

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.
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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.