice Style

A. Possible Chord “Types” vs. Possible Chord “Progressions.” Beginning in the 17th century, the important status of the bass voice means that we reckon chords from the bass up. By “type,” we refer to the kinds of chords (combinations of intervals) that are possible in “structural” positions (generally on the beat, not between). Major and minor triads in 5/3 and 6/3 “inversions” are admissible (though their inversional relationship was not always recognized); diminished triads in 6/3 are fine, but infrequent in 5/3; 6/4s are possible only if treated specially (the 4th from the bass must be treated as some form of dissonance).

The *seconda prattica* (“second practice”) of the mid- to late sixteenth century ushered in a number of profound changes in compositional technique. Among these was the use of dissonant intervals *beyond the level of sub-metric embellishment*. When a dissonant interval lasts for the same duration as other supporting intervals, we call the dissonant interval a **chordal dissonance**. The use of chordal dissonance greatly expands the possible chord-types that may occur. The phenomenon of chordal dissonance starts with the 6/5, but the 7th-chord and its “inversions” become increasingly viable: this means that 6/5, 4/3, 4/2 and 7 are possible. In fact, the idea that a 7th (or its inversion, the second) can be a (relatively consonant) “chord tone,” means that **any interval** can achieve *relatively* consonant status. How do we classify all of these new “chords”?

Chord “progression” refers to the motion of one chord to the next. Are there “rules,” *beyond* the rules of voice-leading we have already learned? Or can any chord follow any other, as long as the voice leading is correct?

B. The Inductive Approach to these Problems: the “Figured Bass Treatise:” Figure 1 shows one attempt at organizing the possible chord-types of thorough-bass practice. Heinichen, the author of this example, wrote the most comprehensive “figured-bass treatise” (Dresden: 1728). Explain the logic of Heinichen’s classificational system, which is an attempt to define and organize “chord types.”

Figure 1

	2		3		4		5		6	
Gemeinl. Signaturen der General-Basses	2	3	4	5	6	7	8	9	10	11
Die dazu gehörige Stimmern.	6	5	4	3	2	1	7	6	5	4
	4	3	2	1	7	6	5	4	3	2

	7		8		9		10		11	
Gemeinl. Signaturen der General-Basses	7	8	9	10	11	12	13	14	15	16
Die dazu gehörige Stimmern.	5	4	3	2	1	6	5	4	3	2
	3	2	1	6	5	4	3	2	1	6

Figure 2 shows an attempt to deal with the second problem: chord “progression.” Campion (Paris: 1716) presents one form of a paradigm of chord-choice known as the “rule of the octave” (*Règle de l’Octave*); this is an attempt to answer the practical problem: suppose the keyboard player has to improvise the correct chords to accompany a bass.

Example 27

Wason’s Introduction to figured bass.

Figure 2



Campion's example demonstrates the following two paradigmatic progressions (among others):

1. If the bass ascends through scale-degrees 1, 2, 3 (with 1 and 3 harmonized by forms of the tonic chord), then 2 may not be harmonized by II. Campion's 4/3 is typical, but 6 and even 6/4 are possible "passing chords."

2. When the bass ascends 5, 6, 7 (with 5 and 7 harmonized by forms of the dominant chord), the figure 6 creates an acceptable "passing chord" on scale-degree 6.

The example also demonstrates the correct usage of the dissonant figures, 5/6, 4/3, 4/2:

1. In using a 6/5, the 5 must be prepared by common tone, and the 5 must resolve down by step while the bass moves up by step. (Only the 6/5 on the dominant may be treated more freely, though Campion's 5 is prepared by common tone even here.)

2. All three instances of the passing 4/3 demonstrate precisely the same voice leading: bass moves by step in passing motion (same direction); common tones and closest way by step in other voices.

3. The bass of the 4/2 must descend by step.

C. The Deductive Approach: Jean-Philippe Rameau, *Traité de l'harmonie* (Paris: 1722) Rameau started with his idea of the "fundamental bass" (*basse fondamentale*)—the idea that below **any** sounding chord there was an "imaginary bass" that is its "source." With regard to the problem of allowable chord-types, this means that 5/3, 6/3 and 6/4 chords could be thought of as representatives of the **same** fundamental bass. Though others had had the idea that triads were important, Rameau related **all** triads through this "theory of inversion," and went on to treat "7th chords" the same way. Thus, with regard to the problem of allowable chord-types, he maintained that all chords were derived from triads and seventh chords. (Return to Heinichen's list and see if this works.)

Rameau also made use of the same notion of the "fundamental bass" to talk about the problem of chord progression. It made sense to him that the fundamental bass would prefer to travel in the **same intervals** that made up his triads and seventh chords; thus he preferred progressions by 5th and 3rd (figured in chord roots), and only grudgingly admitted progressions by step as "exceptions." Thus Rameau is the beginning of attempts to formulate "rules of harmonic progression;" unfortunately, three hundred subsequent years of commentary and criticism can't be summarized here without going over my 2-page limit.

Example 27 (cont'd)

Wason's Introduction to figured bass.

institutionalization of Music Theory in the American academy,³⁰ there were workaday teachers of aural skills, harmony and counterpoint—with lots of hours of teaching, focused on those subjects in necessary, but not very interesting, classes. From those classes arose our mandate, just as the mandate of historical musicology arose from basic “music history:” it’s sobering to realize that until the early 1970s there were completely separate departments of undergraduate music history, graduate music history, and musicology at the Eastman School; and expectations and working conditions were quite different in each.

But times changed—at Eastman and elsewhere. Certain graduate programs, the driving forces behind them, and generally young and enlightened deans (some from those very same programs) found better ways to fill those teaching jobs. To keep them, we must walk a path that doesn’t stray too far from our original mandate, risking our stakes there, or too far from our newer calling, risking our status in the larger world of scholarship. We *must* do better than those old-regime pedagogues in *everything* we do. But it’s easy with undergraduate teaching to fall back into the way theory’s been taught in the past—as dogma—the way some of us were taught.

Now to the second question: what’s to be gained by including some of the history of theory in undergraduate textbooks?

First and most important, the history of theory provides a larger narrative in which to embed the technical content, connecting both to our own past and to that of other disciplines—which our students may be studying. A reviewer of what he calls “liberal” texts in physics, writes:

[These convey] the concepts of science and additionally, a sense of the life and times of scientists, of the social circumstances that called forth the scientific developments, of the difficult birth of new scientific concepts and debate over their legitimacy. These texts give a sense of science as a part of culture, and usually there is something of a story line. Professional texts lack a story line: concepts, definitions, refinements, model problems and end-of-chapter exercises are the staple.³¹

We music theorists have only had “professional textbooks.” But as we move out into the larger scholarly world, writing and *using* our history is part of that process. Like our reviewer, I’m calling for liberal music theory textbooks usable even in professional settings. To my knowledge they don’t yet exist in English, but

³⁰ See Girard (2007).

³¹ Matthews (2000, 323). I should like to thank Professor Randall Curren, chair of the Philosophy Department of the University of Rochester, for drawing my attention to this book.

at least one new one does in German,³² demonstrating that it's possible to take such an approach and still retain hard-core music theoretical/analytical content. The larger narrative even has practical benefits. The attribution of theoretical/analytical techniques provides a model of scholarship, by example. Isn't it better to learn to use the library, bibliographic conventions and the scholarly critical apparatus by example from your own textbook, instead of in a bibliography course? And attributions can also aid memory. Matthew and I used photos of busts, portraits, etc., when available: remember Guido Monaco—or Boethius? Example 28 provides a sketch of some possible attributions to start you thinking.

Second, as the author of the book on number theory wrote, “the historical remarks ... bring out the point that number theory [read “music theory”] is not a dead art, but a living one... They reveal that the discipline developed bit by bit with the work of each individual contributor built upon the research of many others.”³³ That's the message I wish our students got more often from their theory courses! After all, there are potential music theorists—both full- and part-time—in our student audience, and we want to teach them how we think; what better way than by showing music theory's richness and diversity in the past and present?

And Third, providing *no* history amounts essentially to a sort of naïve presentism—music theory as the invention of author X—or worse: that's just the way it's always been and always will be. Presentism—the “Whig History,” as it's sometimes called—is a contentious issue among historians of science, but more problematic still in music theory, where fundamental epistemological questions remain unsettled. Though I'm sympathetic to the presentist argument—as I think most theorists are!—it can't be assumed: we must ask whether we have the “right” answers, or only the ones that are “right” for the field of music theory *today*—whether music theory is a “fashion industry,” as one former colleague put it. We need to confront the question each time with persuasive musical and music-theoretical answers.

In closing, as one of those who works in the history of theory, even in retirement—or even more in retirement—I'll take some of the blame. Despite publication of much of our research over the last fifty years, it remains difficult to piece it all together. Even the *Cambridge History*, a heroic undertaking by its editor, Thomas Christensen, is a long read, its many specialized chapters difficult to synthesize into a whole. But until a more synoptic view of that whole arrives—and I don't see one on the

³² See, for example, Mencke (2015 and 2017).

³³ Burton (1980, v-vi).

Are Attributions and Eponymous Laws Possible in Music Theory?

1. Pythagoras's Interval Ratios
2. Aristoxenus's Linear Interval
3. Hucbald's tetrachord of finals
4. Pseudo-Odo's Gamut
5. Guido's Hexachord
6. Guido's affinities
7. Garlandia's consonance/dissonance scale
8. Prodocimus's note-against-note counterpoint
9. Tinctoris's dissonances in florid counterpoint
10. Zarlino's Senario
11. Glarean's Twelve Modes
12. Mersenne's Equal Temperament
13. Rameau's Law of Chord Progression
14. Kirnberger's Non-Essential Chords
15. Sechter's "Hybrid Chords"
16. Schenker's *Stufen*
17. Babbitt's Common-Tone Theorem
18. Cone's Hypermeter
19. Forte's Nexus Set
20. Lewin's GIS

Example 28

Attribution of Eponymous Laws of Music Theory to Important Music Theorists.

horizon—you're on your own with it. Notwithstanding, the history of theory is to me, most importantly, an *attitude* towards teaching and towards writing music theory and analysis: it's wanting to find out where things came from—including what you think are your own “original” ideas; it's not being satisfied with one explanation, but wanting to restage the controversy between alternatives when possible. I hope you'll keep that attitude in mind in the future as a possible approach to teaching and writing textbooks.

Thanks very much, and let's get to the discussion!

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The Norton Guide to Teaching Music Theory

edited by Rachel Lumsden and Jeffrey Swinkin
New York: W. W. Norton & Company, 2018

reviewed by DAPHNE TAN, STACEY DAVIS, TIMOTHY KOOZIN,
DAVID A. RICKELS, AND PHILIP CHANG



Part I: Primary Topics in Music Theory

DAPHNE TAN

One of the most challenging yet rewarding aspects of teaching is finding your own way. With experience, one gains an understanding of how received wisdom and pedagogical trends might be reflected or refracted in one's own approach to a given subject, for a given population. Michael R. Rogers captures this process in the concluding sentence of *Teaching Approaches in Music Theory*:

By forming and developing a set of consistent conceptual principles and a personalized belief system for teaching theory from an awareness of the similarities/differences and strengths/weaknesses of competing systems, we simultaneously solidify our own values and open our minds and ears to additional possibilities (Rogers 2004, 176-177).

Fittingly, this sentence appears at the outset of a new collection of essays, *The Norton Guide to Teaching Music Theory* (hereafter *NGTMT*), intended “to [fill] a lacuna in extended works devoted to pedagogy” (x) since Rogers’s seminal book. Its editors, Rachel Lumsden and Jeffrey Swinken, read Rogers’s statement as concerned with “methodological pluralism” (ix), and they, in turn, take “diversity and inclusivity” as the guiding principles for this collection (x). As a result, *NGTMT* features an impressive roster of accomplished scholar-teachers writing on a wide range of topics and approaches, from a wide range of perspectives. And yet, *NGTMT* does more than showcase methodological pluralism in music theory pedagogy. More valuable still, it invites the reader to consider the conceptual principles and personalized belief systems that individual theorists have developed, be it over several years or several decades. If Rogers provides us with a map for the journey, *NGTMT* offers accounts of what we might find upon arrival.

Please note that this is a multi-authored review, and citation of the review should credit the appropriate author(s) of the respective sections of the review.

Here I focus on Part I of the collection, considering each of the six essays individually. Before turning to these, however, it is worth noting the section title, “Primary Topics in Written Theory.” With the word “primary,” one might assume that Part I addresses topics that are first encountered in an undergraduate core sequence, or topics that are fundamental, that is to say, broadly applicable. As it turns out, neither is quite the case. While some authors concentrate solely or in part on topics typically found in graduate-level courses and undergraduate electives (Seth Monahan, Julian Hook, Peter Schubert), others outline approaches and concepts that require some specialist training, or at least prior classroom experience, to fully appreciate (Alan Gosman, Sarah Marlowe, Joseph N. Straus). Thus, to my mind, Part 1 of *NGTMT* will be most useful to readers who have already tried their hand at teaching the topics found within.

