

A Picture is Worth a Thousand Words: Road Maps as Analytical Tools

Brian Alegant

I. Initial Considerations

My experience with road maps began fifteen years ago, when I was teaching an upper-division course on 20th-century music. Sarah Z, a senior, was simultaneously pursuing degrees in violin performance and studio art. She chose to analyze for her final project Arvo Pärt's *Fratres* (1977). A week before the project was due, Sarah came to see me during an office hour. She told me that she had spent nearly two months studying *Fratres*, comparing performances, modeling the small-scale and large-scale form, and learning about Pärt's musical language, including his use of plainchant and *tintinnabuli*.¹

Yet she was experiencing (for the first time in her academic life) a debilitating case of writer's block. Frustrated and nearly distraught, she wanted to analyze a different piece for her final project. I said no—it was much too late in the semester to re-start the entire process—and then brainstormed with her until we found a compromise: rather than write an essay, Sarah would submit an annotated score and a painting of some sort. While I wasn't entirely thrilled with this solution—how would a music theorist assess a work of art?—it seemed far better than scrapping the project altogether and beginning anew.

One week later, Sarah submitted an annotated score and an exquisite two-foot by three-foot watercolor. Much to my surprise, she also handed in a seven-page analytical essay. She explained that, once she had finished the artwork, her writer's block vanished; the paper "seemed to write itself." Her paper was not only musical and insightful, but more compelling than her previous essays. Sarah's epiphany inspired me to investigate the literature on multiple intelligences, left-brain versus right-brain processing, and learning theory.² Encouraged by these readings and emboldened by Sarah's breakthrough, I made a conscious decision to have every student do a road map the following semester. I've continued this practice, without regrets, ever since.

A road map is a representation or documentation of how one hears a work unfold in time. In its simplest form, a road map can be a time line or flow chart. But it can also be an elaborate landscape of observations,

correspondences, and associations, with text descriptions, symbols, staff notation, rhythms, colors, and shapes. A road map can be teleological or non-linear; literal or abstract; monochromatic or multi-colored; sparse or dense; small or large; hand-drawn or created with a music notation program such as Sibelius or Finale.

I would argue that a road map—like any piece of writing—is provisional. There is no right or wrong way to create one, although some maps are definitely more compelling, thoughtful, and musical than others. The idea behind a road map is to capture the important characteristics of a work and represent them in some way that makes sense. For this reason I occasionally ask students to re-map the same work later in a semester. The results often reveal (to student and instructor alike) significant refinement in hearing and sophistication in modeling. A map can trace the history of pitches, pitch-classes, set-classes, rhythms, gestures, themes, registers, dynamics, articulations, texture and other parameters; it can highlight phrase structures, structural upbeats and downbeats, and climaxes; and it can model formal organization and energy flow, character, compositional strategies, and narrative.

Road maps facilitate deeper engagement with music, foster critical listening skills, and provide a creative outlet for students, especially those who are visual learners. Over the years my students have created road maps of compositions by Ablinger, Ades, Aperghis, Babbitt, Bartok, Berg, Cage, Carter, Cassidy, Chopin, Crumb, Debussy, Eckhart, Feldman, Ferneyhough, Glass, Gubaidulina, Harbison, Harvey, Hurel, Lang, Messiaen, Merzbow, Reich, Riley, Saunders, Schoenberg, Scelsi, Sciarrino, Stravinsky, Xenakis, Webern, Wolpe, and Yi among others. Students have also mapped electronic compositions and graphic works by Aaron Cassidy and Helmut Lachenmann.

II. Best Practices

Over the years I have arrived at a set of best practices for introducing, cultivating, and assessing road maps. (I offer these as guidelines, not absolutes.) For the first mapping assignment I choose a relatively short and transparent work for one or two instruments. We analyze the composition in class in some detail, comparing and contrasting different performances and listening closely with and without score. Students then carefully annotate clean copies of their scores, identifying important events or ideas and tracing them throughout the work. Finally, they transfer their observations to paper, adding text commentary and any symbols that seem appropriate.³

In my view, this transferring stage is where most of the learning occurs. Ideally, a student will create a feedback loop between the map and the

score, listening repeatedly and adding or subtracting details as needed. The objective is to communicate effectively an analytical interpretation, a “take.” Students often ask, especially at first, “How do I know that I’m on the right track?” and “How do I know when to stop?” I respond to the first question by saying that they should be able to listen to the piece while following the map, and that the map should communicate in a glance the essence of their hearing and understanding. To the second question, I tell them to adopt a less-is-more aesthetic, as I maintain that there is no such thing as a complete analysis or a complete road map.

