MUTH 301   Name: _____
Worksheet on Perle's Analysis of Webern Op. 5, No. 4

Work through the following in preparation for class discussion. This worksheet refers to
George Perle, *Serial Composition and Atonality*, 6th ed., pp. 16-18.

1)   Find the set classes of chords x and y and compute both interval vectors. Playing
        the music at the piano, try to get to know the sound of this basic chord
        progression.

        Note that as the chords are clearly inversionally symmetrical, they will have fewer
        than 24 different transpositions and inversions. Because of the inversional
        symmetry, we'll ignore the inversions, since they're the same as the
        transpositions.

        We'll name the transpositions of x as pitch-class transpositions, naming them
        based on the pitch class of the lowest notes as written out in Perle's example.
        Thus x_0 is {C C# F F#}, and the set in Perle's example is x_{11}.

        We'll name transpositions of y similarly; y_0 is {C C# F# G}. The difference is
        that there are fewer than 12 distinct transpositions of y. Why is this? What is the
        name of the instance of y shown in Perle's example 15?

2)   Unpack the paragraph in the middle of p. 16 that begins "In bar 3".

        Violin 1 is clearly arpeggiating y; importantly, F#, the "highest" note of y and the
        one that contrasts with x, comes first – so it's over the soonest and the farthest in
        the past. The "contrapuntal association" with E is simply a matter of the E in the
        viola sounding after the F#, so that we can hear it forming an x (x_{11}, in fact) with
        the B, F, and C in the violin 1. When the viola moves to the F#, this would seem
        to return to the original y in the violin 1, except that the cello plays a C# at the
        same time. At this point the B from violin 1 is now relatively far in the past, so
        we can form x_0 with C in violin 1, C# in the cello, F in violin 1, and F# in the
        viola.

        Perle talks about "overlapping common elements employed as a modulatory
        means." In the terms we have developed, these are invariants. As we have begun
        to see, the piece moves among various versions of x and y using overlapping
        schmoos – for example, the final C in the violin part in m. 3 has so far been seen
        to belong to three different sets.

        Continue to trace these overlapping instances of x and y, and be specific – don't
        just label x and y, label (for example) x_7, y_3, etc. Do you see any larger patterns in
        the versions of x and y used?

3) Now unpack the sentence that straddles pp. 16 and 18. How do mm. 18-19 recapitulate m. 5 with its upbeat? Answering this question will involve a similar kind of analysis to that done in answering question 2.

4) Listen for the connection between F#'s that Perle talks about at the end of the first paragraph on p. 18. Can you hear this? And do you agree that register and timbre make a difference?

5) Similarly, listen for the relationships that Perle discusses in the middle paragraph of p. 18. Can you hear them?

6) Finally, Perle's analysis leaves out a particularly striking part of the piece, the almost painfully beautiful melody in the first violin in mm. 7-9 (its expressive marking, *so zart as möglich*, means 'as tenderly as possible'). Can you find a way to relate this melody to the rest of the piece?