Chapter 1.3.6:
Random Trigger (Percussion) Sequencers with Different Amounts of Randomness

Let´s enter the realm of modules with adjustable probability and adjustable randomness. There are quite a few adjustable random trigger modules out there (e.g. Mutable Instruments "Grids" just to name one of them), but the principle is more or less the same with all of them: we can set the pattern length and the module randomly choses the steps where a trigger impulse shall be sent to a percussion unit or any other module, which reacts to trigger pulses.

The main difference lies in the definition of "amount of randomness" (and of "randomness" at all).

Some modules offer a certain (quite high) amount of fixed patterns between which we can make the module choose in a random way (that´s in short the "Grids"-like method).

Other modules let us set a pattern and the number of active steps (triggers), which the module shall randomly change from cycle to cycle.

And there are modules, which define "amount of randomness" as "position **and** number of active steps". Using the module "Trigs" I take one of these last mentioned ones here, but in chapter 5 ("Generative Potential of Certain Modules") I introduce, demonstrate and explain also examples of the other categories of random trigger sequencers.


Trigs offers 4 independent patterns of up to 64 steps length. I can set the patterns and leave them unchanged (= no randomness at all), or I can force the module to change my patterns after having completed one full cycle – or even at any time I want it to change the actual patterns.

The new patterns (set by the module itself then) are always completely (= 100%) random.
The amount of randomness doesn´t set the random position of triggers in relation to the existing pattern (nearer or farther from the position of an existing "old" trigger), but the maximum amount of triggers in the sequence at all. The positions of these new triggers are always completely random.

The module "Trigs" is just an example. Important is the principle of how

to deal with randomness and probability. The modules you own may have a more or less different functionality, but if they belong to this family of random trigger modules, they will follow the principles, which I describe here.
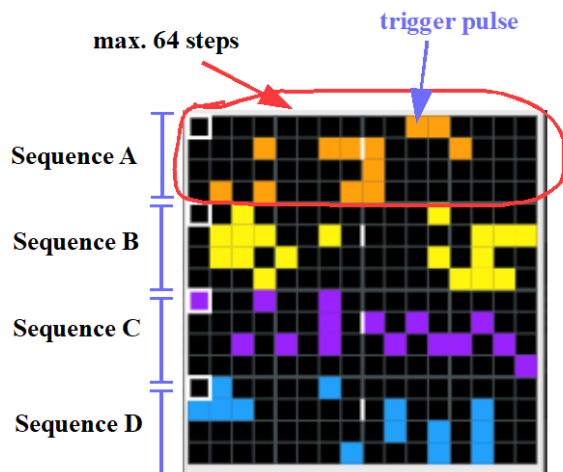
The next picture shows an example of how different amounts of randomness may look like. The positions of the trigger pulses in the changed (second) patterns are completely random even with a low amount of
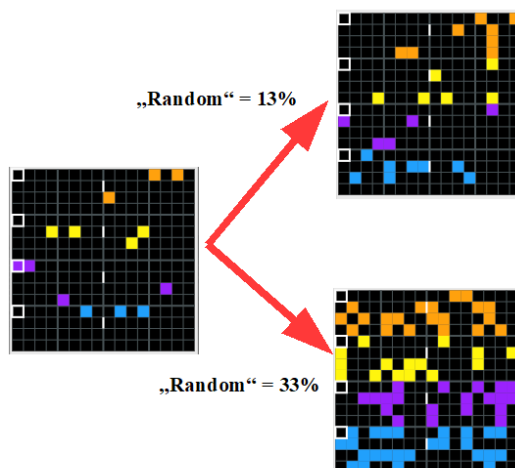

the "Random" parameter.

The preset "trigs.vcv." (presets are only available in the e-book – see https://dev.rofilm-media.net) and the video behind the following link invite you to go on a journey of your own with "Trigs".
https://youtu.be/Fx_pvVGuhlI

Chapter 1.3.7:
Stochastic Sequencers

With stochastic sequencers we can can adjust the randomness (some call it "probability") of each and every single step (= randomness of pitch) as well as the randomness of the pattern (= randomness of steps).
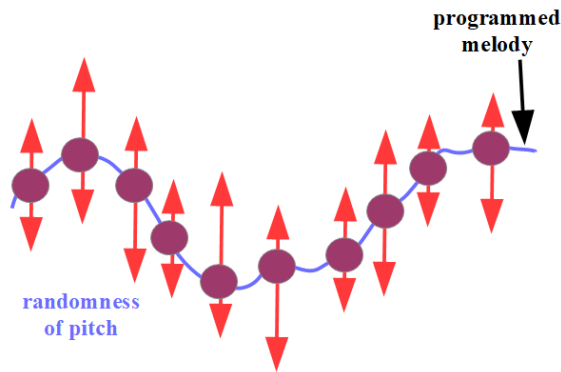
With randomness of the step sequence most of the stochastic sequencers offer only a few predefined kinds of randomness instead of (continuously increasing/decreasing) random knobs. We can choose between random changes of the direction of the playback, between skipping different fixed amounts of steps, and between a combination of both (changes of direction + skipping steps).
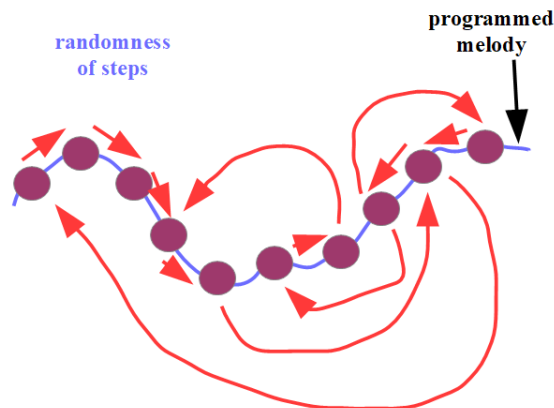
The module, which I use as and example here ("bordL") offers two different kinds of step randomness: randomly jumping to and fro but only between neighbouring steps, and unlimited skipping and jumping to and fro across all steps of the programmed sequence.