Students who are risk-averse and students who (like me) are artistically challenged find that mapping takes them out of their comfort zones. On the first day of class that I talk about mapping I bring a stack of examples by former students; the diversity among the maps invariably puts the students at ease.⁴ If students still balk, I suggest that they focus on a select number of critical events or ideas—the things that resonate most in their hearing—and provide a context for these events. I also remind students that it’s important to be willing to take intellectual and interpretive risks, and that those who struggle with mapping often have an easier time with writing, and vice versa. Occasionally, when a mapping assignment is due, I begin class by having students share their maps in small groups. This “pair and share” strategy becomes a point of departure for discussion, and provides an ideal opportunity to revisit the piece with fresher eyes and ears. Gradually, students become increasingly comfortable creating road maps of longer, taller, and more challenging works.⁵

Maps are not easy to grade, however. Over time, I have come to assess them primarily on level of engagement rather than visual artistry or acumen. I look to see what events surface and how these events are contextualized. Is the map coherent and engaging? Does it convey a non-trivial understanding of the composition? The first few maps are risk-free, “low-stakes” assignments that I assess pass/fail. As the semester progresses maps become “higher-stakes,” which is to say that I expect deeper analytical insights and more sophisticated modes of representation.⁶ I grade higher-stakes maps according to a three-tier rubric: a P+ for excellent work (this corresponds to an A), a P for satisfactory work (B+ through D), and an F for unsatisfactory work. While no grading system is entirely objective, I find that this scheme is fair and simplifies the grading process enormously. Put simply, a P+ map is compelling, makes a genuine attempt to get below the surface, and exhibits ownership.⁷ For midterm and final projects I usually ask students to create a map *and* write an essay; this way, they have two distinct opportunities to engage with the music.

III. Some Illustrations

Road maps come in a bewildering variety of shapes, sizes, and viewpoints. The following discussion illustrates select maps of tonal, twelve-tone, and atonal works.

Schubert's *Moment musical* in A-flat major, op. 94, no. 6, is a kind of acid test for 19th-century harmony. Its sophisticated use of modal mixture and enharmonic revaluation provides a wonderful opportunity for mapping. Depending on the level of the class and the time of year, I will either ask students to learn the piece on their own and map the Allegretto, or teach the piece in class and assign E.T. Cone's "Schubert's Promissory Note."⁸ In the latter case I usually spend two classes on the Allegretto. We trace the histories of E-natural and F-flat, and discuss modal mixture, phrase structure, hypermeter, harmonic ambiguity, distant modulation, and the notion of a harmonic breakthrough. We also explore other surface details, such as the re-spelled tonicization of the Neapolitan and the barren octaves at the final cadence (which in my hearing suggest incorporeality). Not all of these observations, of course, can or should be included in a map; my intention is merely to give students angles to pursue. Examples 1, 2, and 3 reproduce three maps of the Allegretto, each originally done in color and on 8.5x11" paper. The maps are very individualized, with varying degrees of whimsy, detail, and risk-taking. These low-stakes maps were accompanied by informal, two-page reflections.⁹

The first movement of Anton Webern's Saxophone Quartet, op. 22, allows students to learn to hear symmetrical inversion in a "classical" twelve-tone work.¹⁰ There is a great deal to say about the movement, which is structured as a rounded binary form framed by an introduction and coda. In class, we listen repeatedly with and without score. We examine the abstract properties of the row, including its intervallic and set-class profile. We examine the large-scale distribution of rows and the pervasive influence of axial symmetry about the axis, F#4. We scrutinize—and strive to hear in real time—the saturation of [014] and [016] trichords, and the pitch- and pitch-class invariance among segments of rows and at the boundaries of rows and phrases. We discuss the *ritardando ... a tempo* markings and repeat signs; we debate the label of "sonata form"; and we talk about harmonic rhythm, timbre, and dynamics. Finally, we compare performances, evaluating the merits of a pointillistic interpretation versus a linear/contrapuntal one.¹¹

For this assignment students have free reign, though I make three requests: that they invest themselves in the process, that they don't include anything that they can't hear, and that they step outside their comfort zone.¹² Examples 4 through 7 give a sense of the diversity of approach and representation, with varying degrees of emphasis on pitch, gesture, timbre,

dynamics, form, and register. (Again I cannot show here the most elaborate and panoramic maps, some of which are nearly six feet in length.)

