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We aren't generally afforded much time to introduce twentieth- and twenty-first-century music to our undergraduates. So when we arrive at the unit (or, if we're fortunate, the semester) on "new" music, we need to be efficient with our time and should keep our eyes and ears on the ultimate prize: leaving students so enamored with at least part of the atonal repertoire that they want to perform it and study it further. Of course, some students take to Webern and Mahler like ducks to water, but others need to be gently guided and shown that they can come to terms with this diverse repertoire in ways that comport with their other music-analytical experiences. For both eager and skeptical students, form, motive, timbre, and pitch focus can all provide effective entry points to appreciating atonal music. In this essay, I argue that set-class analysis might not.

By "set class" (henceforth SC), I mean the usual pitch-class set classes that presume octave equivalence as well as [transpositional](#) and [inversional](#) (Tn/TnI) equivalence and an insouciance to order. They are most often labeled according to their [prime form](#). We all know that those three (or, with order, four) equivalence categories are part and parcel of SC analysis: indeed, they are implicitly built into the prime-form algorithms we teach and which we now find in every core undergraduate theory textbook that extends beyond common-practice music.

I spent the first part of my career conducting pcset theory research, especially in trying to figure out ways to relate non-equivalent SCs to one another. I've taught SC analysis more times than I can readily count. (One might imagine that I have conditioned myself to count only up to twelve.) While I still enjoy plumbing the boundaries of our closed universe of 4,096 (2^{12}) pcsets and 223 SCs, I have, over

time, devoted fewer and fewer classes to introducing the joys of sets to our undergraduates.

Many of my students enjoy calculating prime form. There's something satisfying about arriving at unquestionably correct answers in a subject as potentially relativistic as music analysis. And as heuristics go, those clock faces seem far better than the piano keyboards beginning theory students often draw on their papers to help them calculate intervals. My reasons for lessening or eliminating prime form and SCs from my undergraduate classes have nothing to do with student ability or interest and everything to do with the time it takes to contextualize this tool and encourage its critical and non-reflexive application.

A central problem with introducing SC analysis to beginning atonal analysts has to do with that old adage about everything appearing to be a nail when the only tool in your toolbox is a hammer. Prime-form pedagogy might be democratizing (Schuijjer (277) made this case), and it might well be true that rendering prime forms is either the only technique or simply the most memorable or most replicable atonal technique students learn, but the problem with handing this powerfully reductive apparatus to our young analysts is that it is tough to convey its intellectual pitfalls without tipping the curricular balance from analysis to theory. I do not want this tool to be brandished by students who haven't thoughtfully considered both its entailments and its necessity. I also don't want to spend so much time on SC entailments that I cover fewer compositions. That seems too high a price to pay for methodological clarity.

My concerns about SCs in undergraduate analysis courses fall into three central categories: (1) that they can numb students to other musical features; (2) that they feed organicist narratives (in practice, if not inherently); and (3) that they bias and limit our choices of repertoire. I will briefly outline these claims below and then discuss them a bit more (and a bit more anecdotally).

1. Prime forms represent the most abstract motivic or harmonic label most of us are willing to apply. (Only theorists who routinely [apply M and MI equivalence](#) use a smaller palate of transformationally equivalent core musical materials.) When our first impulse is to reach for the widest angled lens, we make the *a priori* choice to look past a lot of musical detail. As useful as SCs can be in categorizing musical material, they can also act as blinders, particularly to students who are not taught to apply them critically and who do not recognize that their use reflects an arguably radical decision to consider all transposed, inverted, reordered, and octave-equivalent versions of a motive or chord as

equivalent.

2. Inasmuch as the act of placing sets of notes into transformationally defined equivalence classes (like our usual SCs) is a way of comparing collections, chords, and motives that otherwise exhibit some aspects of compositional dissimilarity, SCs inherently, if indirectly, feed organicist narratives. Those narratives generally favor a kind of pervasive unity of set type throughout a piece or section. We don't commonly find SC-driven analyses that show, much less venerate, SC diversity. Indeed, many of our tools for atonal analysis further broaden our notions of equivalence by allowing musical segments that belong to different SCs to be related via similarity measure or mapped onto one another using transpositional tools like [Klumpenhower \(and other\) networks](#), [dual transformations](#), and [near \(or fuzzy\) transformations](#). (Of course, organicist bias is nothing new in our field: Anna Gawboy (2014) convincingly showed a long history of it, particularly tracing it back to nineteenth-century German idealism.)
3. Related to #2: the foundational role of SC analysis in our atonal pedagogies—and the organicist impulse that (I argue) it engenders—potentially biases the way we value and choose musical repertoire for our students to analyze. I imagine I'm not alone in having selected repertoire because it "works" especially well with SC analysis (in other words, because it features a limited constellation of SCs). I have also excluded music that I would have liked to cover because it seemed too difficult to analyze in methodologically clear ways. It might be inevitable that when teaching a theory/analysis class, we make repertoire choices for methodological in addition to (or even instead of) aesthetic reasons. But are SCs and pcsets the methodology we want driving our pedagogy?

With regard to the first of my three claims: I have often used Schoenberg's song "Nacht," from [Pierrot Lunaire, op. 21](#), as my introduction to set classes in our semester-long undergraduate course on modern music at FSU. Before talking about the famous song in class and before introducing SCs, I give an assignment in which I ask students to find at least twenty-five instances of the $\langle +3, -4 \rangle$ motive. That is: an ordered pitch set that moves up three semitones and then down four semitones. It is easy to find dozens of instances of the unaltered motive, but students often ask whether $\langle +3, +8 \rangle$ (e.g., bass clarinet and violin in m. 17) is a motivic variation, and that's a great springboard for broaching the topic of a certain kind of inversive equivalence. And students will often ask (or, if they don't, I do) whether $\langle -1, +4 \rangle$ (e.g., piano RH in m. 17) can be considered an instance of *the motive*, which leads us to questions about order. If we can preserve our sense of *the motive* even when varying it to alter the original order, invert pitch intervals, and invert the overall form, then

we have entered the realm in which the usual (Tn/TnI) SCs seem analytically valuable.