That said, the expressed audience for *NGTMT* is not music-theory specialists alone but “anyone who teaches music theory courses in a collegiate setting” (x). Moreover, the editors suggest that *NGTMT* could be used as the sole text in a graduate pedagogy course (xiv). Taking the editors at their word, then, we might consider the extent to which Part I serves as a useful resource for a more general readership. Questions we might ask in this vein are: What musical skills does each author address? How do they incorporate non-written activities, that is, how do they adopt Rogers’s “thinking ⇔ listening” paradigm?¹ And what general pedagogical advice does each author offer, implicitly or explicitly?

Such questions are handily answered by Peter Schubert in “Teaching Historical Counterpoint,” the first essay of Part I. Schubert calls for a “rehabilitation” of stylistic counterpoint, which he views as nearly extinct within the undergraduate curriculum (13). Beyond its natural connection to music history courses, stylistic counterpoint, Schubert argues, has the potential to be “the locus where theory and aural skills meet” (24). He makes a strong case for this, describing seven intertwined and imaginatively constructed activities that he incorporates into courses on 16th- and 18th-century counterpoint.² The singing activity, for instance, strengthens students’ analysis skills: while reading from separate Renaissance parts (duos by Glarean and Lassus) and listening attentively to other lines, students raise their hands when they encounter cadences. In the analysis activity, students themselves choose works

¹ Rogers (2004, 8).

² Schubert doesn’t state explicitly where in the curriculum these courses fall. Given that his class sizes are 16–20 students within a school of music (15), his students have likely completed at least two semesters of aural skills and some requisite piano classes.

from the repertoire, present them to their peers, use them in peer-to-peer dictation, and extract from them contrapuntal devices for small compositions. Schubert also has his students memorize four pieces over the semester to which they repeatedly return (a chant melody, a *ricercar* by Diego Ortiz, a mixed-value duo, and a three-part Benedictus). This practice relates to Brian Alegant's idea of "scuba diving" (Chapter 10 and Alegant 2014) as well as to spiral learning, discussed by Elizabeth West Marvin (Chapter 23). It is easy to see how Schubert's activities encourage students to form generalizations about a given style and to recognize special moments in particular pieces—and how they could be adapted for other historical contexts.

The activity of improvisation stands apart, as Schubert discusses no fewer than seven specific techniques. Readers who are interested in following him to the letter will benefit from having his two textbooks nearby and from watching his entertaining improvisation videos (all referenced in his footnotes). Perhaps trusting readers to use these additional resources, Schubert describes the techniques with varying levels of detail. He provides comprehensive guides to *fauxbourdon*, improvising against a *cantus firmus*, and improvising canons (*stretto fuga*). At the other extreme, a technique called "the parallel models" is described in one brief sentence, and unfortunately, the accompanying YouTube link led me to an unavailable video.³ Indeed, the publisher would do well to provide a permanent online home for the author's supplemental materials. This issue aside, Schubert offers a storehouse of ideas for those wanting to instill more "thinking in music" (23), and contrapuntal thinking especially, into their teaching.

In the next essay, "Managing the Big Picture: Adventures in Classical Form," Seth Monahan zooms out from the particulars to address pedagogically framing the teaching of form. He outlines several broad considerations, beginning with the foundational skills that students need before they progress to studying entire musical works. Monahan rightly emphasizes "strategic, score-aided listening" in cultivating a sense for the rhetoric of Classical style. In this regard, he promotes two general concepts from William E. Caplin's theory of formal functions (2008): (1) the distinction between "tight-" and "loose-knit" organization, and (2) the notion that a passage can express the sense of beginning, middle, and end regardless of its actual temporal location. Monahan further suggests that it is vital for students to "attune themselves to cadential trajectories as *they unfold*," or in Caplin's terms, to recognize the specific harmonic, melodic, and phrase-structural devices inherent in a cadential

³ Readers wanting detailed descriptions of the parallel-sixth, third, and tenth models could turn to Schubert 2007, 192–94.

function rather than merely recognizing moments of cadential *arrival* (29).⁴ Though Monahan's essay is aimed at instructors of upper-division form-and-analysis courses, he intimates that these foundational concepts could be implemented earlier. I would assert more strongly that they are essential ideas for those teaching first-semester diatonic harmony. After all, students are more likely to see the study of larger forms as an extension of their earlier coursework if, from the start, they are encouraged to attend to recurrent patterns of syntactical organization and voice-leading—that is, to develop phrase-level expectations.

When it comes to studying complete works, Monahan offers sound advice for repertoire selection (three crucial questions on pp. 30-31) and for making class time musically engaging. He favors works with compelling features that afford interpretations of long-range processes, imaginary agents, and narratives (citing the E-flat major minuet from Haydn's string quartet Op. 20, No. 1, and Beethoven's "Appassionata" piano sonata, Op. 57). Additionally, he ensures that students have studied the piece in advance through targeted assignments, embraces the qualitative aspects of music, and saturates class time with sounding music: these are exactly the right suggestions for the beginning teacher who might be overly concerned with content delivery. In an odd turn, though, Monahan concludes the essay by defending an instructor-led approach, one which critics might dismiss as "rearguard" (35) but which, he argues, is the best way to model for students how to be "articulate spokespersons" for classical music. While I wholeheartedly agree that analysts should champion the repertoires they teach, I question whether students can learn how to be advocates *on their own terms* through observation, or emulation, alone. Successful student demonstrations and presentations, for instance, teach us that there are many ways "to speak passionately, persuasively, and precisely" about music (36).

Continuing the focus on classical form in "Finding One's Place: Music Scrambles and Formal Function," Alan Gosman describes an activity designed to sensitize undergraduate students to "formal cues that they can easily overlook when contemplating an intact theme" (39). "Music scrambles" are mixed-up segments of a theme that students must reorder.⁵ As Gosman explains in his concise and practical

4 To be clear, Monahan opts for a rather loose adoption of Caplin's terminology and does not discuss formal functions *per se*. Indeed, he doesn't endorse any textbook, arguing instead that "the most effective instructors will be familiar with *numerous* theories of form and be well versed in their points of contention" (34, n18).

5 Though Gosman limits the scrambles in this essay to eight-bar theme types, he notes that scrambles of sixteen-bar themes and of binary and small ternary (rounded binary) forms are also possible.

essay, students who are familiar with four specific formal functions—cadence, basic idea, continuation, and non-cadencing contrasting idea (adopted from Caplin)—will replace a trial-and-error approach with informed position-finding. Though Gosman also lists theme types that employ these functions, he rightly notes that one could undertake this activity without necessarily invoking sentences, periods, and Caplinian hybrids. The highlight of this essay is the section on scrambles for themes that are extended beyond eight measures. Gosman’s discussions of varied repetition in the opening of Mozart’s Sonata in C Major, K. 330, first movement (Exx. 4.6 and 4.7), and of pacing in “Voi, che sapete” from *Le nozze di Figaro* (Exx. 4.8 and 4.9), reinforce how musical particulars that are crucial to performance are also critical to a successful reordering. Finally, Gosman describes how the activity of model composition, in which students are tasked with expressing a theme’s constituent formal functions, can be the basis of new scrambles. Though he doesn’t explicitly discuss the role of listening, one could imagine aural-only scrambles as a complement to score-based scrambles and easily administering these through an online learning-management system.

Sarah Marlowe addresses details of the particular alongside curricular concerns in the next essay, “Integrating Schenkerian Concepts with the Undergraduate Curriculum.” Her premise is that the theoretical-analytical outlook of Heinrich Schenker, often reserved for upper-level undergraduate and graduate courses, can be readily introduced throughout the core curriculum. Moreover, in a series of seven generously detailed lesson plans, intended to be spaced over several semesters, she demonstrates how one can adopt a Schenkerian attitude even without a Schenkerian-leaning textbook, thus laying the groundwork for later studies in Schenkerian analysis. After all, “it is not the text but the teacher who makes the difference in the long run,” as Marlowe quotes David Beach (59).

Marlowe’s first four lessons concentrate on linear motion in excerpts from the repertoire, with the goal of expanding students’ thinking beyond part-writing and Roman numerals. In these, she returns several times to Haydn’s String Quartet, Op. 76, No. 1: in the earliest lessons to teach species counterpoint, and later to teach implied harmony from two voices and “apparent” harmonies in four voices. Marlowe’s use of spiral learning is typical of her evident concern for student engagement throughout this wide-ranging essay. At times, I found the lesson-plan format to be overly descriptive for a specialist audience, but beginning teachers will find plenty of useful suggestions for incorporating singing and group participation. Lessons 5 and 6 address a struggle often faced by beginning students: understanding harmonic organization in non-homophonic textures. Marlowe makes a strong case for having students create

textural reductions, even as soon as they learn melodic embellishments; doing so, she reasons, encourages students to grapple with the finer details of a musical work from the outset. Of the skills Marlowe presents, however, this one strikes me as specifically geared towards preparing students for an advanced course in tonal analysis and thus might not be suitable for all core curricula. The final lesson, centered around Schumann's "Fast zu ernst," *Kinderszenen*, Op. 15, No. 10, guides students towards acts of interpretation "to make more musically meaningful observations" (74).

We turn from Schenker to sets in the subsequent essay, "Ten Tips for Teaching Post-Tonal Theory," where Joseph N. Straus offers advice for teaching post-tonal theory at the undergraduate level. On the face of it, Straus's tips could be applicable to teaching any theory of music (e.g., "talk less, do more"). But his essay will resonate most with instructors who have been in the post-tonal trenches and have faced two inherent challenges: repertoires that are new to students and the temptation towards abstraction. To tackle the first challenge, Straus advises instructors to "plunge right in" to free-atonal and pan-tonal repertoires (avoiding a slow submersion via earlier chromatic music), to "relate to performance," and to "hear the music"—through recordings, to be sure, as well as through singing, dictation, and sing-and-play. This last point is particularly apt for those teaching in a curriculum without a co-requisite post-tonal aural skills class.⁶ Straus also urges teachers to diversify their repertoire selection by gender and geography, and to include music composed in recent years.⁷ To this I would add that a few words about the historical and cultural context of a work or style can go a long way in piquing students' interests; teachers of post-tonal theory can't always rely on a concurrent music history course to provide this information. Addressing abstraction, Straus encourages teachers to "spend most of [their] analytical energies" on concrete concepts (e.g., pitch over pitch class [pc], pc-set over set class) and to employ visual representations when presenting theoretical material (more on this below). Perhaps the most important tip, however, is Straus's very first: aim for mastery of a few essential concepts; do "less theory, more music."

Whether teaching post-tonal theory or music fundamentals, readers will likely have heard the complaint that theory is challenging because "it's like math." In "Teaching Mathematical Techniques in Music Theory," the final essay of Part I, Julian Hook offers a fresh perspective on this problem. He states at the outset: "Mathematical

6 There are no music examples in this essay; however, the model analyses in Straus (2016) contain some suggestions for specific aural activities.

7 He refers the reader specifically to the excellent collection of essays in Parsons and Ravenscroft (2016).

structure, to a lesser or greater degree, underlies many music concepts in music theory. Even when the content is not explicitly mathematical, a student's grasp of music theory is facilitated by analytical ways of thinking like those encountered in math classes" (88). Thus rather than refuting music theory's kinship to mathematics, Hook argues that teachers should embrace and foster mathematical thinking. In two separate sections, he provides examples of how this can be achieved within the early stages of the undergraduate core curriculum and at the graduate level.

At an elementary level, the circle of fifths, a geometric representation of musical pitch, is a standard visual aid. Hook suggests several other images to accompany fundamental concepts. The chromatic line and chromatic circle, for instance, can be used to illustrate the distinction between pitch and pitch-class (pc), respectively; and the chromatic (mod-12) and diatonic (mod-7) pc circles (Exx. 7.1 and 7.2) can be used to explain generic and specific intervals and chords, as well as to demonstrate the limited number of these elements through rotation (transposition). Hook doesn't *explicitly* recommend that the diatonic and chromatic spaces be used for the practical purpose of interval/triad identification, but a stronger word of caution about this possibility is warranted. After all, students would need to count the number of pcs in diatonic space for generic intervals but count the distance between pcs in chromatic space for specific intervals; this conceptual shift is best avoided.⁸ Most convincing among Hooks examples are the circle of thirds (Ex. 7.5) as a mnemonic for functional harmonic progressions and the line of fifths (Ex. 7.6) as an aid for key identification. Finally, specialists will be particularly interested in the section on teaching graduate theory majors, in which Hook provides paths for introducing group theory and voice-leading spaces to students already conversant in modes and scales, neo-Riemannian transformations, and twelve-tone transformations. The two focal diagrams in this section (Exx. 7.7 and 7.8) are elegant and highly effective for graduate instruction.