IV: Final Thoughts: Maps, Interpretation, And Performance

My experience has shown me that road maps facilitate deeper engagement with music through repeated listening and careful score study. The act of creating a map can help to unlock writer's block, demystify contemporary music, and refine listening skills. Additionally, maps offer a creative outlet for self-expression, and provide a welcome respite for visual learners and students who struggle with writing. I will conclude by suggesting two other benefits of road maps: they are invaluable tools for interpretation and memorization.

Many of the performers that I coach often struggle with cadenzas, development sections, fantasies, and improvisatory preludes. Their struggles seem to transcend style and era: they can feel lost in a Bach suite, a Mozart or Schoenberg fantasy, a Brahms or Dvorak development, or a Britten or Shostakovich cadenza. Most students find that road maps help them come to grips with the music, whether their maps focus on character, form, motivic transformation, rhetoric, harmony, color, or narrative. These performers report (in retrospect) that the act of creating a map not only provides an invaluable conceptual framework, but also helps them with memorization.

Jonathan Hepfer is a former student pursuing a doctoral degree at the University of California, San Diego. Jonathan has a knack for creating elaborate road maps that are specifically designed for performance. He specializes in avant-garde works for solo percussion, and feels strongly that these works need to be memorized, as he finds it nearly impossible to follow the score and maintain visual contact with the instruments. Jonathan's solution for performing long and complicated works is to create specialized road maps that summarize the detail and essence of the original score, but in miniature. Such mini-maps, which can be as small as an index card, offer many advantages. They allow a performer to give the appearance of playing from memory (while providing a safeguard against memory slips); they free up the sightlines for the performer and the audience; and they obviate the need for any page turns. Example 8 is a map of a passage from Walter Zimmermann's *Riuti: Rödungen und Wüstungen* (1981); Example 9 is a map of a section from Pierluigi Billone's *Mani.Matta* (2008).¹³ I offer these without commentary, since—after all—a picture is worth a thousand words.

SCHUBERT: MOMENT MUSICAL in Ab

H.C.

P.A.C.

I, II, III, IV, V

HASN'T YET RESOLVED

E-HARMONIC MODULATION

NOT RESOLVED!

