

Adrenaline and Altered Perception of Tempo

By Douglas Niedt

I just completed teaching another semester at the University of Missouri-Kansas City Conservatory of Music and Dance. Observing my students at their guitar juries (see note at end of article), I was reminded of one of my Rules of Life. Doug's Rule of Life #12 to be specific. It states:

Under the stress of public performance, adrenaline causes you, the performer, to lose perspective of the tempo at which you are playing a piece. As you're playing, if it feels like you are really cooking along and you think, "Man, I'm really smokin'", you are playing WAY too fast. If it feels like you are breezing along at a good tempo, you are *still* playing too fast. If it feels like you are playing a little too slowly or that it is a little draggy, it is just right!

I first became aware of the adrenaline produced altered-perception-of-tempo problem at a concert I gave early in my career. The presenting organization recorded the concert for later broadcast and gave me a copy of the tape to approve. I remember very well after the concert thinking, "I played really well tonight. I really nailed everything and my fingers really flew." The next day, when I listened to the tape, I couldn't believe how fast I had played nearly every piece. Fortunately, I played everything cleanly, but every piece was almost ridiculously fast. Over the following few months, with a little more experience and reflection, I realized what had happened at that earlier concert. It was the excitement of the moment and the flow of adrenaline that helped my fingers "fly," but *the adrenaline clouded my judgment as to how fast I was actually playing.*

In some instances, the adrenaline rush will make you play at a tempo beyond your ability to execute, and your playing will be very sloppy or totally fall apart. I remember the well-known guitarist Kazuhito Yamashita performing his first or second USA concert many years ago at the university where I teach. Unfortunately, the concert was pretty much a train wreck. His English was not good, but after the concert, with an

embarrassed look on his face, he said, "I play too fast." That night, even he was the victim of adrenaline.

Adrenaline is a hormone that can have many effects in your body. It makes your heart beat faster. It makes you breathe faster. It diverts blood away from your digestive system and into your muscles, giving you the butterflies-in-your-stomach sensation. It causes sweating. It causes hand tremors or shaking. It can decrease how much you feel pain. It can also increase speed and strength. It is all part of the body's primal response to threat--preparing the body to either run away or to fight. If a little bit of adrenaline is released, the symptoms are mild. If you get really upset and a large dose of adrenaline is released, the symptoms can be intense. If your brain interprets the situation you are in as dangerous or threatening, your body produces even more adrenaline, increasing or prolonging your feeling of anxiety.

Secondary effects also occur when we are under the influence of adrenaline. The brain goes on red alert and actually changes the way we perceive the world. We tend to see the world in terms of threat and danger. We are more likely to notice potential dangers and more likely to see or think about what *might* go wrong. Often, the brain takes the next step by interpreting what *might* happen as what *will* happen. Paranoia is close at hand. An activity such as playing the guitar in public requires fine motor control, clarity of thought, and the complete absence of negative thoughts. A public performance can become seriously derailed by the altered perception of the brain under the influence of large doses of adrenaline.

One secondary effect relates directly to our mixed-up perception of tempo when we play our guitar under stressful circumstances. Though not yet fully documented scientifically, the effect is commonly referred to as "time dilation." Many people have told stories of being involved in car crashes where time seemed to slow down or become frozen. Their internal perception of time went into slow motion, such that they became aware of everything happening in great detail, but at a rate of time slower than normal. The body's sensory perception acutely increases when facing a potential catastrophe. It takes in information more quickly in order to function more effectively in an emergency.

For a guitarist giving a performance, the time dilation effect is similar to that of a driver in an accident. To the outside observer of a car crash, everything happens very fast. But the driver experiences the event in slow

motion. To the audience member listening to the adrenaline-charged guitarist, the tempi are too fast. But the guitarist feels his tempi are perfectly normal or even a bit on the slow side. This can even happen in a guitar lesson, not just a public performance. I can't tell you how many times I have students tell me, "But I played it perfectly at home." That may be true. But what is probably happening is that the student is playing much faster for me in the lesson than he played at home, but doesn't realize it. His hands aren't ready for the faster tempo; therefore all sorts of things begin to go wrong that never happened before at home.

So what does the guitarist do? Simple. When you are under the stress of a public performance (or for some, even a guitar lesson), remind yourself that adrenaline is affecting your judgment and perception of the music you are playing--especially the tempo. SLOW DOWN! It will sound or feel like you are playing too slowly. But good news! It is just right. And welcome the added speed and strength you receive from the adrenaline pumping up your muscles and reflexes. But--and this is the key--by slowing down, you will be playing at the correct tempo as perceived by your audience. Because the tempo will *seem* very slow to you (time dilation), the song will be easier to play. You will feel like you have strength, speed, and dexterity to spare.

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What is a Guitar "Jury?"

For those unfamiliar with the routine at a university music school, a jury is the student's final exam on their instrument. At our school, the student performs for a committee of three to six professors. They play a few scales and perhaps do some sight reading. Then, from a list of pieces they have learned during the semester (usually 10-30 minutes worth of music), the professors choose at random what they would like to hear the student play. The ordeal lasts 15 to 20 minutes. The jury is half the student's final grade, the other half being what I give them for their performance in their weekly lessons. Naturally, the students find the jury experience to be a bit stressful to say the least.

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