From Nanotechnologist to The MET Orchestra:
the Power of Deliberate Practice

Jason Haaheim
Principal Timpanist, MET Orchestra

Overview and Bio

I was appointed principal timpanist of the MET Orchestra in 2013. Prior to that, I worked for 10 years as a senior scientist at a nanotechnology company in Chicago. I double-majored in physics and music as an undergraduate, and earned a master's degree in electrical engineering. I did not attend a conservatory, nor do I hold a graduate degree in music.

Clearly, my career path has been unorthodox. But I believe that gives me unique insight into the mutually-reinforcing fields of physics and music, particularly in terms of what it truly takes to be a relentlessly probing musician focused on continuous self-improvement. In this masterclass, I attempt to demonstrate key principles of musicianship, practice, and audition-taking by presenting a range of powerpoint slides (audio, video, data) and referencing my own unusual story.

Masterclass Topics and Outline

- While I did not attend a conservatory, I created my own experience that closely simulated it. I did so by investigating, researching, and implementing "Deliberate Practice."

- A founding assumption of my approach is that "Talent is Overrated." Referencing Geoff Colvin's seminal book, I frame my musical philosophy around the idea that if there is even such a thing as "natural talent," it is basically irrelevant. The far more dominant factor in long term success is both how much you practice, but more importantly the *quality* of that practice.

- To this end, I attempt to convey to students that I am not that unique. When I was in college, I was *far* behind where most of them will be in their musical training. We are not that different – I've just accumulated a huge amount of hard and smart work.

- "Deliberate Practice" has been popularized as "10,000 hours," but it is far more than that. There is now an extensive body of scientific literature on efficient and effective practicing, and I elaborate the most essential criteria of Deliberate Practice. Among these criteria is a practice routine that is designed to provide continuous "feedback loops;" these should be achieved through self-recording (audio/video), extensive analysis, playing for others who don't play your instrument (mock auditions), and playing for experts in your instrument (e.g., your teacher). I discuss the measurable biophysical phenomena of deliberate practice (via Functional Magnetic Resonance Imaging), and highlight prominent examples from the fields of neurology and sports.

- In addition to feedback loops, I discuss my methods for progress-tracking and practice-work archiving in order to create a real-time reference database. I explore the overlap between music and science, and specifically between audition preparation and the tech industry's job description of "process engineering." The conclusion: good practice habits are really just an embodiment of the scientific method. As such, I deconstruct my entire audition preparation process from start to finish over a 6-week time span.

- I introduce the concept of the hierarchical importance of musical qualities derived from audition committee empathy; e.g., jurors should be able to agree on factors of time, rhythm, and intonation, and if these are not solid you will be cut. Luckily, these objective criteria are also easily measurable and ripe for self-improvement.

- I believe it is essential to address a healthy philosophy of auditioning. I emphasize that even the best players have lost far more auditions than they've won, and that beyond the objective qualities of your own playing (over which you have total control), there are variables during the later rounds of auditions that remain *out* of your control. As such, it is utterly counterproductive to become too emotionally attached to the outcome. Instead, it is better for auditioning – and better for life – to focus on the *process* instead of the product. A good process will ultimately yield good results. The question I want students to ask themselves is not "am I good enough?" but rather "*am I willing to do the work?*"

- Finally, I emphasize that students should set themselves up to be focused on their process for *years*. I show data from an internal MET Orchestra survey that reveals that most players don't win major jobs until they're in their late 20s to early 30s, and that this typically occurs after at least 10 auditions. While there are outliers on either end, it can be philosophically self-defeating to assume "I'll just win a job right out of school" – most do not, and the data proves it. As such, I emphasize that students ultimately need to become their own best teachers; everyone will leave the nest eventually, and I firmly believe that owning your trajectory of self-improvement is a life-long pursuit. You're never done improving, and Deliberate Practice gives you the tools make the most of your efforts.