SCs can be helpful in showing how elaborate motivic variations can be thought of as manifestations of a single musical idea. The incredible and audible economy of materials in this short song motivates a tight web of relatedness. But I try not to jump the gun and talk about the pervasiveness of [014]-type sets in this song. We get to [014], but only after exhausting the incredible explanatory power of $\langle +3, -4 \rangle$ (and $\langle +3, +8 \rangle$, $\langle -4, +3 \rangle$, and other permutations). To say that “Nacht” is all about [014]s (and I have heard that said) is to miss the beauty and diversity of the trees for the forest.

Furthermore, although I have used this song as my go-to musical example for introducing SCs in the past, SCs are not necessary to explain even the most varied motivic forms found in this song. Students only really need to understand intervallic inversion and reordering.

Another short story will illustrate my second concern: recently a student taking an exam elected to approach a given short piece by initially labeling set classes: circling and labeling prime forms throughout. He told me that he regretted this decision because his labels revealed too great a plurality of SCs. The student went on to say that this was clearly not “set-class music.”

That term—“set-class music”—has been rattling around my head. My initial reaction was that any work that uses discrete pitches could be “set-class music” and that the ability to construct set-classes didn’t seem like a robust taxonomical category. At the same time, I completely understood what this student meant: it was a way of saying that when we look at the labeled SCs in a piece of music, we expect to see either a tight economy or the author’s introduction of some way of grouping the collected SCs into equivalence or similarity classes. Where there’s SC diversity, we generally need to show that it’s only apparent diversity; when viewed through \langle this other lens \rangle , we can see that everything is *actually* related. Finding organic SC unity, whether obvious or hidden, has been the way of the atonal analytical world at least since Allen Forte’s use of K and Kh networks and R_n similarity relations in the 1960s and 1970s. Our methods have changed, but the idea of demonstrating equivalence or similarity of apparently non-equivalent sets remains a core aspect of our pedagogy.

My third concern above is really twofold: I’m not only uneasy about spending too much time on Schoenberg, Berg, Webern, and Bartók and too little on living composers and women composers and minority composers and non-Western

composers, I'm also concerned that we have constructed a caricature of the very composers at the center of our well-worn canon. When we teach too small and too unchanging a selection of a composer's repertoire we invite unfair stereotypes about his or her music. Bartók's music is not largely octatonic (unlike theory-class favorites: "Song of the Harvest," "Diminished Fifth," and "From the Island of Bali"); Messiaen's music is neither dominated by integral serialism nor the modes of limited transposition; Schoenberg's music is not generally brief and internally repetitive (like "Nacht").

"Nacht" might well be the most sequentially repetitive, intervallically limited work in Schoenberg's atonal repertoire (whether "free" or serial). It is also quite possibly the most studied, perhaps alongside his Op. 19, nos. 2 and 6 piano pieces, which are likewise shorter and more repetitive than most of his works. These highly self-similar compositions are often anthologized and discussed in textbooks, but are they representative of Schoenberg's output? Are they even representative of other songs/movements within the same opus? How do students who learn that "Nacht" is all about [014]s make their way through the other twenty songs that comprise *Pierrot Lunaire*? How do they approach *Erwartung*? And what can they make of our more recent scions of modernity: of Kaija Saariaho or Steve Reich or Hans Abrahamsen or Thomas Adès or Unsuk Chin. These composers' music can feature motives and harmonies that slowly morph from one idea to another, passing through similarly spaced but non-transformationally equivalent ideas. Should the employment of an expanded cache of SCs or, indeed, the relative non-importance of SCs as equivalence classes lead our students to believe that a work "resists analysis?"

Prime-form algorithms and their associated SCs offer a very clear methodology for labeling atonal objects. Those labels are widely understood across and beyond the North American and European academy. Their pervasiveness and ease of application means that prime form is often the first tool our students pull out of their atonal toolboxes. It might even be the only tool they feel comfortable wielding. But if we are not very careful in explaining its high level of abstraction, default use of SCs can lead our students (and us) to miss obvious surface-level pitch connections involving register, order, and direction. And their curricular inclusion (even without curricular obsession) can both limit and unfairly stereotype the repertoire we introduce.

Again, I am not suggesting that undergraduates are ill-equipped to understand the entailments (including expansive equivalence assumptions and organic unity) of SC analysis; rather, I believe that most of us can spend our time better by avoiding this blunt analytical tool. I fully admit that my proposal might be a tough sell since pcset

theory (particularly the application of SCs as labels) has become the predominant methodology for atonal music. Many of us are required to hew to an existing curriculum; in such cases, I hope that explanations of prime form can be accompanied by sufficient qualifications so that students are not led to see SC as *the* way to label atonal motives and harmonies.

When we have only one semester (or even less) to devote to music that extends beyond the tonal common practice, we should use our precious class time to introduce our undergraduates to diverse repertoire, from ancient (Schoenberg!) to modern (your composer-colleague who writes great music). Musical diversity does not necessitate an expanded range of new theoretical techniques. We can ply students with many of the same tools they learned while studying Bach and we can frequently remind them of all the musical features we attend to when analyzing how a piece of music is constructed: motives, timbres, register, pitches, and, of course, harmony. We don't need SCs to foster a sophisticated understanding of modern music. And we should avoid inadvertently conveying the idea that some repertoire is "set-class music."

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