Robert Morris – "Book Review"

For this "book review", I took a look at Robert Morris's *Class Notes for Atonal Music Theory* since his *Composition with Pitch-Classes: A Theory of Compositional Design* tome was neither on reserve nor available from the stacks of Sibley. Since the *Class Notes* are formatted in a fairly abbreviated writing and organizational style, I did not have the chance to simply read the TOC and/or opening and closing chapters to get a sense of the book. Instead, I did a close reading of a few chapters, particularly in the middle sections, figuring that the topics would probably map directly to topics in class.

An immediately striking concern of the book was developing clear and precise terminology for analytical tools and concepts. It was apparent that Morris was trying to standardize the way theoreticians discuss atonal music, presumably in an effort to ease communication in a discipline that can become highly complicated merely on the basis of the subject matter, more so when terms and labels are not consistent or well-defined. As an basic example, Morris proposes the term "set class" with an abbreviation of "SC" to label "a collection of sets of the same cardinality that are all related to one another by T_n and/or I" (33). John Rahn, though, in his text *Basic Atonal Theory*, coins the term "set type" under the same definition (74-82). Other authors apparently use the term "collection class" as well (Morris 33). Even at this most fundamental level of theory, a discrepancy exists between what and how terms are used, i.e. a gap in taxonomy.

Yet disconnects occur beyond the taxonomy itself, extending to the grammar of atonal theory. Andrew Read calls this problematic area a question of syntax (42). Morris addresses such syntactical issues directly when comparing and contrasting the methods used by Allen Forte and John Rahn to derive the representative pitch class set for each set class. Forte uses the *normal order* algorithm whereas Rahn uses the *normal form* algorithm, for which both Morris has supplied a logical series of steps to derive each (Morris 39). To further complicate the situation, Morris offers yet another method for finding representative pcsets, giving us a Rahn/Morris algorithm that slightly tweaks the normal form method of Rahn (39).

Related to concerns about taxonomy and syntax, in my mind, is the concern of redundancy, or rather lack of redundancy when discussing atonal works. Specifically, I am concerned about the ability to easily identify errors. Partially, I am sure, because the book was developed loosely from class notes, *Class Notes* does include a couple of minor mistakes and contradictions. For example, on page 35, a footnote extols students to "avoid the locution 'X is held invariant under F'...such a statement is misleading since it is not the pcs of a pcset that are invariant under F–they usually change–but the *content* of the pcset that remains the same." Why then, above this piece of seemingly good advice, does Morris write in an example: "The set H = {0,1,6,7} is invariant under T_6," and further "H is also invariant under T_1I," as well as "H is a member of the SC 4-9[0167]"? Perhaps I myself am confused, but should Morris not be saying that the *contents* of set H are invariant under such transpositions?

Of course, Morris himself is not the only one prone to errors. John Rahn, on page 20 of his text, writes that "We might now number the notes of the piano 0 to 88 from lowest to highest," but since there are only 88 keys on the piano, we could only number them 0 to 87. Both examples that I give are arguably nit picking, but they bring up what seems like a big issue. In most languages, a significant amount of error-detection is built in. Digital audio devices, with their seemingly endless strings of ones and zeros, for example, go to great lengths to be sensitive to and correct for errors (Watkinson 286). The language of tonal music, too, has a fair amount of error resistance since we can typically (though not always) assume that notes conform to the rules of harmony and counterpoint. Thus it would seem that in addition to conflicting and potentially vague terminology and syntax, a whole other layer of confusion could be added when errors in the subject matter are not easily identifiable. What is to ensure that a set class identified as [0147] is the correct local label for a few notes when one is working through large streams of pitches? The set class [0147] seems no more inherently correct than another other four-note pcset.

Perhaps the previous paragraph has made too much an issue over small mistakes, and perhaps identifying errors becomes easier as one becomes more familiar with the standard set classes, or at least the standard set classes that are being used in a piece under analysis. But if we branch out from issues of "absolute" right versus wrong to instead look at grayer areas, it becomes harder to even tell whether something is "right" or "wrong". Specifically, I am referring to whether or not a given analysis is "good" or "bad" (as opposed to the more loaded terms of "right" and "wrong"). Andrew Read also discusses this distinction of a good analysis as his final issue regarding the research of atonal theory (43). For tonal music, centuries of analysis and familiarity have developed a whole host of models and paradigms for which we search and which also seem to mimic how we hear. With atonal music, a relatively young art form that has undergone rapid changes in a fairly short period of time, understanding a listener's perception and cognition of a piece still seems a nebulous task. Any analysis of a piece of music should match or inform how the piece of music is heard, but often that can get lost underneath the weight of charts, terms, formulas, etc. In other words, as theoreticians, we should not want to find information in music that is merely mathematically meaningful, but rather we should search for information that is musically meaningful.

The issues I have presented so far have been broad topics to the analysis of atonal music. Morris also mentions in his book specific and narrow technical problems in atonal theory that are yet to be resolved. I will provide two examples. The first involves the how a hexachord is often related to its complement hexachord via a T_n, I, and/or M transformation. However, some hexachords do not share this property, and "so far no one has figured out why this is so, although there are many mathematical proofs of the complement theory in the literature" (Morris 37). The second example of an outstanding issue mentioned by Morris also deals with the idea of complementary sets, specifically that only one set class (5-12 [01356]) is not included in its abstract complement ([0123479]), "an interesting fact [that] has puzzled music theorists" (38). With issues like these, seemingly more deeply rooted in hexadecimal set theory, I sometimes even wonder if music theorists are the best folks suited to answer such questions. Might not a mathematician be better suited to handle these more proof- and calculation-heavy tasks? Of course, being a mathematician and a music theorist are not mutually exclusive, but it does raise the bigger issue of how much mathematical training a music theorist may need before being able to move the field of atonal theory forward in any significant way. It also speaks of the possible communication gap between those theorists with advanced mathematical training as opposed to those without such a background.

WORKS CITED

Forte, Allen. *The Structure of Atonal Music*. New Haven, NH: Yale University, 1973.

Morris, Robert D. *Class Notes for Atonal Music Theory*. Hanover, NH: Frog Peak Music, 1991.

Rahn, John. *Basic Atonal Theory*. New York: Schirmer Books, 1980.

Read, Andrew. "The State of Research in Twelve-Tone and Atonal Theory." *Music Theory Spectrum.* 11.1 (1989): 40-48.

Watkinson, John. *The Art of Digital Audio*. Oxford: Focal Press, 1995.