The six authors in Part 1 of *NGTMT* offer expert perspectives on teaching counterpoint, classical form, post-tonal theory and analysis, and mathematical abstraction at undergraduate and graduate levels. Such topics are, of course, foundational to the discipline of music theory, and they remain central to curricula at

⁸ The crux of the matter is whether one begins counting in a given space from 0 or 1. Though one could conceive of the pcs in a diatonic space as ordered from C=0 to B=6, as Hook shows in his Example 7.2, this numbering is inconsistent with our traditional labels. C-E corresponds to 0-2 in diatonic pitch-class space, but we don't refer to this generic interval as a 2nd. In contrast, we traditionally determine specific intervals by their distance from 0 in chromatic space (C-E is 4 semitones). A scalar approach to teaching intervals and chords bypasses this conceptual shift, since the traditional label always corresponds to the scale degree reckoned from the lower note (E is 3 in C major).

North American conservatories and schools of music. Yet increasingly, instructors of written theory are giving due consideration to the topics addressed in Part III (jazz, popular and world musics, and race and ethnicity) and Part IV (Universal Design and newer forms of student engagement). Moreover, many of the approaches taken by the authors in Part I are happily consonant with those in Part II (“Aural and Performance Skills”). Those who are beginning to find their way as teachers, then, might do well to read *NGTMT* non-sequentially. For when placed within a broader context—provided by Parts II through IV, or through firsthand experience—the detailed, thoughtful essays of Part I present a wealth of “additional possibilities” with which to “open our minds and ears” (Rogers 2004, ix).

Part II: Aural and Performance Skills

STACEY DAVIS

In his introductory chapter to *The Norton Guide to Teaching Music Theory* (2018), L. Poundie Burstein laments that “music theory exercises frequently are treated as ends unto themselves, rather than as bridges to deeper understanding” (2). This viewpoint might explain why students often see theory classes separate from and unrelated to their other musical studies, with no immediate or meaningful application to listening and performing experiences. Part II of the *Norton Guide to Teaching Music Theory* (Chapters 8–13) contains six essays on “Aural and Performance Skills” that offer multiple perspectives and strategies for combatting these notions. Each chapter outlines general principles that could inform a teacher’s pedagogical approach, as well as specific suggestions for course design, classroom activities, and student assignments. All are knit together by a shared intent to increase multimodal learning, encourage critical thinking, develop fluent skills, and make connections between theory and practice.

The concept of multimodal learning is most explicitly presented in Roger Graybill’s essay, “Activating Aural Imagery through Keyboard Harmony” (Chapter 12). After summarizing different types of keyboard exercises and comparing the merits of teaching harmony with figured bass and model progressions, Graybill proposes a “multimodal web” that depicts the interconnected and interdependent nature of six modalities for understanding music: hearing, notating, conceptualizing, singing, reading, and playing (188, Example 12.5). This model “directly challenges the traditional hierarchical view of music theory training that assigns the place of highest honor to *conceptualization* while regarding the other modalities as somehow reinforcing and supporting such conceptualization” (189, emphasis in original). Teachers who instead consider conceptualization as just one of many similarly important modalities will create more activities that begin with or focus on musical experience (hearing, singing, playing) rather than verbal explanation. Graybill’s recommendation of the “play and sing” is particularly worthwhile since it integrates all six modalities, inviting students to compose a harmonic progression, then play certain parts at the keyboard while singing other parts on *solfège*.

Diane Urista introduces a seventh modality in Chapter 9, with physical movement providing an additional means by which teachers can enhance learning. Echoing the thoughts of Graybill, Urista summarizes that “an embodied approach recognizes that doing, sensing, and feeling are as necessary to the learning process as conceptualizing”

(143). Many aural skills teachers might already encourage their students to use hand motions while singing to distinguish between intervals and scale degrees, with the Curwen hand signs being the most well-known. But those same teachers might be less familiar with how principles from Dalcroze Eurhythmics can strengthen our teaching of rhythm and form. Urista provides a clear description of the difference between time-point rhythm (or attack-point rhythm) and gestural rhythm (the flow from one time point to the next). Understanding that distinction helps students match physical motions (clapping, walking, etc.) with beats, connections between beats, divisions of beats, strong vs. weak beats, and complementary rhythms. In addition, Urista provides suggestions for using movement to indicate phrase beginnings and endings, cadences, and melodic focal points. All of these ideas remind us to ground our teaching on the assertion that “theory is to follow experience” (127).

In order to improve critical thinking skills, Janet Bourne’s essay (Chapter 8) outlines how principles from cognitive psychology can help students understand *why* they are encouraged to follow certain compositional or analytical principles. Teaching our theory classes through this “cognitive lens” also helps students make connections by engaging them with questions about *how* their analytical efforts illuminate musical features that play a role in their listening and performing experiences. As Bourne summarizes, “Since cognition acts as a gateway to different listener experiences and meanings, tying cognition to theory could help mitigate music theory’s unfortunate stigma of being uncreative and cold” (109). In this chapter, focus is placed on how five cognitive principles could inform the teaching of a paired music theory concept: prototype theory and phrase structure, auditory stream segregation and counterpoint, affordances and Roman numeral analysis, embodiment and meter, and schema theory and composition.

Within these pairs, the sections on prototype theory and auditory stream segregation contain particularly useful explanations and student activities. Bourne introduces prototype theory by inviting students to think of examples of birds, with respondents more likely to list robins than penguins (110). Although both technically fit the category, one better matches its prototypical characteristics than the other. Analogously, some pieces of music are prototypical examples of a certain musical form, while others deviate from the norm. Analyzing phrase structure from this perspective prevents students from feeling uncomfortable with ambiguity or frustrated by an inability to fit a piece into a certain “box.” Students instead learn to think critically and articulate the ways in which a given piece fits or does not fit the prototype, which typically leads them to discover that atypical moments are often the most striking,

unexpected, or expressive. In the section on teaching counterpoint, Bourne references seminal articles by David Huron to teach how principles of auditory stream segregation explain the existence of certain voice-leading conventions (113–114). Teachers could also consult Huron’s more recent text, *Voice Leading: The Science Behind a Musical Art* (2016), which outlines cognitive and perceptual support for the various part-writing customs that continue to be foundational components of the undergraduate theory curriculum (size of intervals within voices, chord doubling, parallel octaves and fifths, tendency tone resolution, etc.). An awareness of these perceptual explanations aids students in composing based on desired style and sound, rather than fear of “breaking” rules that seem arbitrary or archaic.

Although Brian Alegant’s essay (Chapter 10) is billed as a chapter on teaching post-tonal aural skills, it ultimately provides an excellent framework for designing any course and teaching any repertoire. In order to emphasize the development of fluent skills over the coverage of content, Alegant begins his course creation by employing the principle of backward design. With this approach, instructors first determine the desired outcomes or results of the course, then decide on appropriate assessment strategies and learning activities. This prioritization of skill development is also aided by his concept of scuba diving, where students spend a significant amount of time deeply exploring a small number of skills, rather than encountering copious concepts quickly and from a distance (148–149). Scuba diving’s “less is more” strategy contrasts with the “more is better” approach of snorkeling (Alegant 2014).

For his post-tonal aural skills class, Alegant focuses on three specific skills: performing melodies, performing rhythms, and notating in real time. Although this approach requires him to sacrifice time spent on other valuable activities (e.g., dictation, transcription, sight-reading), Alegant admits that he is often dissatisfied with the “pedagogical return on investment” of these activities (149). He therefore makes “a conscious decision to trade depth for breadth, willing to work on fewer skills so that students will use them with greater facility” (149). Alegant also structures class sessions like an ensemble rehearsal, with time allotted for warm-up, intensive work, and cool down. Given students’ familiarity with the format and outcomes of rehearsals, this approach reinforces the notion that the aural skills class has similar goals of skill development and polished performance. Applying a rehearsal model also inspires teachers to analyze complete works rather than excerpts, thus increasing the probability that students will include the aural skills class on their list of places where they learn to perform music “competently, accurately, and musically, with careful attention to phrasing, dynamics, articulation, gesture, line, and expression”

(148). Alegant also emphasizes that the efficacy of both an ensemble rehearsal and an aural skills class is dependent on selecting appropriately difficult repertoire, choosing pieces that we enjoy, and giving precise and constructive feedback after each student performance. Alegant's Table 10.2 lists suggested repertoire, which includes pieces that emphasize various scale collections (e.g., Hampton, "Midnight Sun" and Ives, "The Cage"), atonal and twelve-tone compositions (e.g., Bartók, String Quartet No. 6, first movement and Babbitt, "The Widow's Lament in Springtime"), and rhythm innovations (e.g., Stravinsky, Three Pieces for Clarinet Solo and Carter, *Riconoscenza* for solo violin).

When pondering this concept of fluency, teachers often focus solely on their students' analytical and performance skills. In Chapter 11, Michael Callahan advocates that teachers also consider the development of their own pedagogical skills. One such skill is the use of the keyboard in class, where teachers tend to self-categorize as either pianists or non-pianists. The experienced pianists feel at ease playing in class and often view the keyboard as a resource for live performance (in place of using a recording), while the purported non-pianists feel less comfortable, avoid playing during class, and/or spend significant time practicing as part of their class preparation. As an alternative to both of these categories, Callahan proposes that theory teachers become "pedagogical pianists," where the emphasis is on developing keyboard skills that allow us to "illustrate, highlight, experiment, explain in sound, accompany, interact and *teach* with piano—in other words, to do things that recorded performances cannot do" (162, emphasis in original).

Callahan sorts these pedagogically-oriented keyboard skills into four categories: explaining through musical sound, aural highlighting, what-ifs, and collaborative music-making. When explaining through musical sound, the teacher uses the keyboard to introduce the main components of a concept, with brief spoken explanations playing a secondary role to aural discovery. As an example, Callahan helps students discover the effects of chromaticism by pairing different elaborations of an originally diatonic harmonic progression with different versions of a basic sentence (166–167). Just as adjectives can add color to a sentence without changing its underlying meaning, chromatic chords can embellish a progression without altering its overall tonal context. In the same vein, the role of adjectives could be related to adding non-harmonic tones to an initially unadorned harmonic progression. Similarly, aural highlighting uses the keyboard to supplement or enhance different analytical observations. As a corollary to Graybill's play-and-sing activities, Callahan recommends that teachers "play and talk" while directing student's attention toward different analytical observations. Inviting

students to sing a certain part of the texture during this type of activity further deepens their engagement with the music and has the potential to create “vivid, exciting” moments where students are “hooked and viscerally, observably engaged” (169).

Engagement and understanding are also enhanced when teachers use the keyboard to recompose a musical passage, thereby allowing students to ask “what if” questions that reveal differences between a composer’s choice and other things that could have happened. In my experience, the opening motive of Beethoven’s *Für Elise* provides a compelling resource for incorporating this type of activity into the earliest stages of learning about tonal harmony, both because it is familiar to students and because it is simple to play. Teachers could begin by playing various options for arpeggiating a basic i–V–i progression in A minor (Example 1a), taking ideas from students and discussing the aesthetic merits of each possibility. After arriving at Beethoven’s choice of simple triple meter and continuously ascending motion, the next stage of recomposition explores the options for an upbeat. The teacher first adds a single eighth-note E to create a stereotypical dominant to tonic pickup (Example 1b), then repeats that E for another entire measure to delay the arrival on tonic (Example 1c), then finally plays Beethoven’s embellished version that uses chromaticism to tonicize E (Example 1d). Throughout this discussion, students discover that the characteristic motive of this piece is actually an extended upbeat that creates both tonal and metric ambiguity prior to an arpeggiated presentation of the most typical chord progression. That awareness also informs their perception of later passages in the piece, such as when Beethoven manipulates the opening chromatic half-step to influence expectations prior to the return of each A section within the overall rondo form (see mm. 35–39 and mm. 81–83).

Being able to play such recomposed possibilities at the keyboard, as well as pausing prior to significant moments in a piece and exploring what might come next, enlivens class discussions and enriches students’ ability to discover the aesthetic impact of various musical features. No matter how expert or beautiful the performance, a recording cannot provide these pedagogical possibilities. And although adequate keyboard skills are essential for these activities, the focus is on using the keyboard to teach and not just to play. Adopting Callahan’s idea of pedagogical pianism could therefore improve our pedagogy by reorienting the relationship that many theory teachers have with the keyboard.