ENHARMONIC COMMON-TONE MODULATION

COMMON-TONE MODULATION

IN A MAJOR

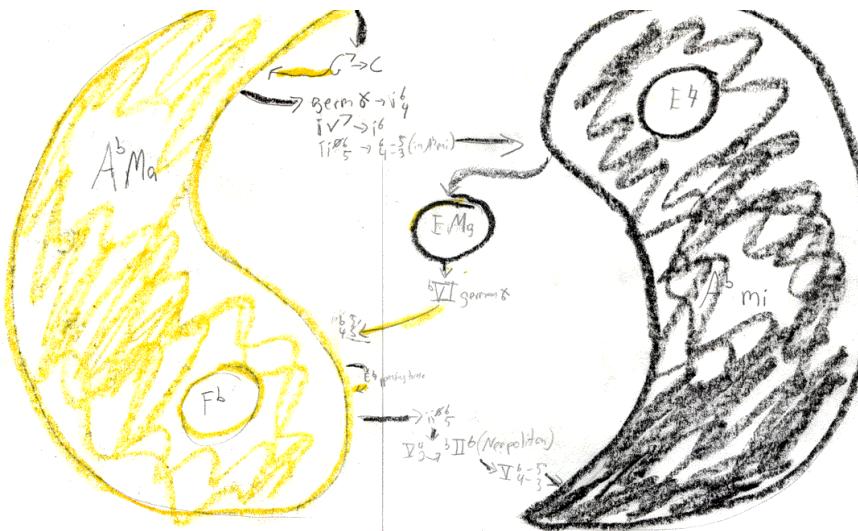
IN Ab maj = Applied $b\text{II}^-_6$

Ab maj = $b\text{II}^-_6 \rightarrow \text{II}^{6-5-1}$

ARCHIVES

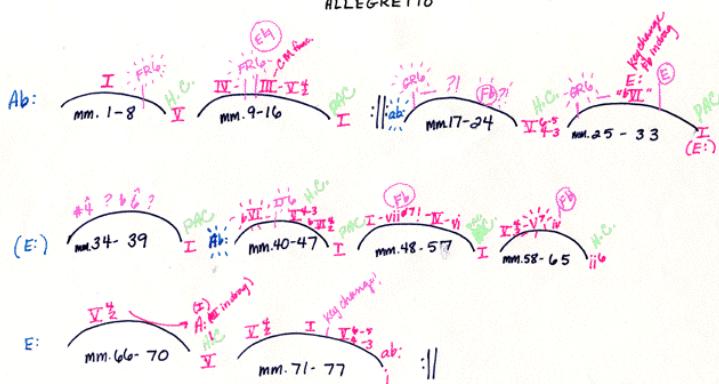
Example 1

Current Musicology

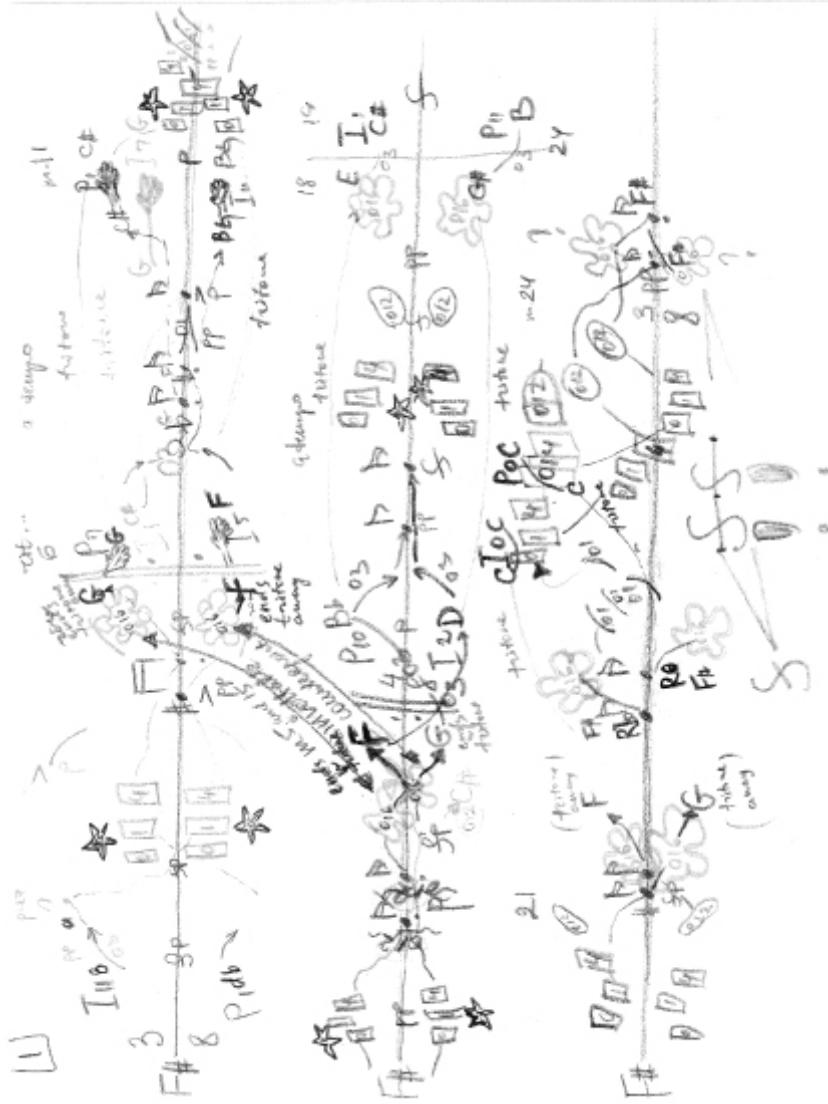


Schubert's Moment Musical No. 6, op. 94

ALLEGRETTO



Examples 2 and 3



Example 4

Current Musicology

ROADMAP # "CANON" IS TURNED-OUT TO SHOW AXIAL SYMMETRY WEBERN op. 22/I

Legend:

- [Square] = BACH
- [Inverted square] = BACH inversion
- [Diamond] = Bach retrograde
- [Crossed-out square] = BACH BE

Middle Section:

- PALINDROME**
- CHIAROSCURO -**
- Po**

Bottom Section:

- "Reprise"**
- Piano**
- inverted canonic form ④ in tenor**
- COPPER E-B**

Example 5

12/8

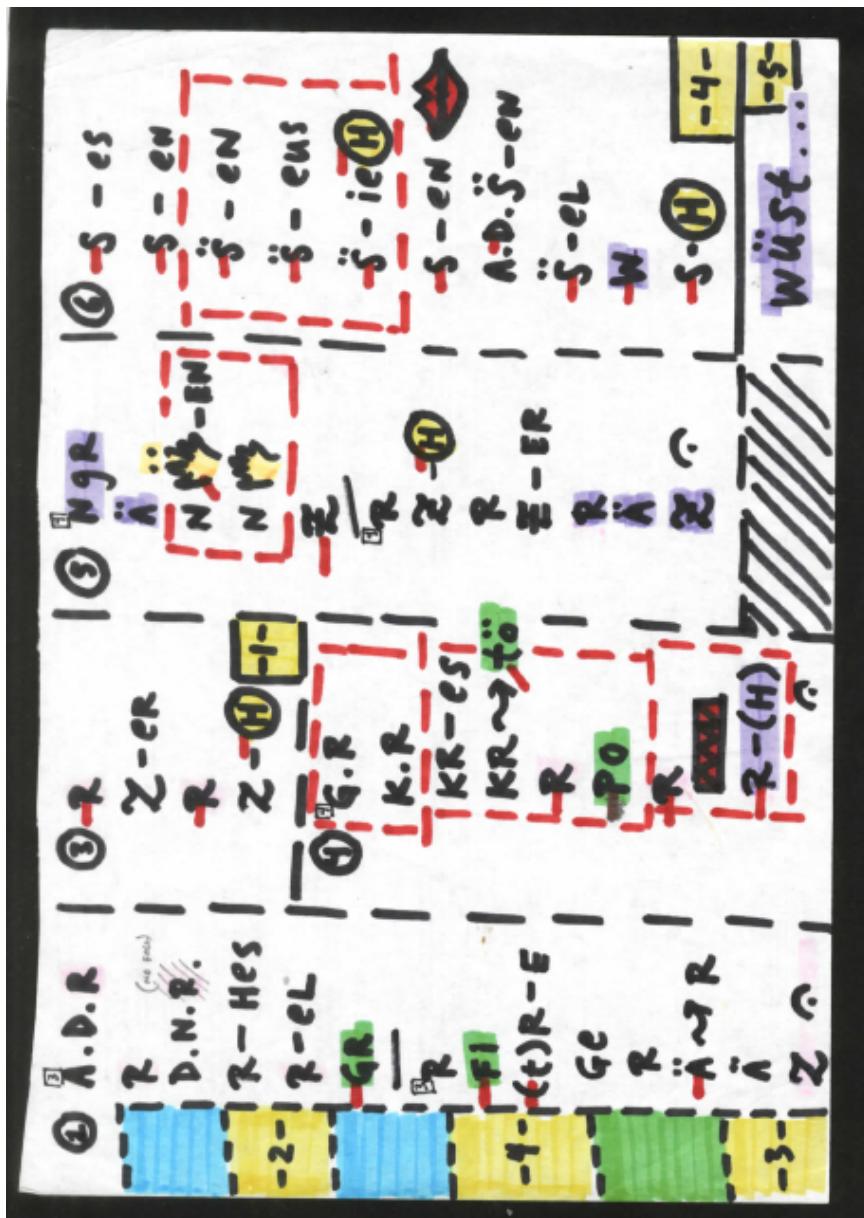
Violin Clarinet Saxophone Piano

○ single note gesture □ f#-f# gesture

△ forward gesture △ upward gesture

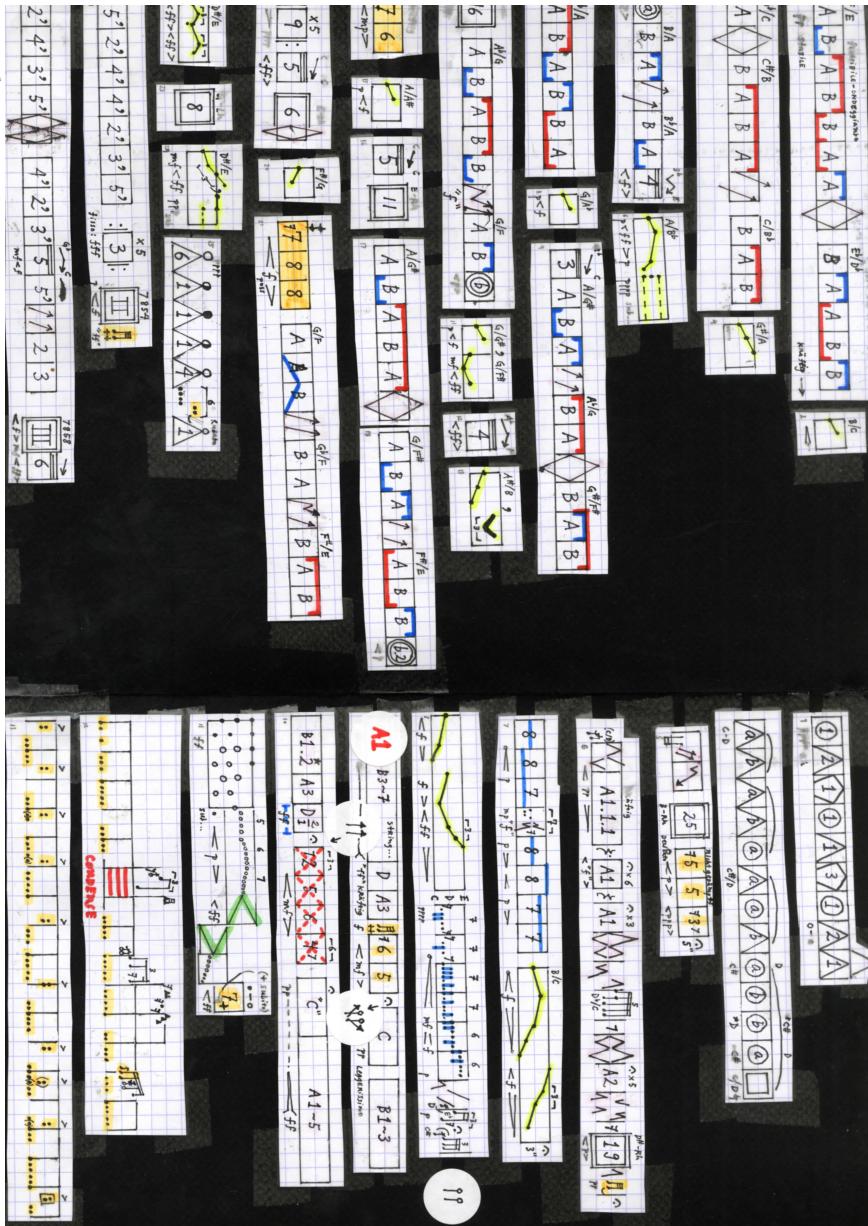
Example 6

Example 7



Example 8

Example 9



Notes

1. As described in Hillier (1997) and Roeder (2011), tintinnabulation is Pärt's idiosyncratic approach to triadic-based voice leading in pitch space.
2. See for instance Brandsford et al. (1999), and Gardner (1993) and (2011).
3. I've found that staff paper is best for maps that focus on collections, pitches, or rhythmic cells whereas blank paper is best for modeling gestures, timbre, or narrative. Graph paper, poster boards, and larger canvases can also be effective. Occasionally students try—and sometimes fail epically—to create three-dimensional maps. Once an art student did a road map on the wall of his dorm room and sent me a picture of it via his iPhone.
4. Schenker's *Five Graphic Music Analysis* (1932/1969) are examples of road maps that students can emulate, though I ask that they strive to emulate something closer to the middleground or deep background than the foreground level. (As I envision it, a road map is not meant to be a transcription or facsimile; the learning happens through prioritizing.) As an aside, I should note that multimedia presentations of musical compositions are becoming increasingly popular on the Internet. The difference between these and a road map is that a map can be perceived in a single glance.
5. Debussy's preludes for piano are ideal for mapping collectionally-based works. I have had much success with "Voiles," "Des pas sur la neige," "La fille aux cheveux de lin," "La cathédrale engloutie" from Book I, and "Bruyères" and "Canope" from Book II. Alegant and Sly (2004) offers sparse pitch-based maps of "La fille aux cheveux de lin" and "Feuilles mortes." For atonal works I'd start with individual movements from Berg's opp. 4 or 5, Schoenberg's op. 19, or Webern's opp. 5, 7 and 11.
