HOMEWORK EXERCISES

Assignment 63—Set Theory 3: Transposition ($T_n$) and Inversion ($T_n I$)

Section 1. Transposition ($T_n$) of Sets. Transpose the following sets as specified.

a. Transpose $[6, 9, 0]$ at $T_3$: [ __ , __ , __ ]
b. Transpose $[7, 9, 11, 3]$ at $T_8$: [ __ , __ , __ , __ ]
c. Transpose $[3, 5, 6, 9, 10]$ at $T_{10}$: [ __ , __ , __ , __ , __ ]

Section 2. Inversion ($T_n I$) of Sets. Invert the following sets.

a. Invert $[4, 7, 10]$ at $T_0 I$: [ __ , __ , __ ]
b. Invert $[0, 1, 6]$ at $T_3 I$: [ __ , __ , __ ]
c. Invert $[5, 8, 9, 0]$ at $T_3 I$: [ __ , __ , __ ]

Section 3. Specify how the first set inverts to the second set.

a. $[4, 5, 8]$ inverts to $[4, 7, 8]$ at what $T_n I$? __
b. $[6, 8, 10, 1]$ inverts to $[5, 8, 10, 0]$ at what $T_n I$? __
c. $[11, 2, 3, 7]$ inverts to $[2, 6, 7, 10]$ at what $T_n I$? __

Section 4. Transpose and invert the following five-note set ($E_b, G, A, B, D$) to $T_2$, $T_4$, $T_2 I$, and $T_4 I$. After mapping multiple versions of these five transpositions and inversions of the set onto the given five motives, provide at least 10 motivic statements, some possibly combined in two-part counterpoint. Minimum length: four measures in 4/4. Notate this short composition in a music notation program, submit a printout, and send an electronic version.

($E_b, G, A, B, D$) at $T_2$ = _______ at $T_4$ = _______ at $T_2 I$ = _______ at $T_4 I$ = _______

Original Set

| __ | __ | __ | __ | __ |

Other Configurations to Consider

Motive:

| 1 | 2 | 3 | 4 | 5 |

Music Theory for the 21st-Century Classroom, Homework Exercises, p. 157