Woven throughout all of these chapters are comments about the importance of making explicit connections between analysis and performance. The final essay in

The image displays four musical staves, labeled a, b, c, and d, representing variations of the first eight measures of Beethoven's 'Für Elise'. Each staff is in 3/8 time. Staff (a) shows the basic harmonic progression with chords in the right hand and single notes in the left. Staff (b) adds eighth-note pickups in the right hand. Staff (c) extends the pickups. Staff (d) shows the original score with an embellished motive in the right hand.

Example 1

Beethoven, *Für Elise*, mm. 1–8 (a. basic harmonic progression; b. addition of eighth note pickup; c. extended pickup; d. original score with embellished motive).

this section (Chapter 13) provides an excellent conclusion by specifically focusing on this topic. Daphne Leong begins this chapter by reminding us that analysis and performance are naturally linked since they share common goals, complement one another, and interact to produce new cross-disciplinary knowledge. She then outlines three categories of teaching practices that aid in making these connections: *integrating* the two by modeling performance both inside and outside of class, *incorporating* questions about performance into analytical activities and discussions, and *instituting* these topics in the creation of a stand-alone class on analysis and performance (198–199, 204).

The concept of integration is particularly essential to successful theory teaching. I am reminded of this when students are taken aback after hearing me play in class for the first time. Perhaps this reveals a tacit assumption that theory classes are for talking about the music, not performing the music. Or perhaps students are simply unfamiliar with the potential performance skills of theory teachers, having likely

only encountered private lesson teachers and conductors prior to college. Theory teachers can therefore establish an experiential affinity with students by integrating performance into the classroom. Likewise, we gain “street cred” when students see us perform and hear us talk about performance. That credibility significantly increases the likelihood that students will see music theory class as a means to an end (of great performances and listening experiences), rather than an end in and of itself. As Leong insightfully observed, students also benefit when performance faculty integrate analytical insights into private lessons and ensemble rehearsals (199). With this reciprocal integration between theory class, lessons, and ensembles, students begin to recognize that the ability to identify and determine the effects of various musical elements is relevant to any musical task or experience.

Leong’s idea of incorporation is similarly essential since it encourages teachers to consistently weave questions about performance into every analytical task, no matter how elementary or advanced. During these discussions, students become more conscious of how analysis can inform expressive performance, as well as how great performances can draw attention to important musical attributes or moments. In this context, one might consider expanding upon the list of questions that Rogers (2004) offers to aid in the analysis of Chopin’s Prelude in E minor, Op. 28, No. 4 (94–99). These questions focus on functional and non-functional chord progressions, structural and decorative melodic pitches, motivic similarities and differences, and characteristics of the climax. Roger’s fifth question is especially relevant to this collection of chapters in the Norton text since it encourages critical thinking and invites teachers to play multiple recomposed options at the keyboard. In addressing the passage shown in Example 2, Rogers asks:

... how is the arrival of m. 21 *both* the achievement of a long-awaited goal and the derailment of that goal? How could this measure be recomposed to make it the ending of the piece? Formally, why would this location (m. 21) be unsatisfactory as the end? (97, emphasis in original).

After exploring the answers to these questions, teachers could invite students to consider how performers might respond to the deceptive cadence and subsequent delay of the eventual tonic arrival. Regardless of whether students ever play this exact piece, they could brainstorm how variations in tempo, dynamics, and articulation bring a performer in partnership with a composer to create surprise and delay expected moments, hopefully later applying related strategies to their own repertoire. Leong also reminds us that comparing multiple performances of the piece, either through listening or empirical analysis, could reveal additional expressive possibilities (204).

When designing these analysis and performance activities, Leong makes repertoire choices that reflect the interests of the students enrolled each semester. Pieces are therefore drawn from a wide historical range (from the Baroque to the twenty-first century), as well as from jazz and popular music.



Example 2

Chopin, Prelude in E minor, op. 28, no. 4, mm. 19–25.

Although each of these six chapters focuses on a different aspect of aural skills and performance, all achieve an effective balance between outlining general pedagogical approaches and suggesting specific classroom activities and assignments. Within that balance, all chapters offer numerous suggestions for enriching our classes with multimodal activities that have the potential to improve students' critical thinking and skill fluency. Some teachers might be most intrigued by the incorporation of cognitive principles, while others are drawn toward ideas for integrating movement, keyboard skills, and performance considerations into their classes. Some might adopt the specific course design elements or repertoire suggestions from certain chapters, while others are inspired to adapt general approaches or principles in designing a different course. No matter which outcome, these chapters reinforce Elizabeth West Marvin's insight that "our job is to harness students' intrinsic motivation for music and to transfer this enthusiasm to music theory" (366). That transfer seems most likely when our theory classes strive to "uncover pathways, ideas, and possibilities that students can pursue further on their own" as they make connections between music theory and all other aspects of their musicianship (Burstein, 10). The chapters in Part II of this text make a significant contribution to the development of that type of music theory pedagogy.

Part III: Expanding the Canon

TIMOTHY KOOZIN

The essays on “Expanding the Canon” in Part III of *The Norton Guide to Teaching Music Theory* each demonstrate ways that core theoretical methodologies we teach in our theory classes can be presented as flexible principles adaptable to broad repertoires. The four authors each affirm the goal of positioning the music theory discipline as a means to engage with the world today through connection to rich and diverse musical traditions. Brad Osborn shares practical classroom strategies on integrating pop-rock repertoire in the undergraduate theory curriculum. Chris Stover provides a concise tutorial on jazz theory that shows how tonal harmony and voice leading relate to jazz practice. Ellie Hisama shares a compelling personalized account of her experiences as a student and instructor that underscores the importance of focusing sustained attention on culturally diverse musical repertoires in the theory core. Jane Clendinning offers a practical guide on integrating South America Andean music in the theory curriculum, drawing on her experiences as a performer, instructor, and author. The four chapters comprise a guide to enhancing the music theory core curriculum that may position the music theory discipline to take a leading role in preparing music students for the decades ahead, through studies that are more diverse musically and conceptually. Several of the authors speak directly to the priorities expressed in the College Music Society report, “Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors” (Shehan Campbell, et al. 2014).

“Pop-Rock Pedagogy: Composition, Performance, Transcription and Analysis in the Undergraduate Theory Core”

A central practice in Brad Osborn’s approach is to apply concepts students learn in studying the theory of classical music to composition projects in popular idioms, leveraging students’ creativity to establish commonalities between popular and art music genres. In teaching SATB part writing, he focuses on students’ ability to create singable lines that they perform in class, emphasizing a revision process to develop musically interesting independent lines. Osborn draws on Allen Moore’s concept of four functional layers (primary melodic, harmonic filler, functional bass, explicit beat) to form a conceptual framework in examining correlations between classical

composition and pop-rock arranging.⁹ The exploration of Moore's functional layers in both vocal and instrumental writing aids the student in adapting concepts of SATB voice leading to creative composition projects for string quartet, brass quintet, and jazz ensemble.

Aiming to illustrate each music-theoretical topic with examples from both classical and popular repertoire, Osborn offers a chart of demonstrative examples (Table 14.2) comprising an eclectic mix of pop-rock repertoire, including older classic songs (Beatles, Queen), more current indie bands (Arcade Fire, Smashing Pumpkins) and experimental Icelandic rock (Árstíga, Sigur Rós). Listed examples illustrate basic topics of diatonic and chromatic harmony (vii⁹ of ii in Garth Brooks' "Friends on Low Places") and more advanced formal and structural elements as well (a melodically fluent $\hat{5}$ -line in The Beatles' "I'll Cry Instead"). Osborn uses a flipped classroom model to cover much of the essential instruction through video, quizzes, and homework outside of class, freeing up more class time for students to create compositions and present their own analyses as group projects.

Like the other authors in this section of the book, Osborn emphasizes the value in transcribing and analyzing music as a pathway to engagement with and deeper understanding of musics that do not have a score. Transcription assignments prepare students for a variety of arranging projects. In larger culminating arranging projects, students in groups share tasks in arranging songs they have transcribed.

Brad Osborn's discussion of "Prolongation in Pop-Rock Pedagogy" reflects an easing in the controversial debate as to whether pop-rock music has prolongational voice leading structures that can be explicated through some adaptation of Schenkerian methodology, as writers including Walter Everett (2015) and Drew Nobile (2011) have asserted, when it has been counter-argued that pop-rock music employs a unique syntax of harmony that is resistant to analytical methodologies derived from the study of classical music (see Moore 1995, Tagg 1999). Osborn has posited elsewhere, in his work on Radiohead, that pop songs exhibit systems of voice leading that can be characterized as tonal, modal, or non-functionally contrapuntal (2016, 2017). He explores how these varied systems display attributes comparable to those found in classical music, supporting his view that these syntactical systems are "inherited

⁹ Moore's concept of "harmonic filler" refers to the function inner voices often serve in supporting a primary melody and bass line, an aspect of musical texture Moore finds to be characteristic of Baroque trio sonatas as well as popular songs (2012, 19–21). Moore's approach is aimed toward interpretive observations of ways that "secondary domains," including texture, timbre, and spatial location, interact with "primary domains," including melody, harmony, meter, and rhythm in popular music.

largely from common-practice tonality” (2017, 84). Here, he demonstrates how an instructor can establish correlations between voice leading in pop-rock songs (“Far Too Young to Die” by Panic! At the Disco, and Max Richter’s theme to the HBO series *The Leftovers*) and the models of prolongation espoused in two leading undergraduate theory textbooks, *The Musician’s Guide to Theory and Analysis* by Jane Piper Clendinning and Elizabeth West Marvin (2016), and *The Complete Musician* by Steven Laitz (2015).

This chapter offers a positive student-centered approach that leverages student creativity and teamwork in applying flexible theoretical principles to explore musical processes in common-practice and pop-rock music. It is a valuable resource for instructors seeking to offer students transformative experiences in the theory classroom that deepen their understanding of both classical and popular musical repertoires.

“Jazz Theory’s Pragmatics”

In his essay, “Jazz Theory’s Pragmatics,” Chris Stover succinctly explains essential similarities and differences in the syntactical processes of jazz and classical music. He observes that jazz theory is “radically pragmatic,” in that it is oriented toward helping players to improvise in particular contexts that comprise much of the music in the jazz repertoire. While this practical orientation toward guiding performers in creating their part has much in common with historical pedagogical approaches including thoroughbass and *partimenti*, it serves a different purpose than that found in what is typically covered in the music theory classroom. In exploring parallels and differences between jazz theory and conventional music theory, the essay models an inclusive approach that recognizes how each can inform and enrich the other. In addition, Stover’s pedagogical approach aims to connect with the improvisatory character of spontaneous invention inherent in jazz, enlivening the theory classroom with a “jazz attitude” (236).

Stover presents voice-leading practices in jazz in terms of guide tones that “gently direct” (237) harmonic motion through circle-of-fifths syntactic background patterns, forming smooth stepwise paths in which dissonances are not compelled to resolve as they would in common-practice tonal settings (the “paradigmatic harmonic object” [286] being the seventh chord). This guide tone principle integrates parsimony, in moving to the nearest available tones in a subsequent chord, and syntactic patterning, whereby chordal thirds connect to chordal sevenths and vice versa, but it is more flexible and less determinative than conventional voice leading in which a dissonance is directed toward a specific goal of resolution. This principle of voice-leading motion in jazz provides a foundation as Stover explains and illustrates players’ improvisatory

processes of chord substitution, transformation of circle-of-fifths prototypes, and use of altered and extended chords.¹⁰

The essay concisely explains chord-scale theory, a rubric through which players conceptualize melodic notes that will go well against a given chord, essentially transforming into linear-scalar form notes that form an extended chord. Stover then expands the discussion of chord-scale relations to include minor scales, the octatonic collection, and other scalar formations as they relate to harmonic patterns employing altered chords. This has immediate practical application in theory classes, where we typically introduce the diatonic modes along with whole-tone and octatonic collections as an essential aspect of post-1900 art music, but we might miss the opportunity to make this valuable connection to jazz practice. Stover rightly cautions that chord-scale theory oversimplifies aspects of actual jazz performance practice, providing only a pedagogical entry point in understanding the rich and multifaceted complexities of melody and harmony in jazz, but the same qualifier could also be applied when examining reference to modal and symmetrical scales in modern art music repertoires.

In his model analysis of the jazz standard, “Autumn Leaves,” Stover describes a flexible process of listening-based analysis that foregrounds the improvisational nature of jazz. Underscoring the possibilities for multiple interpretational perspectives that Stover posits to be inherent in jazz, the discussion explores tensions between G major and E minor as competing tonal centers in the song that arise through sequential circle-of-fifths harmonic patterning, while forward-leading melodic gestures that span over the bar line create fluidity in phrasing and hypermeter.¹¹

This chapter provides a thoughtful primer on jazz theory that clearly articulates how tonal harmony and voice leading relates to jazz practice. The essay reminds us that a jazz performer’s improvisatory process involves finely nuanced listening and in-the-moment analytical thinking. Since we aim to cultivate those same skills in the theory classroom, we can potentially reap benefits not only through the inclusion of jazz repertoire, but also through integration of theoretical concepts and in-class activities that draw upon jazz-oriented spontaneity and creativity.

