

DESN 275 Week Six Assignment – Designed Sound Effects and Foley

Part 1 Bringing together Recordings + Noise + Editing Tools – pick any 4 of A through I below

Your assignment is to design new sounds based around *recordings that you make*. Using your recorded sound (or sounds) as a base, you can enhance it with noise or tones generated by Audacity, and manipulate the sounds using effect plugins from Audacity or from Studio One. It is suggested you consider the following effects in Audacity: change pitch, speed and tempo, reverse, PaulStretch, chorus, phaser, echo, wah wah. Also consider using automation of EQ or other plugins in Studio One.

Ideally, the recorded sounds you use, (anything from, for instance, an egg breaking, to a vacuum cleaner running, to a potted plant being rustled, to a soda can being rolled, to a coin being wobbled, or whatever else your imagination suggests), should be *unrecognizable* in the final products.

Final sounds should be normalized, averaging 60% level.

Using the inspiration of Ben Burtt's clever work in *Starwars*, edit and combine your sound recordings to create any four of the Foley-type sounds listed below.

- A. An **explosion in a tunnel** - exactly 5 seconds – This would include reverberant sounds.
- B. An air driven **horizontal elevator** starting & traveling left to right & coming to a stop - exactly 10 seconds – This would be dry.
- C. A 16-rocket circular **shuttle engine** that is misfiring - exactly 10 sec. – This would be dry.
- D. Elon Musk's **high-speed hyperloop train** leaving the tracks and landing in a river - exactly 10 seconds – This can include reverberant sounds.
- E. A **huge three-legged walking machine dragging a bus** - exactly 10 seconds – This would be dry.
- F. An **underwater submarine cleaner** accidentally sucking up some large rocks - exactly 10 seconds – This would include some underwater reverberance (There is not any standard for underwater reverberance. You will need to invent it.)
- G. A **solar wind generator** that would work, suspended in the atmosphere, on a planet with a thin atmosphere - exactly 10 seconds – This would be dry.
- H. An **oil pipeline cleaner** that crawls along the inside of a pipe, cleaning it as it goes. This could include the sound bouncing off the inside of the pipe - exactly 12 seconds
- I. A **cockroach catcher robot**, a very small robot that tracks down and subdues moderate to large size insects – include exactly 12 seconds of it searching about. – This would be dry.
- J. A **garbage disintegrator** that turns anything into a small pellet that then drops into a tray.

Part 2 Additional Space Sounds – these can be built of entirely generated noises – do both K and L

K. We need sound effects for a production about a spaceship on a very long trip that is starting to experience mechanical difficulties. We learn from the script that two systems will be going bad: the *Star Drive propulsion system* usually hums along with a gentle low-frequency throbbing sound. However, in this instance it will begin to have some sort of “problem” (a 22nd century version of gears breaking or electrical sparking, for instance) followed by a subtle change from the gently throbbing hum to a *similar* sound that is *almost* OK, but a little more troubling, and will make the audience notice something is wrong. If you were on board the ship, you would begin to worry too when you hear this sound. Produce about 10 seconds of the good drive sound, leading into 20 seconds of the sound turning into the troubling drive sound. Keep it interesting. – This would be dry.

L. We need a sound for a new **sound wave weapon** that knocks down would-be assailants with a toroidal burst of methane, much like a very strong smoke ring. We need to hear the initial sound of the weapon building up pressure briefly, to our right, and then the sound of the pressure wave moving across to the left channel. It should take it about one second to move from right to left. How do you get a sound to travel from left to right? In Audacity, duplicate the track so you have a left and right copy. Then fade one track out while you fade the other one in. The sound will pan. How to do it in Studio One? Use automation to pan. – This would be dry.

Criteria for all of your effect sounds:

- No clipping – but **normalize** all sounds at about 60% amplitude.
- Each of the first four Foley sounds must feature at least one sound **that you have recorded**.
- Each of the first four sounds must be **made up of at least two** separate sound samples, one of which can be a tone or noise sample.
- Can you use your **voice**? OK, but please no more than twice in all of this week's assignments. And pay special attention to the next criterium...
- The constituent sound used that you recorded in each Foley sound should be edited so that it is no longer **recognizable**.
- Each Foley sound should have **smooth** starts/ends and transitions.
- Since we will generate a lot of files, please use a **folder** for the week, or the following naming convention, substituting your name and the sound number from A through L, as the elevator sound (B) in this example: *w6foleyBjbraukmann.mp3* • Save each sound as an MP3

Part 3: For full credit, also turn in a one-page sketched document illustrating the **envelope** for each of your six designed sounds, note where each part came from and the specific editing **tools** you used. Use an illustration of the sound **envelope** with notations. This can be done neatly with pen or pencil. *Your grade on parts 1 and 2 will depend greatly on this document.*

Reading: Continue reading last week's Studio One manual topics. This week include all of the topics on the study question sheet.

Questions on Sound Design

Who is *Ben Burt*?

What are *Foley* sounds? What are *effects* sounds?

What is *Diegetic sound* in film?

Sounds that exist in the scene area.

The characters would hear these sounds.

What are examples of *non-diegetic sounds* in film?

Film score music, and a narrator.

What is *ambience*?

What are the three general subcategories for a complete *film sound track*?

Dialog, music & sound effects

What does a *production recordist* do?

Records while filming – dialog +

What does a *sound editor* do?

Gathers and creates sound effects.

What does a *sound mixer* do?

Puts together the dialog, music, and effects to form a soundtrack.

Describe a *sound designer's* job?

Get in on the planning for a project

Design sound to enhance all the dir goals

What is done in *preproduction*?

Planning with director

What is a *sound map*? What are "*cues*"?

What is done in *production*?

Record, invent, write the music

What is done in *post-production*?

Editing the sound, compress, EQ, etc

Mixing and mastering

What is a "beat" in film production?

In the plot, an event, decision, or discovery that changes the actions of the protagonist

What are the guiding principles of sound designers?

#1 Support the images

#2 Suggest emotions

#3 Same goals as in mixing...

do not mask, separate freq bands, etc

make key sounds easy to notice

#4 Support the "beats" of the production

What is the difference between a *story board* and a *sound map*?

SB: director's summary, often illustrations

SM: sound plan, includes communication goals

and adjectives, cues, scene transitions

lists of object sounds, moments of drama

Interesting creative example: How did the Starwars sound designer set up the missile explosion in the asteroid chase scene so that the audience anticipated it? (A technique copied ever since!)

Questions on Sound Design Technical Issues

What is the *Academy Curve* EQ?

+2 dB at 2.5K Hz +2 dB shelf at 6K

What are several ways to EQ for easier-to-understand dialog?

- High pass between 100 and 200 Hz, or higher
- A slight low pass at 8K Hz sometimes eliminates unnecessary essses and breaths
- Boost the whole octave around 1750 Hz
- Add +2 dB at 250 Hz for warmth

What is Masking?

Masking is one sound hiding another, usually because the frequency ranges of the two sounds overlap. And worse if they come at the same pan.

How much compression should you use in film?

Compression is a popular effect that makes quieter passages seem louder. Use less in film than in pop music.

How many audio tracks should you expect could be perceived any one moment?

3-4 is enough.

What can you do if the effect clip is not the correct length?

Change speed but not pitch with tools.

How can you, as a sound recordist, make certain you have consistency from take to take?

Make notes. Use same mics, levels, locations