Film Sounds Include - *Action - Objects – Environments – Foley – Dialog – Music*

Foley Sounds
• Foley follows the movement of the actor
• 3 General Categories of Foley: *Clothing Moves, Footsteps, and Specifics*.
• Foley is usually done live, which is easier for large projects. But you can substitute standard library sounds. Consistency is more difficult with library sounds.

Clothing Moves
Listen to yourself move, sit, stand in a quiet room. That rustling is generally not noticed in real life, but brought into film sound tracks to create an artificial *intimacy* and to convince the listener that s/he is right there. It also glues the scene together and hides gaps in ambience, and not-quite synchronized dialog!

Foley artists sit in the world's quietest rooms watching the screen with appropriate piece of fabric, twisting it, rubbing it together, and rubbing it against his/her/their skin.

Footsteps
Must be even in volume. Foley walkers stand in an appropriate "pit" (sand, boards, etc) with an appropriate pair of shoes, and go with the film. The sound designer needs different levels, heel sounds, and EQ for men/women/background crowds.

• Snow? cornstarch in a leather bag
• Grass? a ball of audio tape
• Horses hooves? yes, coconut shells, filled with padding and pounded on a soft surface like a bed of sawdust

Specifics
Handshake, kiss, punch, latch, etc
• Punch? punch a head of iceberg lettuce

How You Will Edit
1) We will see what options the editor (*iMovie*, *Final Cut, etc.)* has.
2) You can export, or strip off, an existing sound track, edit with *Audacity, Tracktion, Ardour, Garage Band*, etc, and import it back in. (i.e. in iMovie: *Advanced > Extract Audio*)

Sound Characteristics for Film
Editing EQ
Film sound is recorded with a midrange bump (around 2.5K Hz), and an EQ raise above 6KHz. (the high end of the human voice)

The film sound "EQ raise" at 6KHz increases dialogue intelligibility and perceived crispness. (Sam Longoria)

Historical Compromise
From 1938 to the 70s, variations of the "Academy Curve" later called the "X Curve" were used. These were based on the assumption that theater sound systems were poor.. flat only from 100hz to 1.6khz, and rolling off above and below. These curves were extra bright to make up for the theater system's deficiencies!

How much Compression?
• Not as much as for music.
• Probably good to use on dialog recorded in the field, but watch the audible levels of background sounds on the dialog track.

Which is Better First: Comp or EQ
As a rule, using EQ in front of the compressor produces a warmer, rounder tone, while using EQ after the compressor produces a cleaner, clearer sound.

Ask yourself for each channel in your mix, “Do I want to EQ the compressed signal or do I want to compress the EQed signal?

Most often Compress then EQ.
Easy to swap the filters and listen in DAW.

How Many Tracks/Sounds at One Time?
• One may be enough if you want all the attention on it.
• Four is about the maximum a person can pay attention to. Four plus or minus 1.

• Fade ins and outs should be un-noticed.
• Environmental sounds don'thave to be loud.

Editing Out Noise (steady hums and hisses)
Don't edit noise to the point that you can hear it pump in & out behind the wanted signal.

• **Hiss** can be reduced with *EQ since it is predominantly high frequencies*. but some overtones will be lost from the content also.

• **Hum** can be reduced with *EQ* or *High Pass Filter. Hum is predominantly 60 Hz.*

• Audacity tool: *Noise Removal*
Step 1: teach it the noise. Step 2: run it

Options for Editing Out Noises
Simply clip them out if possible, if they are occasional sounds. But the resulting gaps might become noticeable.

Soundbooth has a tool that allows you to literally cut a unwanted noise out of a wanted sound. It automatically attempts to "heal" the removed frequencies by filling in with overtones from before and after the cut.

Audacity has a *Click Removal* tool.

Noise Gate
Tracktion *Mono-Comp* has an *Expand Down* 1,2,3 soft gate.

Audacity can use the Apple *AUDymanicsProcessor* - has a gate setting

Fixing a little clipped section of waveform?
Audacity: *Repair Filter*
Audacity: Use the *pencil tool* to re-organize-re-draw the sample points.

De essing
Tracktion has DSR-1 de esser
Tracktion has MDR de esser

Editing Pitch and Duration of Clips
Tracktion Tool: *Change pitch/speed*, with time stretch (best) selected just before. Changes the duration of a clip without changing the pitch.

Audacity tool: *Change Tempo*
Changing the duration of a clip without changing the pitch.

Audacity tool: *Change Pitch*
Changing the pitch of a clip without changing the duration.

Audacity tool: *Sliding Time Scale/Pitch Shift*
Change the speed of a clip over time.

Need a more powerful voice?
Try a 3-band Compressor.

Creating a Space
"Ambience Filters" (reverb delay echo) create a sound space for each scene that serves the story. Try room size options built into the filters.

• 10' to a wall? (in the middle of 20' room)
20' round trip for sound to bounce
= .**017 sec delay** on first reflection

• 20' to a wall? = **.034 sec delay or echo**

• 5' to a wall? (in the middle of a 10' room)
= **.008 sec delay or echo**

Plus reverb wet amount if the space has hard surfaces.

Bigger and harder room? longer reverb time

Someone very close in the room? More 6-10K Hz in dialog

Someone twice as far away? -6 dB level

Editing for Consistent Levels
• Listen and change gain level. Export and use.
• Tracktion has Normalize option in *Export*, and you set the %.
• Final Cut Pro has *Soft Normalize and Gain*

Soundtrack Pro (With Final Cut Pro)
Level?
Soft Normalize and Gain

Noise?

Noise Gate	*Autofilter*
Denoiser	*DeeEser*

EQ?

Channel EQ	*Fat EQ*
Match EQ	*Low Cut*
Low Pass	*High Pass*

Dynamics?
Compressor
Multipressor compressor

Space?
Platinum Reverb

Post-production terms
Editor's cut - longest and rough
Director's cut - the way the director wants it
Final cut - the way the producer wants it