**025:250 COMPOSITION: ELECTRONIC MEDIA I**

**Fall 2010**

**Rigid and Non-rigid Transpositions**

1. Magnify

a. Make complexity more complex.

2. Acoustic problems

a. Soft passages go below 40 db

b. Loudness works well with shorter sounds, but becomes painful with longer sounds.

c. Metallic and ice-pick sounds. Too much energy between 800 and 1,600 hz. Fix with EQ. Or, use automated

volume to turn the sound down.

3. Overall texture

a. There is no breathing room. There is not a single second where absolute silence occurs, and there should be.

n. Timbre

a. Deep bass sounds, 20 – 60 hz, should be used sparingly.

b. To make bass sounds stronger, copy and paste the sound in another track and transpose it up or down an octave.

c. Low sounds generally do not benefit much from reverb.

d. If reverb is used on a low sound, consider using a high-pass filter.

e. The mid-range of recordings, 200 – 800 hz, tends to fill up quickly, due to the presence of high harmonics of low

sounds and the low harmonics of the majority of other sounds.

f. If the overall sound is thick and muddy in the mid-range, use the EQ to reduce the the mid-range frequencies,

200 – 800 hz, or lower the automated volume of low and mid-range sounds.

g. If you like the effect of the mid-range, even though it muddies the overall sound, consider “surgically” lowering

the automated volume of the regions in question by reduced the volume by one-third to one-half for as little as 0.5

seconds. This leaves the timbral space unaltered, while providing the listening with some relief from the

over-bearing mid-range.

h. Upper mid-range sounds, 500 – 1,000 hz, can sound harsh, metallic, and ice-pickish. Long sounds in this range

can be painful to listeners, as can be observed in audiences of electronic music concerts.

i. These must be EQ’ed very carefully by reducing the amplitude of these frequencies by no more than 20%.

j. High frequencies, 1,200 hz and higher, provide clarity, definition, and interest in the attacks of sounds.

k. To brighten a section of music, consider copying and pasting these sounds to another track, then performing a

high-pass filtering, with a cut-off of 1,000 hz, on the sounds. Sometimes it is more convenient to bounce several

of the relevant tracks to a new track and filtering this. Reverb can sound good with this track and panning effects

should be considered.

4. Working with gestures from Assignment 3.

a. Individual gestures can be used as recurring motives that delineate formal sections.

b. Gestures can be expanded from the inside out by moving sounds in the edit window of Pro Tools, creating more

space, repetition, or longer sounds. Lengthening a sound may require some form of cross-fading.

c. A gesture may be book-ended to leave space for new or developed material.

d. A book-ended gesture may contain another, embedded gesture.

e. A gesture may be transposed non-rigidly (borrowing a term from math).

f. A gesture may be radically filtered so that only 1-3 sounds are heard. This is a good way to introduce or maintain

an underlying sense of rhythm in the piece.

g. A gesture may be sound-mined, particually where transitions occur.

h. Two gestures may be intertwined to create a more complex gesture.

i. Two gestures may be arranged to produce a call and response phrase.

5. Using long sounds from Assignment 3.

a. Make many transposed copies.

b. Keep long sound relatively soft except for special moments at high volume.

c. Sound-mine long sounds to create shorter sounds that can be played individually or as tails to other sounds.

6. Using sound masses from Assignment 3.

a. Sound-mining 1-3” sections of a sound-mass can be used to create small rhythmic motives.

b. A sound mass may be used with other sounds to create strong hits. For this, use automated volume.

c. Use micro-reverb techniques by placing 1-3 attacks in the sound mass in a different track, then adding reverb and

spatialization.

d. Harmonize a sound mass by placing a pitch-shifted copy in another track. Consider whether to have these two

tracks exactly in phase, or changing phases as done by George Martin on Lennon’s vocal, as discussed in class.