6. I borrow the notions of low- and high-stakes writing from Elbow (2005), who writes eloquently on many aspects of writing across the curriculum. Exploratory writing, blogs, and journaling are low-stakes whereas essays and term papers are high-stakes.
7. I'm far more comfortable assessing maps with a P+/P/F system than a traditional letter scheme. (In fact, I prefer the P+/P/F rubric for written work, too.) Of course, it's possible to design a grading rubric to distinguish between, say, an A- and a B+ map. But it's much easier to differentiate a P+ from a P. Further, I'd rather spend my time responding to a map than getting embroiled in the rubric so that I can justify a grade.
8. See Cone (1982).
9. Many other maps were more intricate and more aesthetically striking; some of the maps were works of art in and of themselves. However, despite my best efforts, these were rendered unintelligible when reduced from colored 11x17" format to a black-and-white 6x9" size.
10. Bailey 1991, Fennelly 1966, Mead 1994, and Rochberg 1962 are among the many analyses of this movement. Some background: before we study this movement, we explore axial symmetry in Bartok's "Subject and Reflection" and the first movement of *Music for Strings, Percussion, and Celesta*; Webern's Op. 27/2; and "Contrapunctus Secundus" from Dallapiccola's *Quaderno Musicale di Annalibera*. We also practice hearing trichordal set-classes in real time. Then I devote up to three or four classes to the quartet so that students can gain practice listening through various "filters" or lenses.
11. A comparison of Boulez's multiple performances in this regard is highly instructive.