With randomness of pitch the module offers continuously adjustable ranges of possible frequency deviation. With narrow scales of possible pitch deviation the probability of sustaining the programmed pitch

increases remarkably.

* moderate pitch deviations
* random but neighbouring steps
clock
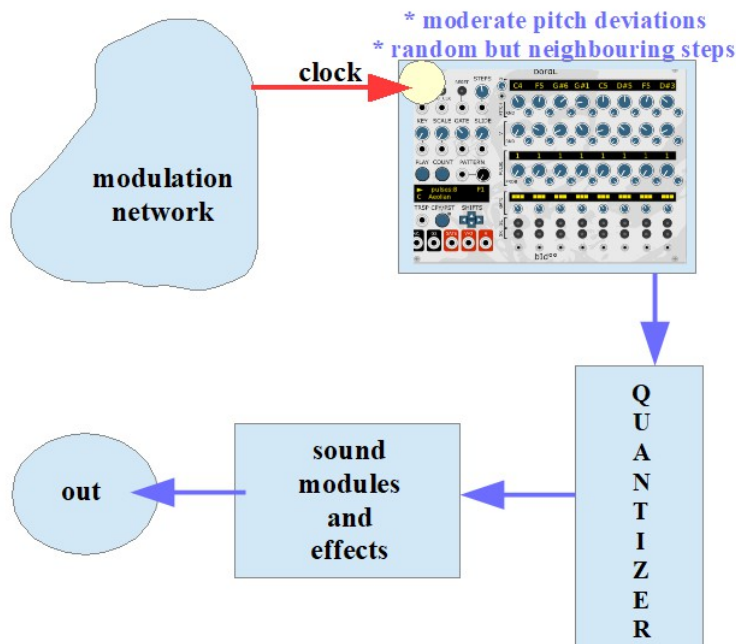
Stochastic sequencers can not only serve as one of the base **sources** of randomness in a patch, but are also a valuable and very flexible **targets** of external modulations. Randomly modulating the clock of the sequencer while adjusting moderate pitch deviations and limiting the step randomness to neighbouring steps and sending the result through a quantizer leads to the effect, that it takes the listeners some time to decide, whether or not they are listening to a composed succession of variations of the melody, or to a random process.

The preset "stochasticSequencer.vcv" (presets are only available in the e-book – see https://dev.rofilm-media.net) and the video behind the following link will open the field for experiments and researches of your own.
https://youtu.be/Fx_pvVGuhlI

<h2 style="text-align:center;color:#8B0000;">Chapter 1.3.8:
Probability Gates
(Random Clocked Gates)</h2>

Imagine a couple of gates, which all receive the same clock impulse. Some
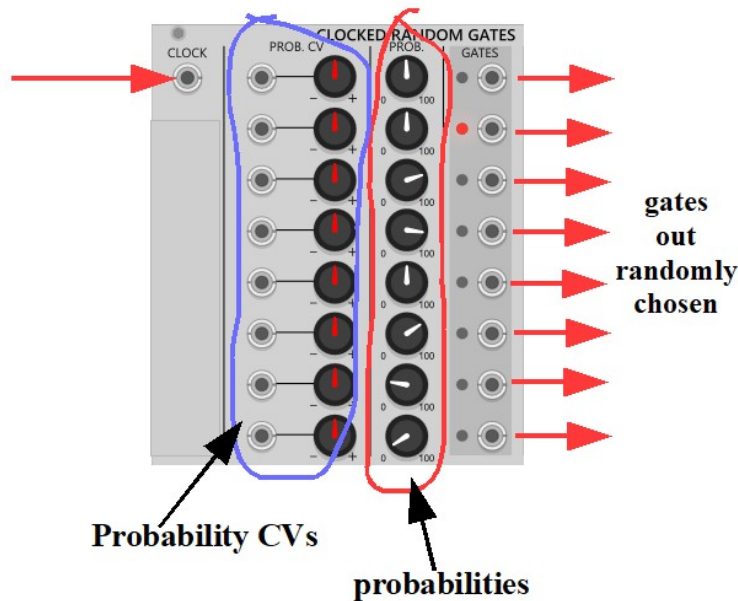
of them open and some don´t – randomly. Each of the gates is equipped with a probability function, that increases or decreases the probability of opening this gate. This is how probability gates work.

Some of these modules offer a choice between multimode and single mode. In multimode more than one of the gates open at a time (but still they are randomly chosen). In single mode only one gate at a time opens (randomly chosen). "At a time" means "per incoming clock impulse".

More comfortable modules offer even more, e.g. gate outputs **and** trigger outputs **and** clock outputs. Some offer even CV outputs with the CV level being dependent on which or how many gates are open at a time, and some very versatile modules of this kind add even sample and hold functions, logic functions and more.

But even the most simple modules let us randomly switch voices on and off, let us even switch on and off whole modulation chains or whole groups of different modules in our patch, let us randomly switch between different signals paths and more.

The preset "RandomGates.vcv" (presets are only available in the e-book – see https://dev.rofilm-media.net) and the video behind the following link may enjoy you and rouse your creativity.

https://youtu.be/M6hdVX77RCg

… to be continued