10 See the open-access volume, “Engaging Students Through Jazz,” 2016, co-edited by Chris Stover, Garrett Michaelsen and Dariusz Terefenko (<http://flipcamp.org/engagingstudents4/>). Stover’s essay in that volume, “Strange Changes,” explores patterns of chord substitution inherent in the structure in many jazz standards, that can be understood in terms of modal mixture alterations and tonicizations that prolong various transformed chords.

11 Stover’s analysis interrelating phrasing, hypermeter, and voice-leading guide tones has qualities in common with William Rothstein’s chapter on Chopin in his *Phrase Rhythm in Tonal Music* (1989). For another study of “Autumn Leaves” and the treatment of voice-leading guide tones, see Schachter 2013.

“Considering Race and Ethnicity in the Music Theory Classroom”

While music theory might be regarded as a technical and culturally neutral component of the student’s education, Ellie Hisama argues that theory students can and should grapple with issues of gender, race, and ethnicity. Only in doing so can we develop transformative and inclusive approaches to theory pedagogy that will foster the growth of a broadly diverse community of performers and listeners.

Hisama powerfully describes her personal experiences as a graduate student and instructor when first discovering that the range of topics considered appropriate for doctoral music research, and the musical examples encountered in undergraduate theory textbooks, were nearly exclusively focused on music by composers that were white, male, and European. In an environment in which compositions by women were underrepresented, her experience in studying Ruth Crawford’s *String Quartet 1931* in a music theory elective course was revelatory. In this essay, Hisama offers practical suggestions on how we can provide similarly transformational experiences for our students, representing and honoring the full range of people that participate in musical culture.

Hisama’s extensive bibliography (263–266), with resources that can help instructors in enhancing and diversifying the music used to explore theoretical topics, will be of great use to readers. Hisama explains how we can broaden the conceptual range of our classes by acknowledging histories of gender, race, and ethnicity in our teaching, while offering students diverse choices in selecting music for extended analytical projects.¹² Again underscoring key principles through her accounts of personal experience, she relates how she enlivened a class discussion on augmented sixth chords by using an example from “Troubled Water,” a piano piece based on the traditional African American spiritual melody, “Wade on the Water,” from the *Spiritual Suite* by Margaret Bonds. She cites commentary from a student’s analysis assignment that vividly describes the turbulent and evocative harmonic treatment of the melody, achieved through the use of a directly resolving augmented sixth chord, that is strikingly appropriate when considering the text of the original melody and place it occupies in the history of African American culture.

Hisama’s essay underscores that the canonical separation of music works into categories of “masterworks” and “everything else” is a limitation in modes of teaching and research we can overcome through attention to cultural practice, connecting

¹² See Hisama 2000 and 2001 for more on situating compositions within their historical, political, and social contexts.

musical study to diverse groups of people rather than a single authoritative listener-analyst perspective. She further advocates that we develop a curriculum that acknowledges new processes through which musical ideas achieve realization, in which notes on a page play, at most, a limited role. The point here is not the issue of musical literacy alone, but a broader cultural shift that recognizes and honors the full range of human involvement in musical creativity. As an example of ways we can acknowledge diverse repertoires and modes of musical creativity, Hisama discusses her upper-level class for non-music majors, “Listening to Hip-Hop,” a course that promotes close engagement with music without relying on the use of traditional music notation. Drawing from methodology in Adams (2009), lyric charts are used to map patterns of accentuation and rhyme without employing musical notation. The focus on what rappers and audiences describe as “flow,” which encompasses all performative aspects of the rapper’s delivery, highlights articulative strategies and large-scale associations that more traditional modes of musical analysis might miss.

Hisama discusses her classroom applications of Mediathread, a platform that supports multimedia analysis within a group environment, through which users create an annotation layer that interacts with web-based media content. Mediathread allows students to annotate audio and video content in real time, offering possibilities for aural analysis of diverse repertoires in broadly varied contexts and discussions that are directly linked to sonic and visual material. While facilitating study of a range of repertoires in her classes, she observes that the online forum has also provided a democratizing mode of discussion that invites students to contribute comments on music they select, on their own time while participating equally online, without the competitive vying for attention that can occur in classroom discussions.

Hisama argues that it is crucial we recognize the rich diversity of musical culture as we educate students, through pedagogical approaches and repertoire studies that take into account a full range of identifications including race, ethnicity, gender, and sexuality. We can choose to prioritize affirming classroom experiences that honor and represent the broadly diverse cultural heritage of our students. Ellie Hisama’s personalized account reminds us that the current cultural climate provides each of us with opportunities to chart an individualized course of action in further developing teaching interests and areas of scholarly expertise that will extend our reach across this broadly inclusive musical terrain. In doing so, we will be better equipped to teach by example, so that students will be more prepared to cultivate their own engagement with a wide range of musical repertoires and discover opportunities in an increasingly diverse world.

“Teaching World Music in the Music Theory Core”

In her essay, Jane Clendinning brings her expertise as an active performer, researcher, and analyst of world and traditional musics, as well as her perspective as a co-author of leading music theory textbooks. She advocates that more theorists should seek opportunities for direct encounters with world musics that can be mind-expanding and life-changing. She observes that musics from world cultures are increasingly a part of our daily lives. The future teachers, performers, and other music professionals we train will be expected to know world music repertoires as an integral component of their expertise.

Clendinning highlights some of the curricular challenges in integrating studies in world music. Responses that have been proposed have ranged from the inclusion of a single course to a complete overhaul of the curriculum that foregrounds jazz, world, and popular musics. Clendinning suggests that the most practical place to incorporate at least some exposure to popular and world musics is in the music theory core, alongside the materials currently taught in these courses. Music-theoretical issues concerning pitch and rhythm, form and structure, instrumentation, and musical texture we routinely cover in the theory core all offer potential ways to engage with world music examples. An obstacle to be overcome is access to high-quality readily available materials. Also, most teachers of music theory have only been trained in theory and analysis of European concert music. But with more theory colleagues working on the development of world music materials for implementation in core music theory classes, this goal is within reach. Clendinning recommends that all current graduate students take advantage of opportunities to study world musics, since there is some likelihood that they will need to be prepared to teach world music at some point in their careers.

To illustrate some of the learning opportunities that can be gained using only a few examples, Clendinning discusses musical examples from the Andean Altiplano (high plateau) region in South America. She begins by discussing instrumentation, overall sound, and rhythmic characteristics associated with two dance styles, the *cueca* (also *zamacueca*, *marinera*) and the *huayno* (or *wayno*). Aspects of meter, syncopation, and polyrhythm are considered, along with elements of melody, modality, and formal organization, by way of thoughtful questions she poses to students to direct their listening. Students are encouraged to sing or play along while listening, prior to creating their own transcriptions. She examines a song that exhibits patterning in both C major and A minor, suggesting implications of dual modality and the “double

tonic complex” that both Brad Osborn and Chris Stover also address in their examples from pop-rock and jazz music. Theories of metrical dissonance, with contrasting approaches drawn from the work of Harold Krebs (1999) and Justin London (2004), are invoked in order to examine metrical patterning. The discussion is intended to guide the student toward entrainment of the distinctive rhythmic feel of this music, which can exhibit a fluid dual-metricity in which implications of 6/8 and 3/4 coexist. This can be revelatory for students who have been taught that musical meter should always be understood as simple or compound, one or the other. She includes a valuable list of YouTube video links (281-282) related to the music discussed in the essay.

Through her introduction to music of the Andes, Clendinning provides a glimpse of how transformative our theory core courses can be in widening the scope of our students’ thinking about music. As students explore the complex origins and ongoing cultural history of folkloric dances and musics as they are repopularized and transformed, they gain an appreciation of how music can project varied modes of identification that may be understood as both national and international, both traditional and counter-cultural, and both serious art and popular entertainment. In observing how world musical traditions appear in different cultural contexts as they are passed on to new generations, Clendinning illustrates that once you begin tracing the heritage of traditional styles of music and dance, the perceived boundaries between Western and non-Western music or between folk, popular, and concert music overlap or break down altogether.

Conclusion

The authors of these four chapters propose classroom strategies that align with aspirational goals outlined in the 2014 College Music Society Report, “Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors” (Shehan Campbell, et al. 2014). The CMS “Manifesto” has sparked discussions underscoring the importance of studying diverse musics while offering students integrative experiences that interrelate studies in music theory, history, and performance with creative experiences in improvisation and composition. As Brad Osborn observes in his essay, activities that integrate composition, performance, transcription, and analysis resonate with the stated CMS goal of promoting the “improviser-composer-performer identity” espoused in the report (Shehan Campbell, et al. 2014, 20). Such modes of active creative engagement, projected across as culturally broad an expanse as possible, may be essential in preparing students to excel in a rapidly changing and increasingly diverse musical world.

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The essays each reflect a current interest in learning models that guide students in developing skills to use knowledge actively and creatively, in contrast to old academic models of transmitting knowledge to be merely memorized and recalled. This is exemplified in the probing analytical questions that each of the writers present to students, with the intention of inviting multiple interpretations, varied modes of listening, and a diversity in learning outcomes.

The focus on flexible methodological principles adaptable to diverse musics also persuasively illustrates that tonal harmony is a living tradition. Musical examples selected from different repertoires enable students to learn how tonal principles are still operative in different musical contexts. Approaches that allow students to engage with music theory and analysis across numerous repertoires provide important opportunities that prepare students to engage with the new and unfamiliar while refuting old notions of academic music theory as being narrowly focused on a limited corpus of works.

The authors each creatively integrate topics that are often compartmentalized under separate headings of theory, musicianship, musical form, and analysis. For example, activities that correlate studies in harmony with examination of prolongational structure and musical form in pop songs and jazz, as Brad Osborn and Chris Stover each explore, provide an opportunity to help students cultivate the kind of “Big Picture” thinking that Sarah Marlowe discusses in “Integrating Schenkerian Concepts with the Undergraduate Theory Curriculum,” Chapter 5 of this volume.

When we engage students in exploring theoretical concepts across diverse musical repertoires, we have an opportunity to further enlarge the conceptual frame by appropriately contextualizing the music we study. Jane Clendinning rightly observes that many students entering our classes lack a deep understanding of *any* musical repertoire and we must do our best to culturally contextualize *all* the music we use in theory classes. As we continue to cultivate our own interests in varied repertoires, as these writers have done, we will be better equipped to teach students to cultivate an attitude of openness. Students will be more thoughtfully engaged with all the music they encounter and more professionally versatile in exploring opportunities across a broad spectrum of musical activity.

The essays also address approaches to studying music where there is no written score, highlighting the value of transcription as a learning tool.¹³ This can be revelatory

¹³ The evolving role of transcription in musical research has been a topic of lively discussion and some controversy. Transcription as a means of documenting musical artifacts has undergone change as a result of developments in sound and video recording technology. Critics have observed the limitations

for students that have only played from written music while offering students who have some experience in playing by ear a chance to shine. The authors demonstrate that improvisations, transcriptions, and arranging projects offer opportunities to critically engage with all the music that surrounds us, without reliance on a preexisting musical score, while further developing students' aural skill acquisition as a powerful practical resource in their professional toolkit.

As a discipline, we can actively choose to create a more inclusive music theory pedagogy that more fully recognizes the contributions of diverse musicians, including women and composers of color, as well as newer modes of musical creativity that are evident in today's globally connected world. While the aim of expanding the repertoires and methodologies we cover in theory classes is ambitious, these four authors offer practical solutions and concrete projects that make this goal approachable. As theory instructors read these engaging essays, many will discover ideas they will be eager to implement in their own classes. These chapters provide a valuable resource in our mentoring of future teachers, and will surely serve as required reading in theory pedagogy courses.

of transcriptions to render nuances and raised ideological questions, positing that transcriptions provide a means to territorialize new repertoires into an academic setting where scores and other print materials constitute a credentializing marker of status (see Stanyek 2014 and Winkler 1997). As a complex act of visual communication, it is important to consider the purpose any transcription serves in context and not conflate a transcription with a musical score. Transcription as a learning activity for students provides a way to visually document close involvement with musical sound, particularly in studying repertoires where no score would be available.

