







Basics editing

- The art of editing requires the ability to "see" the whole and build toward it while it is still in parts
- Linear editing: the edits are made sequentially; cut-and-splice editing
 - Analog audio tapes (SFU Burnaby)
 - Film
 - Digital tapes
 - Destructive editing (loss of quality at each copy noise level gets higher at each dubbing)
- Non linear editing: the edits can be made in any order
 - Software edition tools: ProTools
 - Usualy, non-destructive editing

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Dynamic Range We use dynamic range or SNR to describe: The ratio of the loudest possible dynamic range around to the quietest or to the noise level of a microphone or loudspeaker. The human earing skills have a dynamic range around 120 dB SPL In digital audio, the maximum possible dynamic range is given by the audio bit depth (see signal-to-noise ratio). The higher the ratio, the less obtrusive the background noise is.

-----Audio editing · Various operations on sound files: - Volume/gain/amplitude modulation - Sequencing - Cutting: fade in fade out and zero crossing - Normalising - Compression/Expander - Reversing - Effects: Distortion • Time domain effects: Phaser, Flanger - Chorus - Time shifter • Bouncing: - Delay Frequency domain effects Filters Equalisation - Export sound file Pitch shifter IAT-380 Sound Design IAT-380 Sound Design Philippe Pasquier, September 2008

























Reverberation

- Rooms with reverberation above 1 second are considered "live" while rooms with reverberation time bellow 500ms are considered "dry" or "dead"
- The idea is to record sound in a non reverberant place (sound studio are typically "dead") and to add reverberation during mixing.
- Rationale:
 - Adding reverberation is easy
 - Removing reverberation is nearly impossible
- The sound before reverb is called "dry" and the one after "wet"

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reverberation time. 3 Totad¹ sound, difficulty heading in back, 0 s No revelberation gives pare interse square law behavior. IAT-380 Sound Design 22 Philippe Pasquier, Sept Reverberation

- Reverberation:
 - is a time signal processor (as delay and time shifter)
 - is different from echo (only one or a small dicrete number of repetition)
 - Add depth, spatial dimension to the listening experience

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- There is a variety of ways to generate "artificial" reverberation:
 - Plate reverberation
 - Spring reverberation
 - Acoustic Chamber
 - Digital Reverberation

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<text><list-item><list-item> Spring reverberation • A spring reverb system uses a transducer at one end of a pring and a pickup at the other, similar to those used in plate reverbs, to create and capture vibrations within a metal spring. • Guitar amplifiers frequently incorporate spring reverbs due to their compact construction and low cost. • Spring reverberators were professional recording due to semiprofessional recording due to their modest cost and small spring.



Digital reverberation

- Hardware or software device that emulates reverberation by adding delayed and attenuated copy of the original signal to it.
- Very efficient, can even simulate the other types of reverberation
- There are a wide variety of digital reverberations
- Convolution reverbs:

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 are using an impulse response, that is, a recording of the reverberation that is caused by an acoustic space when an ideal impulse is played.

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- Achieve realistic simulations of actual spaces











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Acoustic Ecology

radios, etc.

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- Acoustic Ecology (soundscape ecology) aims "to document and archive soundscapes, to describe and analyze them, and to promote increased public awareness through listening and critical thinking"
- Acoustic ecology studies started in the late 1960s with **R. Murray Schafer** and his team at Simon Fraser University (Vancouver, Canada) as part of the **World Soundscape Project**.
- The first study produced by the WSP was titled The Vancouver Soundscape ("depicting ocean, harbor and other sounds from sites throughout the city and
- In 1993 the members of the by now large and active international acoustic ecology community formed the World Forum of Acoustic Ecology.

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http://www.sfu.ca/sonic-studio/handbook/

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Today's playlist

- Miniatures concretes: 3mn per artist
 - Roger Doyle, The First Spirit Level
 - Katharine Norman, Squeaky Reel
 - Richard Karpen, Mass
 - Lelio Camilleri, Part of the Dance
 - Elsa Justel, Chi-pa-boo
 - Sylvia Eckermann, Mathias Fuchs, Bad Room
 - los Smolders, Manga pour l'oreille
 - Justice Olsson, A Man is a Delicate Flame



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