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21M.361 Composing with Computers I (Electronic Music Composition)
Spring 2008

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21M.361: Composing with Computers I (Electronic Music Composition)

Peter Whincop

Spring 2008 OCW

MODULE THREE: Noise and Layers

(3 weeks)

Convolution, Peak software, making noise, dense layering, software filters, noise reduction, other Pro Tools plug-ins, sculpting sound, beautiful sounds. This module focuses on using noise, and also on musique concrète again. We experiment with piling sounds up, in order to produce densely textural material. We consider two main sorts of sounds: those that are somewhat continuous and have an interesting natural shape and narrative, and those that are “beautiful.” Convolution will be one of our main tools. We will also try to make horizontal (linear), temporally changing noise that is not dense, not unlike some of our feedback, but from a variety of sources; and we will try our hand at making vertical dense noise that can be sculpted using filters. The emphasis on this module is on layering, and producing potentially very long sounds, or at least repeated sounds. This is in contrast to the previous two modules. We use our own artwork as inspiration. Note too that we are dealing with two somewhat opposite types of sound, noisy and beautiful. Or perhaps they are not opposites.

Lab 3.1 MANDATORY: Introduction to Peak; file opening, importing, saving; DSP convolution, change gain, change pitch, mix.

Assignment 3.1 (due next class): Collecting Specific Types of Sounds

Collect the following categories of sounds. Use the best possible recording equipment you can lay your hands on.

1. **Two 30 minute “long” continuous recordings. These should be uniform in the medium scale:** not like a hair drier which is uniform in too small a scale, and not necessarily like half an episode of CSI, which doesn’t necessarily vary from beginning to end; but more like a film, or traffic, or walking down Mass Ave, or walking through MIT (not just the infinite but various buildings), or the airport where lots of things happen, or a decent TV episode where things progress or at least change, or traveling on the T. etc. Ultimately **these sounds might be chopped into smaller pieces and layered, and used as something to convolve with smaller samples** (not this week, though).
2. **Ten 5 second “scenes.”** These are not like your short sounds from Assignment 1.1, which were of specific things. These scenes are more **like capturing 5 seconds of “somewhere,”** like a random 5 seconds in Starbucks (or, better still, Dado or Pamplona), or 5 seconds of a lecture. Later **these might be chopped into different sized pieces, and some parts crossfaded together to produce a short**

(20–30 second) changing sound, and used as something to convolve with smaller samples (not this week).

3. **Ten distinctly “noisy” sounds, as short or long as you like.** These will be used to make both horizontal (linear), temporally changing noise that is not dense, and vertical dense noise (not this week). You can steal **some** of these from recordings, etc. (Within the confines of MIT this is permitted as “fair use.”)

4. **Five potential distinctly “beautiful” sounds.** This is of course subjective, but nice chords will work, etc. These will later be the short samples for the convolutions described above. If you can't find enough beautiful sounds this week, they can be constructed next week from simpler sources, e.g. piling together transposed versions of single notes. Again, you can steal **some** of these from recordings, etc.

So, just do these recordings, edit them, remove unwanted clicks and abrupt beginnings and endings, and leave them in the appropriate folders in the ass-3.1 folder, which is a little more complicated than usual.

5. **Read what is required of Class 3.2,** and if you don't like drawing or generally making a mess with pastels, bring along some colored or black-and-white pictures copied or downloaded from somewhere, or created by someone else or by yourself. Wear sensible clothes!

Listening 3.1 (abbreviated, due next lab, no listening notes):

Compulsory

Arvo Pärt—Cantus in Memoriam Benjamin Britten (for string orchestra and bell) (1977)

Giacinto Scelsi—Anahit “Lyric Poem on the name of Venus” (1965)

Gas—[track 1] (from Zaubenberg) (1997)

Arnold Schoenberg—“Farben” (Fünf Orchesterstücke Op. 16/iii) (1909)

Biosphere—Gravity Assist (from Shenzou) (2002)

Recommended

Thomas Köner—Meta Incognita (from Teimo-Permafrost) (1997)

György Ligeti—Atmosphères (1961)

Richard Wagner—Das Rheingold, Prelude (excerpt) (1854)

Krzysztof Penderecki—Threnody For The Victims Of Horoshima For 52 Stringed Instruments (1960)

Peter Whincop—Allston(contactnoise)-MIT(feedback)-Providence(convolution) (2006)

Class 3.1: Listening to Alvin Lucier's “I Am Sitting In A Room”; listening to a few examples of Assignment 3.1; going through examples of the sorts of things we will be doing for Assignment 3.2 from my own work; discussing Listening 3.1.

Lab 3.2: Noise reduction using SoundSoap; Peak filters, impulse-verb, v-box.

Assignment 3.2 (due next class): **Layers, Scenes, Nice Sounds, Linear and Dense Noise**

Again, there are four parts. Warning: **this is a long assignment**. Each should take no more than an hour. You might not get your desired result right away, so experiment a little (just as with Assignments 2.1 and 2.2). **These are not compositions**. Rather, we are developing techniques that **might be useful in making a noise/drone composition**, such as for Assignment 3.3.

