

Back-Chaining*

Back-chaining is a performance-practice learning technique, used for music destined for the stage. It begins at the end of the piece to be performed and proceeds back to the beginning by linking together small parts. It should not be used for technical study.

Back-chaining is a common method for training show dogs. The trainer begins with a cue for the last trick to be performed, then gives a treat/reward when the correct behavior is observed. Once the last trick becomes habit, then the trainer cues the penultimate (2nd to last) trick, giving a lesser treat if needed. When the penultimate trick becomes habit, the trainer immediately cues the final trick, issuing the treat when successful. The trainer proceeds thusly to the beginning of the routine of tricks.

Now, there is no guarantee that guitarists will be as successful as dogs. In fact, it is less likely for many reasons since the trained dog performs from pure habit, whereas the trained human overlays their automatic habits with too many kinds of emotional language, internal dialogue, and physiological baggage. Nevertheless, back-chaining does work well for guitarists, and has been used successfully for generations.

Back-chaining works best by always playing to the end of the targeted section. This is usually a place in the music that comes to a cadence where the brain should be cued to “stop here”. Back-chaining has proved quite successful in common practice period four measure phrases.

In some music, such as in the “fortspinnung” found in Bach’s Fugues, there may be 48 measures or more before a clear cadence. In these cases, one can overlap the “tricks” (often a group of similar figures, plus one beat of the next material at the end). For our canine inspired guitarists, this means including the front bit of the last learned segment/trick in our current segment/trick. By stopping the segments before their natural musical conclusion, we are unfortunately practicing to stop in an inappropriate place, creating a subconscious invalid cue at the end of the overlap to “stop here”. By overlapping that specific point with the last phrase, we can minimize this damage, because we have linked the “stop here” cue with the “recovery cue” at the beginning of the overlap when we practiced the older segment.

There are several benefits to back chaining:

1. We all know amateur guitarists who can play the beginnings of many tunes, but cannot play the endings to any. Back-chaining solves this issue.
2. Back-chaining increases confidence in one’s ability to convey the music the farther the guitarist proceeds into the piece, since the ending is rehearsed more than the beginning. This confidence is further confirmed by the Premack principle, which states that a preferred or more familiar behavior can reinforce a less-preferred or less familiar one.
3. Recent research shows that there is a release of endorphins when the musician reaches the end of the piece. (These are chemicals that are released in the brain when you eat chocolate or have sex.) Endorphins are our “treats” at the end of our “tricks”.
4. Back-chaining trains us to have several “re-entry points” after we fumble.

“Front-chaining” does exactly the opposite of back-chaining. We can all remember our frustrations in our early careers when we would start at the beginning of the tune and then

crash, starting it again, and crashing again, often in the same place. We would continue applying our blunt force trauma until the music finally submitted to our will. What remained was a ragged automatic memory that was “oh so fragile” during performance. In other words, front-chaining trains us to have invalid cues to “stop here” in the middle of the phrase, coupled with a brow furrowing decrease of confidence as we proceed through the piece (because the ending is rehearsed much less than the beginning), that inevitably leads us to wish for a “pooper-scooper” on stage.