Part IV: New Approaches

DAVID A. RICKELS

In their introduction to *The Norton Guide to Teaching Music Theory*, Rachel Lumsden and Jeffrey Swinkin state that they hold “a conviction that we theory teachers need to continually ensure that our topic is maintaining its relevance for twenty-first-century students” (ix). The final section of the book, “New Approaches”, takes this challenge head-on. In five chapters, Lumsden and Swinkin, along with Anna Gawboy, Lynne Rogers, and Jeffrey L. Gillespie tackle approaches to pedagogy that are informed by emerging trends and interdisciplinary perspectives. By offering commentary on how the teaching of music theory can be enhanced by video technology, student writing, discussion strategies informed by a feminist theoretical lens, Universal Design for Learning (UDL), and the process of exemplification, these authors push the reader to consider their own pedagogical practice in light of alternatives and adaptations toward better teaching.

Many of the trends these five authors write about have either disseminated into my discipline of music education in the last two decades or originated in educational research. My background as a K-12 school music educator and then as a teacher educator at the university level has led me to encounter and experiment with many of these approaches in my own teaching. In my own research over the past ten years, I have been particularly interested in how technology tools can impact the learning environment when properly adapted to the needs of the instructor and students (Rickels 2013, 2016). I have also been engaged on my own campus with a community of instructors interested in the scholarship of teaching and learning, sharing and conducting research on teaching practices in the post-secondary realm (again, particularly with technology). With this mindset and disciplinary framework, I comment on these topics while also offering perspective from a neighboring discipline.

Teaching Music Theory with Video

Anna Gawboy’s chapter explores varied applications of video technology that can support teaching. She draws a distinction between use of video to support inverted or flipped classroom strategies, and video used for microlectures or other supports. This division follows the recent scholarship on the flipped classroom as a distinct approach to pedagogy, contrasted with a broader view of video as a tool to enhance learning in other pedagogical approaches. Gawboy notes throughout the exploration of these

technologies that a primary benefit is how they can “heighten students’ engagement with material both inside and outside of class” (285).

Gawboy states, “the inverted classroom is premised on the idea that students can learn basic vocabulary, concepts, and procedures on their own, while more sophisticated analytical, synthetic, or evaluative goals are best pursued in class through interactions with instructor and peers” (286). This means that instructors often use video delivery of content in the form of microlectures or demonstrations that students watch outside of class, followed by an assessment where the instructor gathers information on the student’s mastery of the instructional goals for those videos. This then leads to a class meeting oriented toward collaboration, drill, and practice rather than lecture or other forms of information delivery. Gawboy chooses not to delve into a lengthy background from literature on the topic of the flipped classroom, focusing instead on the practical application to teaching music theory. She does, however, provide some key references that readers would be well-advised to consult on this important emerging area of pedagogy that sees interest from scholars in a variety of disciplines.¹⁴ Gawboy’s Table 18.1 (288-89) excellently outlines the phases of the inverted approach with a variety of specific strategies instructors might consider at each step. Gawboy calls particular attention to the importance of the assessment step prior to the start of the class activities in the inverted classroom, which she notes is critical to the success of the approach.¹⁵

Gawboy appears to draw heavily from her firsthand experience employing the inverted classroom approach, and she presents a variety of practical suggestions for ways to maximize student learning. Her Example 18.1 (291-92) is a sample student questionnaire that instructors could use or adapt to help collect information on how students respond to the inverted approach. Gawboy makes an important point worth underscoring further: instructors who plan to use the inverted approach do not need to create all the content themselves, but can adapt existing video or other media content into the lessons they wish to flip.¹⁶ She then discusses how instructors can

14 In addition to the authors Gawboy cites, readers may also wish to consult a review of literature on the flipped approach by O’Flaherty and Phillips 2015.

15 Readers might consider tools that are available for online assessment in many popular learning management systems such as Blackboard, Moodle, Desire2Learn, Canvas, and others. Online tools can help instructors achieve the assessment step outside of class time prior to meeting, rather than at the start of class. In addition, newer online services such as PlayPosit or Hapyak are capable of embedding assessments such as multiple-choice quizzes or even threaded discussions directly into online videos in ways that can be very engaging to students.

16 To create videos for the flipped classroom, interested readers should know that tools vary widely

start small with only a few lessons and then scale up, as “gradual adoption allows an instructor to assess and troubleshoot implementation on a smaller scale and then add additional modules in subsequent years” (287).

Throughout the exploration of the inverted classroom, a recurring thread appears in Gawboy’s advice: flipping is not just about putting videos online and letting the students run freely. In addition to the suggestions for learning strategies, she also includes tips for common issues that may arise when trying the approach in the music theory classroom. Some issues she addresses include how to ensure students watch the videos, dealing with technical or device-specific barriers to watching the videos, helping students manage the different time demands of a video versus a traditional reading, and helping students navigate a shift in format from the more passive learning styles they may be accustomed to. Again, Gawboy’s firsthand experience is evident and helpful in the advice she offers to support instructors as they navigate potential pedagogical pitfalls.

The discussion of the inverted classroom approach makes up the bulk of the chapter, but Gawboy closes with a look at other uses of video media to support learning. Examples include using video tools to support a process of placement exams and remediation lessons for students as necessary to help some students “fill in specific gaps of knowledge” (294). She also mentions using brief videos during class for engaging students’ attention or for starting discussion. Videos that follow up on knowledge after class is another option—a way to vary the flipped model by giving demonstration or application after the initial exploration of content in a class. In a short but interesting section, Gawboy suggests the use of instructor-made videos to deliver feedback to students as part of the assessment process.¹⁷ Lastly, she discusses the benefits of live video as the technologies available have become “increasingly ubiquitous and convenient” (296) to support activities such as online office hours, peer-to-peer mentoring, and guest speakers.¹⁸

depending on whether the user will be working in a PC, Apple/Mac, or tablet environment. One useful and powerful set of tools is the Camtasia/Snagit suite by TechSmith, available for Mac or PC.

¹⁷ Readers might be interested in exploring Technology-based feedback tools that can embed text, audio, and video feedback directly into other media. Some commercially available products include the tablet app Coach’s Eye and web services VoiceThread and Bongo/YouSeeU.

¹⁸ There is a plethora of live video streaming and video meeting technologies currently available (Skype, Zoom, Adobe Connect, Cisco WebEx, and GoToMeeting, just to name a few). For instructors teaching at the college or university level it would be highly advisable to consult the information technology department at your institution to determine if any tools are campus supported, as this would provide additional resources.

Incorporating Writing into Music Theory Courses

Lynne Rogers bases her chapter on the premise that writing is used in a minority of music theory classes. From this anecdotal assertion, she argues that “writing prose in undergraduate music theory courses, including those in the core, is so beneficial as to merit serious consideration from all instructors” (299). To support this argument, she connects to literature on Writing Across the Curriculum (WAC) approaches to contend that writing builds students’ communication skills and their ability to analyze abstract concepts. She also connects to literature supporting the use of writing to develop students’ critical thinking. From this position, she offers suggestions for integrating writing primarily into undergraduate music theory courses, though she notes that many of the same strategies may be applicable to graduate-level courses.

Most of the chapter focuses on strategies to guide students in writing a formal analytical essay. Rogers defines this as a type of high-stakes writing, along with term papers and literature reviews. She briefly mentions a distinction between this and other forms of low-stakes writing that include “listening journals, summaries of lectures, and in-class writing that responds to instructors’ prompts” (301). While she notes the utility of these types of low-stakes writing, she does not go into more detail and continues with the analytical essay. According to Rogers and based on her experience with her own undergraduate classes, having numerous short essays rather than a single larger term paper can offer more benefits to the students. These short works can be easier for students to write (and master writing), as well as reduce the load on the instructor to grade a lengthy single assignment. She gives extensive examples from her own pedagogy, with numerous helpful suggestions for how to begin with limited writing demands and progressively ramp up the expectations for students over time throughout a multi-term core theory sequence.

Many of Rogers’ suggestions are concentrated around the importance of preparatory tasks that allow students to develop the necessary analytical knowledge before bridging to writing using discipline-specific conventions. Example 19.1 (304) helpfully details a student assignment made up of several preparatory and small writing stages. This example models many of the suggestions she makes for incorporating writing. These include beginning with listening, building on class discussions, and breaking the writing down into discrete tasks that students can connect to the analytical skills they are learning. The example further illuminates several excellent suggestions from a section titled “Conveying essential elements of essay writing” (306-308):

- define the audience for the paper
- explain the essay's structure
- offer support for writing the thesis statement (Example 19.1 includes a fill-in-the-blank strategy)
- demonstrate how to support a point in prose at the paragraph level.

At one point Rogers suggests there would be ways to modify the example assignment to use more of the low-stakes writing mentioned earlier as an alternative to the high-stakes essay, but there are no specific examples.¹⁹

In the midst of these suggestions for supporting students' writing, Rogers notes "some may protest that the prefatory activities described above for the assignments ... 'give the answers away'" (305). This step-by-step approach breaks skills down for students and might be criticized for not making them work more independently, but she argues it is more appropriate for their skill level. This approach has significant support in the education and learning psychology literature. Interested readers may wish to turn to literature on Lev Vygotsky's Zone of Proximal Development and on strategies for Jerome Bruner's concept of scaffolding students' learning.²⁰ A significant body of both research and pedagogical literature based on this rationale supports students' learning from their existing skill levels, rather than taking a sink-or-swim approach that may be an unintentional consequence of large high-stakes term papers or similar works.

The chapter closes on the evaluation of students' writing and suggestions for offering feedback, as well as tips for dealing with poor writing. Rogers highlights two main strategies: instructor commentary and use of grading rubrics. She recommends balancing the need to mark errors with offering support for students' growth, and argues that it is worthwhile to address writing style and conventions of grammar, spelling, punctuation, etc., since "writing style—especially the clarity of the writing—affects how well ideas and arguments are understood" (309). Rogers notes the benefits of multi-criterion rubrics to help students understand their level of achievement across multiple dimensions as opposed to a single score that may not demonstrate areas of strength and areas for growth. Interestingly, she suggests rubrics as an alternative to

¹⁹ It is easy to imagine how many short writing assignments or multi-stage assignments might be aided by online document tools such as Google Docs. These tools could allow students to share their work in real time with the instructor and/or other students, allowing for collaborative possibilities that aren't hindered by the one-version-at-a-time process of submitting files.

²⁰ Moll 1990 provides a good introduction to Vygotsky's theories. Bruner's work builds on Vygotsky, and the term "scaffolding" first appeared in the literature in Wood, Bruner, and Ross 1976. Bruner 1978 also provides an overview of his scaffolding concept.

instructor commentary, though commentary can often be used effectively alongside rubrics for greater gain. Additionally, she notes that rubrics can be particularly useful to help students identify areas of improvement when their writing is poor. She also discusses the advantages of having students write in multiple stages, with formative commentary either from the instructor or from peer reviewers.

Enriching Classroom Discussions: Some Strategies from Feminist Pedagogy

Rachel Lumsden's thoughtful and well-sourced chapter begins with the assertion that interactive activities in the classroom are not synonymous with true discussion. Noting that music theory instructors likely experience a range of responses when leading discussion that include extremes of vibrant and engaged student participation students all the way down to total silence, she "presents some tips and techniques from feminist pedagogy that help to stimulate and enliven discussion in the theory classroom" (314). Throughout the chapter, Lumsden incorporates ideas from key writers in (not only) feminist pedagogy, but also highlights commonalities with other areas such as critical pedagogy and traditional music theory pedagogies.

The first of three main ideas in the chapter centers on how instructors in music theory can encourage communities of learning in the classroom. Lumsden notes that this idea is not unique to feminist pedagogy, but shows how a feminist perspective offers more than learning about women's issues or including repertoire by women composers. Feminist pedagogy partly deals with questioning power structures, and from this ground she encourages instructors to break down classroom hierarchies and reconsider the instructor-centric "sage on the stage" model. While synthesizing ideas extensively from feminist pedagogues such as bell hooks, Lumsden also makes excellent connections to parallel work in critical pedagogy such as the work of Paolo Freire.²¹ She argues that building a sense of community in the classroom is the enabling feature of engaged class discussion, and that a conversation model rooted in a democratic approach allows discussions to flourish. A true community in the classroom where conversation is genuinely valued can avoid the common problem where "discussion quickly morphs into a monologue (monopolized by either the professor, or one or two loquacious students), or even a limited dialogue where a few students interact with the professor while the majority of the class sits in silence" (316).²² In this exploration

21 bell hooks is the pen name of a well-known feminist pedagogue who intentionally uses lower case in both her first and last name, which Lumsden accurately cites.