12. This assignment can take various forms. Some years I ask students to just make a map. Other years I ask for a map and a reaction. Lately I've been asking students to create map and include a (meta-)reflection that describes what they've learned from the process and what grade they would give themselves (and why).

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13. I am grateful to Jonathan for permitting me to show these maps here. Writings on Walter Zimmermann's music by Christopher Fox and Richard Toop can be found at <http://home.snafu.de/walterz/toopwz.html>.

References

- Alegant, Brian and Gordon Sly. 2004. Taking Stock of Collections: A Strategy for Teaching the Analysis of Post-Tonal Music. *Journal of Music Theory Pedagogy* 18: 23–51.
- Bailey, Kathryn. 1991. *The Twelve-note Music of Anton Webern: Old Forms in a New Language*. Cambridge: Cambridge University Press, 171–78.
- Bransford, J.D., A.L. Brown, and R.R. Cocking. 1999. *How People Learn: Brain, Mind, Experience, and School*. Washington, D.C.: National Academy Press.
- Cone, Edward T. 1982. Schubert's Promissory Note: An Exercise in Musical Hermeneutics. *19th-Century Music* 5: 233–41.
- Elbow, Peter and Mary Deane Sorcinelli. 2005. How to Enhance Learning by Using High-Stakes and Low-Stakes Writing. In Wilbert McKeachie's *Teaching Tips: Strategies, Research and Theory for College and University Teachers*, 12th ed. Available at http://works.bepress.com/peter_elbow/1.
- Fennelly, Brian. 1966. Structure and Process in Webern's Opus 22. *Journal of Music Theory* 10: 300–28.
- Gardner, Howard. 2011. *Frames of Mind: The Theory of Multiple Intelligences*, 3rd edition. (New York: Basic Books).
- _____. 1993. *Multiple Intelligences: The Theory In Practice*. (New York: Basic Books).
- Hillier, Paul. 1997. *Arvo Pärt*. Oxford: Oxford University Press.
- Mead, Andrew. 1993. Webern, Tradition, and Composing with Twelve-Tones. *Music Theory Spectrum* 15/2: 173–204, especially 187–96.
- Rochberg, George. 1962. Webern's Search for Harmonic Identity. *Journal of Music Theory* 6.2: 109–22.
- Roeder, John. 2011. Transformational Aspects of Arvo Pärt's Tintinnabuli Music. *Journal of Music Theory* 55.1: 1–41.