1. **Using your long sounds**, layered as much as you like, **your beautiful sounds**, which you can also layer and process, and **convolution**, **make a 3–5 minute nice sound**, hopefully with **subtle changes**. You can use **change pitch, change gain, and mix, as well as convolution**, and you can use Pro Tools for layering. Don't forget you can only have one of Pro Tools and Peak open at a time. Label like peter-3.2.1, etc.
2. **String together**, either in Peak or Pro Tools (using crossfade), **parts of your “scenes,” to produce a 20–30 second narrative**. This might not sound that great or interesting, but there is another step: **convolve this narrative with your beautiful sounds** (again which you can work on) to come up with an interesting and nice sounding chunk, not just a drone. Label, etc.
3. **Make 30–60 seconds of horizontal (linear), temporally changing noise that is not dense. Make it grating, screeching, nasty**. This is not so easy, so don't worry if it doesn't work out well. But learning to do it might help with the next assignment. Label, etc.
4. **Make 30–60 seconds of vertical dense noise**. Noise doesn't have to sound horrible, nor does it have to resemble white (or other colored) noise. (I'm using the term “noise” advisedly.) Label, etc.

Listening 3.2 (due next lab):

Compulsory

Radiohead—Pulk/Pull Revolving Doors (from Amnesiac) (2001)
múm—We Have a Map of the Piano (from Finally We are No One) (2002)
Alvin Lucier—Music on a Long Thin Wire (excerpt) (1977/1980/1992)
Seht/Stelzer—[track 1] (from Exactly What You Lost) (2006)
Nmperign/Jason Lescalleet—This is Ruined (from Love Me Two Times) (2006)

Recommended

Phil Niblock—Sweet Potato (2003)
Nmperign/Jason Lescalleet—The Mystery Disease That Haunts My Town (from Love Me Two Times) (2006)
?—[track 3] [unknown German blue CD from around 2001]

In Class

Maryanne Amacher—Head Rhythm 1 (from Sound Characters) (1999)

Student 3.2.1

Arushi Dugar, Catherine McCurry, Cristian Derr, Eduardo Coutinho, Joey Wong, Mats Ahlgren, Roland Tung, Sari Canelake

Student 3.2.2

Arushi Dugar, Catherine McCurry, Cristian Derr, Eduardo Coutinho, Greg Schroll, Michelle Fogerson, Peter Coles, Rae Zucker

Student 3.2.3

Adam Paxson, Alex Vazquez, Catherine McCurry, Cristian Derr, Greg Schroll, Joey Wong, Mats Ahlgren, Michelle Fogerson, Roland Tung, Tim Dudley

Student 3.2.4

Daniel Hochbaum, Greg Schroll, Joey Wong, Joshua Park, Kyle Backman, Mats Ahlgren, Michelle Fogerson, Peter Coles, Roland Tung

Class 3.2: Listening to Assignment 3.2; drawing with pastels (I'm bringing supplies) for "inspiration" for the next assignment while we discuss Listening 3.2, listening to Maryanne Amacher's piece loud, watching South Park.

Lab 3.3: Other inserts, e.g. pitch shift, in Pro Tools; automating inserts (and recapping automation in general); using Peak to record to Pro Tools.

Assignment 3.3 (due next class): Noise or Drone Composition

Using your drawings as inspiration (and not so much as scores) **compose a 5–25 minute noise or drone piece**—5 minutes is certainly acceptable, but if you have a high threshold of boredom, you could try for something longer; it might not require much more work. Among others, use the techniques we looked at for Assignment 3.2; try sculpting noise using filters and convolution of parts of noise if you like. You can superimpose normal sounds, like from your long sounds (Assignment 3.1), on whatever you come up with, if you think it sounds good. You can also superimpose instrumental or vocal sounds, but be careful not to make this sound like an unnecessary extra, like a finishing touch that ruins the effect. There will be a subtle twist to this assignment, which I'll mention in lab.

Listening 3.3 (abbreviated, due next lab):**Compulsory**

Nomex—Time Vs. Mind (Penultimate Drill Turntable) (from Garten Der Verschlungenen Pfade - Jahr 01)
[volume warning!]

Christian Marclay/Otomo Yoshihide—Derailment (from Moving Parts) (2000)

Atlatl—Subjects to Change (from Assortment of Rounds) (2001)

Glenn Branca—Movement Within (2000)

James Tenney—Critical Band (1988)

Recommended

Merzbow—Ambient Study for Kinbaku-Bi Part 6 (from Music for Bondage Performance 2) (1996)

KK Null—0-01_430 (from Extasy [*sic.*] of Zero-G Sex) (1998)

Arnold Dreyblatt—High Life (1986)

James Tenney—Analog #1 (Noise Study) (1961)

Student

Alex Vazquez, Arushi Dugar, Catherine McCurry, Cristian Derr, Denis Odhiambo, Eduardo Coutinho, Joey Wong, Mats Ahlgren, Michelle Fogerson, Peter Coles, Rae Zucker, Thomas Carr, Tim Dudley

Class 3.3: CRITIQUE (due next lab). Listening to Assignment 3.3.

Special Assignment (due next lab): **Preparing for Max/MSP**

Download Max/MSP from <http://www.cycling74.com/downloads/max5>. (For the current notes I'm basing this on Max 4, even though Max 5 has been released; this is under revision.) This will give you a 30-day free trial of the full version. This should get you through the whole module. NB. The documentation might have to be installed separately. Start working your way through at least the first 14 Max Tutorials. There is a pdf of the tutorials, and tutorial patches, which should be looked at in conjunction with each other. When you encounter MIDI, ignore it, though try to learn the non-MIDI objects. Also take a peek at the first couple of MSP tutorials.