22 Threaded discussion tools commonly included with campus learning management systems provide

of democratic classroom strategies based on a participatory community, Lumsden is also careful to point out that such strategies are best suited to work in tandem with lectures and traditional approaches, rather than replacing such traditions.²³

As a way to promote freedom of discussion, Lumsden examines several strategies for small-group work that can be employed in medium- and large-sized classes. By breaking down the size of the group, instructors can avoid the “consolidation of responsibility”—a term Lumsden borrows from Jay R. Howard—where a few students take over all the discussion in a larger group. In addition, theory instructors can build on the fact that “most music students already have years of experience working collaboratively as performers” (317). In advocating for strategies based on her own teaching experience such as modifying the physical arrangement of the classroom and appointing group representatives who lead the small group and report back to the full class, she also carefully notes that some small-group strategies can be effective but still run the risk of having some students take over or lack the transfer of energy back to the large scale. Watchful ongoing instructor attention to fostering and balancing the classroom community is needed. Lumsden closes this section with two further suggestions: collaborative discussion leading, where groups of students “work together to lead the class discussion on a particular reading, series of readings, or topic” (318), and panel discussions where students take responsibility for specific themes from the course as starters for larger class discussion. Another effective way to promote meaningful collaboration (and therefore the sense of community in the classroom) is to model it by inviting other professors and colleagues through team teaching and invited guests.

Lumsden’s second main idea asks the reader to consider how to empower student voices in the music theory classroom, beginning with developing practices to help students know they matter and can participate. She invokes Howard’s concept of homophily, which “refers to a pervasive phenomenon: that individual students tend to be more engaged when they believe they have something in common with their instructor” (321). From this, Lumsden cites the need for role models in whom students

a way for students who didn’t have a chance to speak in class or who don’t quite feel comfortable contributing in the moment.

²³ Lumsden’s laudable goal of maximally engaging every student in discussion can be nuanced by Wenger’s (1998) “community of practice” theory. An integral idea of the community of practice is that all members participate but in different ways. Applied to classroom discussion, Wenger’s lens one might observe that Student A offers more in verbal class discussion than Student B, but Student B contributes to the community in other ways such as writing to the instructor or other students after class.

can see themselves, and shares an anecdote from her own teaching where inclusion of a work by a female composer of color in an analysis exercise changed the experience for a student in the class in a powerful way. Because instructors typically hold the power of choice in their classrooms, she exhorts readers to go beyond token inclusion, superficial curricular changes, and use of the traditional canon. Rather than simply replicating the past, she presses instructors of music theory to examine diversity in the canon and to aim for transformation (a feminist objective). Toward the goal of including students in about thinking of diversity and role models in repertoire, Lumsden includes an intriguing example of a gender and music questionnaire (Example 20.1) that prompts students to reflect on and discuss their experience performing and analyzing works by female composers.

The final section of this chapter deals with developing an “ethic of care” in the classroom. This feminist concept refers to a classroom built on a network of relationships based on mutual care about one another’s learning. Lumsden notes that features of this ethic of care are empathy and kindness, but she also discusses how kindness has often been perceived as feminine and “inappropriate to the professional sphere” (325). She argues that kindness can be balanced with intellectual rigor, despite how it has not always been seen that way in academia. Care is manifest in classrooms in how instructors listen and respond to students. This includes being comfortable with silence—rather than feeling a need to fill it with supposed expertise—as well as listening empathetically and responding with care even (or especially) when making the corrections students need to learn. Lumsden provides an intriguing flowchart for responding to students, which she terms her “ACT” method (326-327). The three parts of a caring instructor response to students involve *acknowledging*, responding in a *caring way*, and then *transitioning* into further *thinking/talking*. Giving helpful examples of how each step might be enacted in response to various types of student comments, she acknowledges how this method might seem “pedantic and contrived” (327), but such an approach can in fact be a very real and developmentally appropriate way to encourage student engagement in discussions. By creating a welcoming openness to risk contributing while reducing the fear of embarrassment, an instructor can lay the cornerstone of student engagement.

Engaging First-Year Music Theory Students through UDL (Universal Design for Learning)

This chapter presents a personal account where one music theory instructor—the author Jeffrey L. Gillespie—details his application of an interdisciplinary concept as a

framework for redesigning the first year of a core theory sequence. Gillespie observes two main problems that drove his personal need to seek a new approach. First, he notes that in the first semester undergraduate theory course, “it is challenging to consistently engage students and to instill in them a belief that what they are learning is valuable to them as professional musicians” (331). Second, he laments the lack of applicable analytical skills evident by the end of graduate study, where students frequently struggle to describe even basic musical structures in examination settings. To address the first challenge (though arguably also impacting the second as well), Gillespie chose to significantly alter the pedagogy of his first-year undergraduate music theory classes by applying the concepts of Universal Design for Learning, in order to reach all learners to a deeper degree.

Gillespie presents a brief overview of the history and concept of Universal Design for Learning (UDL). Universal Design (UD) originated in architecture as a way of integrating building accessibility from the start, regardless of users’ abilities (rather than secondary accommodations, such as a ramp added at the back of a building for those who cannot negotiate the integral front steps). Universal Design for Learning developed in the 1980s from educators working with students with learning disabilities who wanted to help schools remove barriers for students. UDL has the goal of changing the curriculum to meet needs of all learners, rather than aiming at the average learner and accommodating everyone else above and below that average. Proponents focus on creating a dynamic curriculum that begins with the assumption that all students can master their own learning. A core idea is that if a particular approach (even one that might normally be a special accommodation) can benefit some learners, it likely can have benefits for all learners and can be made integral to the instruction rather than ancillary. This also has the benefit of removing potential stigma associated with some students receiving special accommodations even when well-intentioned. UDL explicitly connects to the work of Lev Vygotsky and the need to provide scaffolding for student’s learning, which decreases as the students gain mastery and independence.²⁴ Gillespie provides a reference chart of the three core principles and subsidiary guidelines of UDL in Example 21.1 (335), as well as references to supporting materials readers can consult for more information. The three core principles of UDL ask course instructors to (1) provide multiple means of representation, (2) provide multiple means of action and expression, and (3) provide multiple means of engagement. Gillespie notes that these three ideas parallel the what, how, and why of instructional design. As he begins his narrative of how those principles influenced his course redesign, he encourages all

²⁴ See fn7.

theory instructors to learn more about UDL, and the college/university-level resources that may be available to support that framework.

The bulk of the chapter relates Gillespie's personal anecdote of redesigning a two-semester theory sequence for first-year undergraduates. He explains how he chose to primarily explore multiple means of engagement, which led him to focus more on repertoire rather than "basic" skills in the abstract. Much of this repertoire focus in the course (Theory 1) took the form of a midterm and final presentation assignment built around a personal repertoire selection, where students chose two scores from their private lessons, and had multiple options to choose from for the format of their presentation.²⁵ The instructor then personalized topics and assignment questions for each student from those pieces. Gillespie includes a list of repertoire in Table 21.1, along with detailed examples of student assignment questions (338). The reader can easily see not only how the experience for each student was very individualized to their chosen piece while focusing on skills appropriate to a Theory 1 level, but also how the instructor deliberately tailored the assignment to the students' performance goals as a way of increasing perceived relevance for the students. Gillespie discusses how various forms of scaffolding were employed, including individual consultations and carefully individualized guiding questions, and relates that most students mastered presenting their pieces without scaffolding by the end of the term. He also gives examples of other activities for in-class discussion of instructor-chosen pieces ranging from Beethoven to Berio, and enumerates common concepts explored in multiple sections of the Theory 1 class (Example 21.2).

In the Theory 2 (second semester) course, Gillespie describes how a similar presentation assignment was structured, again with student-chosen repertoire. Based on their experiences in Theory 1, students were given more freedom to select what to focus on in their piece, and again focused on the practical application of their analysis to their performance decisions. In Theory 2, more complex instructor-chosen repertoire served as vehicles for group analysis and discussion, with a particular focus on demonstrating pieces via live performance that included reacting to analytical comments from students to see how the analysis would change the interpretation of the piece. Gillespie also describes how he made heavy use of online discussion groups to engage students outside of class meetings. Two other notable projects from

²⁵ Gillespie relates his choices of formats that involve writing, performing, and oral presentation. As this idea is scaled up to larger classes, time demanded for such presentations during class meetings might become prohibitive. Readers might consider technology options for students to "present" their work outside of class time through YouTube, Google Docs Presentation, and Prezi.

Theory 2 included inviting one student and studio instructor pair to demonstrate a solo repertoire selection in master-class format with the entire class analyzing the piece in advance, and a composition project in two parts, where the students created a short composition for the midterm (8-bar) and final (16-bar). The composition projects were designed to unfold in several stages with students receiving feedback and additional instructions to allow for individual scaffolding despite the short length of the final product.

Gillespie closes the chapter by reiterating how the redesigned Theory 1 and 2 courses utilized the UDL framework, and he reflects on successes, challenges, and next steps. He revisits the three core principles and how each was present in elements of the courses. Two common themes throughout this redesign seemed to be allowing for student choice and making the learning experience individualized to each student (rather than assignments based on a “one-size-fits-all” approach), and these themes resonate strongly with the philosophy of UDL. According to Gillespie, students generally responded positively to focus on their performing repertoire, although not all students were as successful at making connections between the analysis and their actual performance practice. Students also viewed the Theory 2 composition projects positively for their stage-based progression and opportunities to be creative. He provides several student comments from course evaluations and several suggestions for specific units that were successful in the courses, as well as what he would do differently next time. The focus on repertoire sometimes limited time and attention to drill of fundamental skills, but students still learned those skills through the application to the repertoire. Gillespie reflects:

As an instructor, I had to continually remind myself to keep focusing on practical skills the students would likely need as professional musicians. All of them will regularly be performing, conducting, and/or teaching other performing musicians. Few of them will be part-writing chorale harmonizations, unless they become music theorists or theory instructors. (347)

Individualization was not without its challenges. Gillespie reports (with admirable honesty) that creating the assignments based on student-selected repertoire was a time-consuming challenge to the instructor for 40 students, especially in early stages. He felt that this approach in the end was worth the investment, paying off with a level of mastery that allowed for some time on topics not usually broached until the second year. His goals for the future include continuing to engage students through connecting analysis and performance so they can see the relevant application of their analytical work, and continuing to expand the idea of multiple paths for students to

reach a learning goal. Gillespie urges music theory instructors to consider these goals and how a UDL framework might guide their implementation.

Teaching by Example: Experiential Dimensions of the Theory Classroom

In his short chapter, Jeffrey Swinkin argues for the use of exemplification as an instructional strategy. By his definition, exemplification differs from a more traditional process of conceptual explanation based on denotative meaning, in that:

to denote something is to point to it, whether by linguistic or pictorial representation; to exemplify something is to embody it, to serve as a material example of it. A painting of green grass denotes the grass but denotes as well as exemplifies greenness, since the latter is a material property of the painting itself. (351)

He cites E.T.A. Hoffman's analysis of Beethoven's Fifth Symphony and Steven Rings' on *Debussy's Des pas sur la neige*, along with Lydia Goehr's 2014 keynote address to the Society for Music Theory, all to highlight how the authors used elements from their writing or speaking to enact the idea they were trying to convey, rather than just relay the information. From these examples and anecdotes from his own teaching, Swinkin encourages music theory teachers to "exemplify rather than merely refer to structural processes or music-theoretic ideas" (353) to help students gain a deeper understanding and a heightened sense of immediacy with theoretical concepts, and to assist them in gaining "a visceral experience, not just intellectual grasp" (353).

Swinkin presents three scenarios. The first identifies a situation where he as the instructor pointed to an exemplification that had already transpired in the class. Two students offered differing approaches to defining a simple concept of a musical period, and in so doing created antecedent-consequent statements that exemplified the concept. In the role of the instructor, he explicitly called this to the class's attention to help them find the concept of how the two parts of a musical period parallel that interpersonal dialogue that was just enacted in the class. In the second scenario, Swinkin intentionally helped the class unfold a potential exemplification. Students were struggling with the Schenkerian idea of interruption, so he called for a short break to discuss in small groups, followed by returning to the large group. Then, after conceptual understanding began to dawn, he took it further by calling attention to how that interruption and finding a new path forward toward a goal (the goal of understanding Schenkerian interruption) exemplifies that very concept being discussed in the theoretical analysis. Lastly, Swinkin in his third scenario sought to build exemplification intentionally into the class design by applying an ABA' musical

form to the lesson plan, with two contrasting lesson segments emphasizing dialectical synthesis of two conceptual themes explored separately before being synthesized in a third segment, as a way for the class to understand synthesis of musical themes in a work of Brahms.

With these scenarios Swinkin paints a common theme: exemplification is a way of embodying understanding found in elements of the human experience. He argues that using such exemplification as a pedagogical tool offers the potential for student learning at a deeper level than relying on conceptual denotation. But rather than leaving discussion and the denotative dimension of learning behind, he proposes that it is the combination with experience that yields the desired results. Swinkin roots this assertion in the work of John Dewey and his concept of experiential learning in the early 20th century—a theoretical area many music educators working in K-12 education will find familiar. Swinkin goes on to make what is essentially an absolute expressionist argument (via Peter Kivy and Leo Treitler) for why exemplification is a natural property of music. Rather than holding a designative meaning, he posits that music has an inherent expressive element where the “qualities or emotive states to which a piece refers are palpable and perceptible in the piece itself” (358). This property, he holds, makes music an ideal vehicle for study via exemplification, and he extends that idea to formal musical structures as well.

