

025:250 COMPOSITION: ELECTRONIC MEDIA I

Fall 2010

Rigid and Non-rigid Transpositions

1. Gestures may be transposed to create additional source material for the final composition project. These transpositions may be non-rigid and rigid. In mathematics, any transformation on a set of points is rigid if the distance or interval between points is left unchanged after the transformation. A transformation is said to be non-rigid if the distance or interval between points is changed after the transformation. An example from geometry will be given in class. In music, a *real* transposition is rigid; a *tonal* transposition is generally non-rigid.
2. If you bounce the gestures from Assignment 3 and change the pitch in Peak, this will produce rigid transpositions. If you stay in the Pro Tools environment and transpose the beginning of a gestures up by 1 semitones, the middle of the gesture down by 1 semitone, and the end of the gesture down by 2 semitones, this will produce a non-rigid transposition. The table below lists some of the non-rigid transpositions that can be performed on a gesture. Note that *beginning* refers to any or all regions that occur in what the composer regards as the beginning of the gesture. Similarly, *middle* refers to any or all regions that occur in the middle of the gestures, and *end* refers to any or all regions that occur at the end of the gesture.

Beginning: Raise 1-2 semitones	Beginning: Raise 3-12 semitones	Beginning: Raise n pseudo-octaves
Middle: Lower 1-2 semitones	Middle: Lower 3-12 semitones	Middle: Lower 1-16 semitones
End: Lower 1-2 semitones	End: Lower 3-12 semitones	End: Lower 1-16 semitones
Beginning: Lower 1-2 semitones	Beginning: Lower 3-12 semitones	Beginning: Lower 1-16 semitones
Middle: Raise 1-2 semitones	Middle: Raise 3-12 semitones	Middle: Raise n pseudo-octaves
End: Lower 1-2 semitones	End: Lower 3-12 semitones	End: Lower 1-16 semitones
Beginning: Lower 1-2 semitones	Beginning: Lower 3-12 semitones	Beginning: Lower 1-16 semitones
Middle: Lower 1-2 semitones	Middle: Lower 3-12 semitones	Middle: Lower 1-16 semitones
End: Raise 1-2 semitones	End: Raise 3-12 semitones	End: Raise n pseudo-octaves
Beginning: Lower 1-2 semitones	Beginning: Lower 3-12 semitones	Beginning: Lower n pseudo-octaves
Middle: Raise 1-2 semitones	Middle: Raise 3-12 semitones	Middle: Raise 1-16 semitones
End: Raise 1-2 semitones	End: Raise 3-12 semitones	End: Raise 1-16 semitones
Beginning: Raise 1-2 semitones	Beginning: Raise 3-12 semitones	Beginning: Raise 1-16 semitones
Middle: Lower 1-2 semitones	Middle: Lower 3-12 semitones	Middle: Lower n pseudo-octaves
End: Raise 1-2 semitones	End: Raise 3-12 semitones	End: Raise 1-16 semitones
Beginning: Raise 1-2 semitones	Beginning: Raise 3-12 semitones	Beginning: Raise 1-16 semitones
Middle: Raise 1-2 semitones	Middle: Raise 3-12 semitones	Middle: Raise 1-16 semitones
End: Lower 1-2 semitones	End: Lower 3-12 semitones	End: Lower n pseudo-octaves