

Reverb

Coursera Week 5

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My name is Claude. I am a computer scientist and I am curious about music and computers.

This presentation is about :

- Compare and contrast an algorithmic and convolution reverb. Demonstrate the difference and the important features in both types of reverb.

Reverb gives the sense of space.

It might be applied to all instruments. One reverb is to all signals through a parallel effect signal flow.

It might also be added to only a track to isolate the track and guide the listener focus. Voice is often pulled up by reverb.

On parallel effect you will push wet to 100% wet. Dry sound is controlled by individual channel strips.

If directly on a track, you may want to make careful control of the dry wet control. It acts as a front to back control.

The wetter the sound is the further away it seems. On the other hand, dry sound seems to be closer.

This is an important element to guide the listener to that one thing you want the listener to focus on.

There are two types of plugins

algorithmic plugin creates a reverb from some kind of formula like a synthetizer create sound with a formula

convolution plugin is a recording of a real space applied the sound you currently using. it is similar to the sampled instrument

Reverb is a complex plugin build from many delays blocks. Instead of adjusting individual delays, we are going to adjust parameters designed to represent how delays works in a given space.

Convolution reverb sounds more like a real space because it is the recording a space, but it limits in the type of manipulation you can do to it.

Algorithmic reverb offers more possibility to manipulate the sound but if won't sound as real.

Algorithmic reverb divides the room into two components and lets you control the balance between these portions

Early reflections are a set of short delays, and it sounds like a set of snapback modules. We only hear early, like reflections on close walls. Changing parameters is like changing the shape and size of the room

Difuse reverb are longer delays, usually below 2s otherwise it does not sound natural. Changing parameters is like changing the materials, do I have soft curtains or tilled walls

Platinum Verb

setup the room characteristics

1

balance between Early reflection and Diffuse reverb

3

early reflection settings

2

delay strength

4

diffuse reverb settings



Here is an example of algorithmic reverb. The record has 2 bars of dry sound, 2 bars of early reflection, 2 bars of diffuse reverb

<https://soundcloud.com/clause-falguiere/bongo-with-algorithmic-reverb>



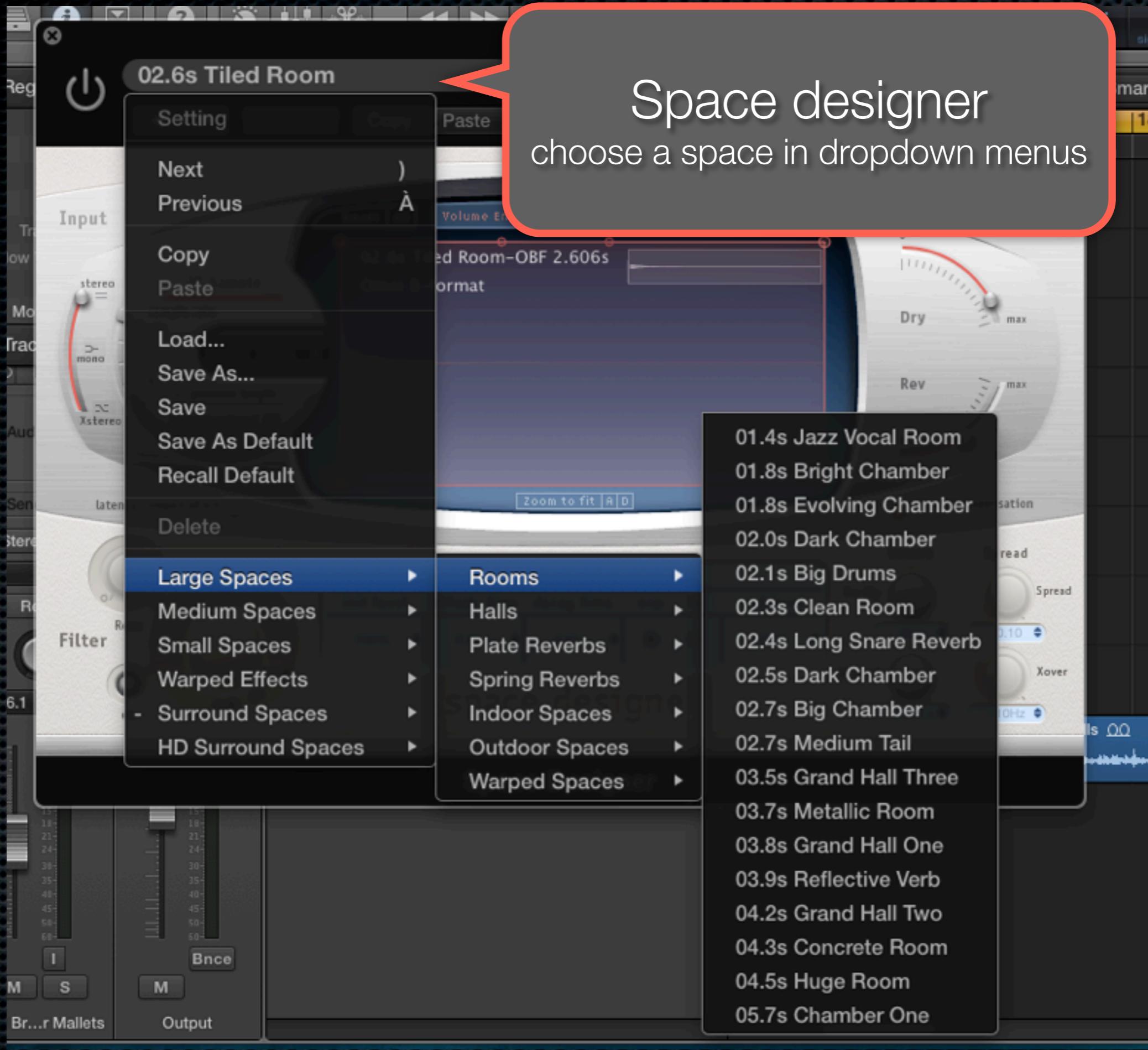
With **convolution reverb**, you choose the impulse response, the recording of the real space we are applying. They represent a large number of rooms, large hall, canyon, jazz club ...

They are also more exotic spaces that could be very creative.

Here is an example of convolution reverb. The record has 2 bars of dry sound, 2 bars of tilled room, 2 bars of deep canyon, 2 bars of a warped effect.

<https://soundcloud.com/clause-falguiere/bongo-with-convolution-reverb>

Space designer
choose a space in dropdown menus



How to choose the reverb ?

Imagine what kind of space you want this music to be heard in and where the instrument is supposed to be in the space.

Imagine what kind of sound you want. Reverb can make it bright or dull.

Try different options. Best setting is when you don't even notice it, but if you move it away it's obvious that the reverb was useful.

Reflection

I was really amazed by the fact introducing a delay produces a pitch.

I saw some demos of overtone (a programming language in Clojure for the Supercollider synthetizer) and did not get why get could start from a simple wave and altered it to get different sounds.

I now better understand how some sounds are produced in electronic music and I will be able to go back to overtone and at least produce sounds. Music is another story.