Swinkin’s final scenario stems from his experience advising a student on his academic trajectory through graduate study toward consideration of a Ph.D. in music theory, despite having started as an undergraduate with great ambivalence toward theoretical study. While examining a Schenkerian analysis of a Bach cello suite, advisor and student experienced an epiphany that the tonic trajectory of the work exemplified the student’s path toward an eventual goal that was not clear at the outset, but by the time of its realization the goal (both in the student’s career and in the exemplified tonal goal) became as if it had been known all along. In this scenario and the three that preceded it, Swinkin imparts the suggestion that through exemplification, instructors can solidify “students’ comprehension of musictheoretic concepts by relating the latter to human experiences, by pointing out that, in fact, the students were having those experiences in the very process of trying to learn those concepts” (362).

Conclusion

In the five chapters that make up Part IV of *The Norton Guide to Teaching Music Theory*, the authors ask music theory instructors to consider new approaches that might offer a different result from traditional pedagogies. By grounding their ideas in

the scholarship of teaching and learning in concert with their own relevant classroom experiences, these authors are successful in making the case for such consideration. Lumsden's chapter in particular is very well-sourced and provocative, providing a reader with many avenues to pursue better and more engaged classroom discussions, while simultaneously drawing on timely lessons that feminist theory can offer in an era where equity and voice are of prime importance. Gawboy and Rogers each provide a wealth of detailed examples from their personal experience with video-based teaching and classroom writing, respectively. Nothing substitutes for their firsthand experience, so their numerous ideas can be readily adapted to the reader's own classroom. Gillespie offers a very personal account of his attempt to apply a large-scale interdisciplinary theory into his teaching practice, and should be commended for not shying away from sharing the strategies that did not go as expected, along with how he plans to adapt for the future. The most interesting lesson in Swinkin's chapter on exemplification is the reminder to instructors that we can easily forget the human experience embodied in music, and he challenges us to seize on that aspect as another device in our pedagogical toolkits.

The editors of this volume explicitly state that the intended audience is "anyone who teaches or aspires to teach music theory, and to those teachers who seek fresh ideas and perspectives" (xiv). They include faculty with background and training in music theory, instructors who may primarily come from another area such as studio teaching but also teach theory, graduate assistants, and graduate students with a future in teaching music theory. Each of these groups has something to gain from these essays. Whether used as reference material, a book study for a discussion group, or even a text for a class on music theory pedagogy, any reader with a stake in advancing the quality of music theory instruction would benefit from the perspectives and new approaches offered here.

As a music education specialist, what strikes me most is that instructors of all disciplines are facing similar issues of student engagement and individualized learning. The challenges that music theory instructors deal with are the same as those faced by instructors in physics, sociology, nursing, or any other field. I mentioned that I have been involved with a community of instructors on my own campus interested in the scholarship of teaching and learning. Working with such a group—under the umbrella of a campus center focused on supporting teaching and learning—can be incredibly enlightening because of the cross-disciplinary connections that can be made. Gillespie provides an example of this in how he discovered an interdisciplinary framework (Universal Design for Learning) that was in active use on his campus and applied it to

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the benefit of his students. I once had a similar experience with a colleague in nursing, where we realized that many of the issues in evaluating young nurses were the same as those in evaluating novice teachers. This led to some excellent conversations and sharing of ideas that each of us could use to seek out further information and theoretical frameworks to inform our practice.

Reading this volume also rekindles for me the importance of reading and reaching outside one's own discipline. These five authors touch on important scholars from my own field of education (such as Dewey, Bruner, and Vygotsky), but even more is possible. So much has been studied about human learning, whether from the disciplinary perspective of education, psychology, neuroscience, or many other fields. It behooves us all to seek out the theories and research that already exist, where these tools can help guide approaches in our own pedagogy. In the course of serving on the committee for a master's student thesis which examined practices for teaching undergraduate aural skills, a music theory colleague and I got into a fascinating conversation about traditional approaches to aural skills in theory classes, and how the use of *solfège* in that context compares to the use of *solfège* in the Kodály Method as practiced in many K-12 school music classrooms in the U.S.²⁶ In so doing, we both learned more about how a different discipline approached a similar pedagogical problem. The Norton Guide to Teaching Music Theory can help start similar conversations not only among music theory pedagogues, but also with instructors and scholars of teaching and learning in any discipline. I hope that readers will take up this challenge and seek out means of actively engaging with both existing knowledge and emerging trends from any discipline that touches on the science of learning.

²⁶ For more information on the Kodály Method, see Chosky 1999, and Houlahan and Tacka 2015.

Chapter 1 and Chapter 23

PHILIP CHANG

The Norton Guide to Teaching Music Theory makes an assuredly welcome addition to the primary resources for music theory instruction. My own bookshelf of texts exclusively pertinent to teaching college-level music theory has long consisted of only two: the seminal *Teaching Approaches to Music Theory* by Michael Rogers, and *Guidelines for College Teaching of Music Theory* by John D. White. As detailed by the four preceding reviews, Rachel Lumsden and Jeffrey Swinkin, the editors of *NGTMT*, have stocked the text chockfull of updated and wide-ranging teaching advice, modifiable by instructors of almost any experience level for the many courses in our field.

Except for one: pedagogy of music theory. No chapter in *NGTMT* covers such a course specifically, but the notion does not go completely unaddressed. In briefly reviewing the volume's opening and closing chapters by L. Poundie Burstein and Elizabeth West Marvin, respectively, I wish to highlight philosophical and practical aspects of the pedagogy of music theory, and mention a few ways these two facets can manifest within a pedagogy of music theory course.²⁷

Lumsden and Swinkin do enumerate several practical activities for “a typical pedagogy course” (xiv), pointing to a few specific chapters and describing how students can directly apply the concepts therein; at a higher level, students can critique and discuss the concepts themselves (xiv-xv). At the end of this short section, the editors express the “hope that this volume will meaningfully aid those journeying to find their own pedagogical credos” (xv). To formulate those philosophical beliefs—which may certainly change on our journeys—we need to debate and examine, with ourselves and our colleagues, the very pedagogical topics we teach, questioning the “why” so often begged by “what” (instructors know that students excel at such inquiries!).

In the central portion of the first chapter, “The Practice of Music Theory, and Music Theory versus Practice,” L. Poundie Burstein problematizes four-part chorale writing. After surveying issues such as voice-leading, doubling guidelines, and an “atypical” harmonic progression (IV⁶–I, in Ex. 1.1), he warns:

...if burdened with too many guidelines, students might lose track of the more essential lessons that may be acquired from studying four-part harmony. For the purposes of four-part harmony assignments, it is more beneficial to focus on the main possibilities and concepts, letting students discover others... (7)

²⁷ For more on the state of theory pedagogy instruction in North America, see Elizabeth West Marvin's contribution to the current volume of this journal.

A bit later, he concludes:

...the aim of a lesson is...to impart abstract concepts that could then be applied to a broad range of ever-changing, often unanticipated real-life conditions. (8)

And thus Burstein has zoomed out from several picky “what” questions to a “why” answer. Out of this, as a practical matter, Burstein’s viewpoint could inform the structure of the course: how might an instructor scaffold skills to help students achieve this goal of general applicability?²⁸

Burstein also examines the supposed rigidity of form labels and expanding the repertoire of study beyond the Western classical tradition, again arguing for more panoramic understanding, here of the dynamic forces that shape compositions, and music styles. We teach species counterpoint not to have students memorize dogmatic rules, but rather to “heighten students’ awareness of melodic and contrapuntal effects that appear in a variety of musical settings” (9). Ultimately, he argues for a connection between doing music theory and doing music:

Whereas the main goal of music performance, composition, and improvisation is to create music that is beautiful, expressive, and inspiring, the main goal of music theory is to deepen understanding of underlying musical forces that give rise to this beauty, expression, and inspiration. (9)

Burstein’s chapter shows how quickly we can find “why” within “what.” Just as Lumsden and Swinkin suggest, I like to offer my pedagogy of theory students opportunities for philosophical debate, allowing them to probe more “why?” questions than “what?” with their classmates (e.g., “Why do we continue to teach figured bass part-writing?”). This can happen communally in class, or more introspectively by having students write a philosophy of teaching music theory.²⁹

Elizabeth West Marvin’s “What I Know Now: Reflections on Music Theory Pedagogy” closes *NGTMT* aptly: she concentrates not on specific topics taught in the theory classroom, but rather pedagogy itself. Two broad headings structure the chapter: focusing on music and musicianship, and planning for student-centered engagement. Marvin takes a top-down approach, relating six higher-level concepts to a few concrete examples. In keeping with *NGTMT*’s overall spirit of pragmatic applicability, she phrases each concept as a constructive and active teaching strategy.

²⁸ For more on Jerome Bruner’s concept of scaffolding, via Lev Vygotsky, see the references in David Rickel’s review of Part IV of *NGTMT*.

²⁹ An assignment inherited from Elizabeth West Marvin. Ideally, students revisit their philosophies near the end of the course, to see whether and how their attitudes and beliefs have changed.

To focus on music and musicianship in our instruction, Marvin lists (1) maximizing intrinsic motivation, (2) preferring contextual over acontextual examples, and (3) employing the outlook of comprehensive musicianship. All of these help to answer one of my favorite questions to pose to pedagogy students: how do you motivate a student in a core or required class? Intrinsic motivation “is grounded in...the inherent desire to develop our own abilities, to act of our own accord, and to connect with others and our environment” (366). Marvin outlines tasks that give the student a sense of achievement, give the student agency self-direction, and partner with other learners. Extrinsic—external—motivators can also do the same, and even positively with appropriate understanding and acceptance. Strategy 2 essentially asks instructors to provide real and diverse music as much as possible: for instance, using Mozart’s two-voice mostly 1:1 counterpoint setting of “Ah, vous dirai-je maman” to teach intervals (she later writes: “if ten minutes go by without sounding music, the lesson plan needs to be re-thought” [374]). Comprehensive musicianship hearkens back to that movement from the 1970s, and despite the difficulties of its implementation, CM’s “laudable tenets” (370), such as exposing students to many musics (widening style knowledge, per Burstein) and integrating relevant extramusical features into our lessons, can initiate understanding toward “why” out of “what.”

Instructors can improve student engagement by (4) avoiding the role of “sage on the stage,” (5) creating a natural critical learning environment, and (6) teaching in different modalities. The former two elevate active learning and encourage more secure skills acquisition; for these Marvin mentions the flipped classroom and scaffolding (371–72). The sixth strategy appeals to the idea that students take different avenues in learning: “visual, aural, kinesthetic, or social” (373). Instructors will, for instance, speak while they write, sing as they notate, and bring students in pairs to the keyboard to play written two-voice counterpoint exercises. Some research shows no validity to the idea of learning styles, but Marvin believes “that sensitivity to learning styles can improve teaching” (373). At the least, we might use the four dimensions to make ourselves and our students more aware and engaged, and, along the lines of CM, link written theory, aural skills, and musicology classes closer together. Marvin goes on to address the mechanics of course planning, parsing the coverage of a topic over 3-4 class meetings, and she concludes with a look at spiral learning, particularly effective in a repertoire-driven curriculum. She refers to the variations to “Ah, vous dirai-je maman,” undoubtedly rich with theoretical concepts. I find Beethoven’s Bagatelle in G Minor, Op. 119, No. 1 good for revisiting, covering harmony, cadences, diatonic and chromatic embellishing tone analysis, key relations, sentences, periods, augmented

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sixth chords, variation procedure, ternary form, binary form, motivic relations, the reciprocal process (Steve Laitz), common tone modulation, the ponte scheme, the “one more time” technique (Janet Schmalfeldt), and apparent “on purpose” parallel octaves.

All the contributors to *NGTMT* have laid out an almost limitless fertile ground for all theory teachers to explore and grow. Its currency calls for immediate implementation. This text will generate much fruitful conversation among theory instructors, and justifiably so. I further hope that we will extend that discourse to include our colleagues in music education. Although their content mostly regards secondary education, I occasionally have pedagogy students read from *Teaching for Musical Understanding* by Jackie Wiggins, *A Philosophy of Music Education* by Bennett Reimer, and *Teaching Music: Managing a Successful Music Program* by Darwin E. Walker. Some of the material must undergo recontextualization for higher education, but the offered strategies, principles and ideas, and above all extensive research can all enhance our teaching.

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