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Training for Performance:

Lessons from Sports Psychology Applied to Musical Training

A dissertation submitted in partial satisfaction of the  
requirements for the degree Doctor of Musical Arts

By

Jonathan Thomson

2014

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2014

## ABSTRACT OF THE DISSERTATION

Training for Performance:  
Lessons from Sports Psychology Applied to Musical Training

By

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Doctor of Musical Arts

University of California, Los Angeles, 2014

Professor Antonio Lysy, Chair

This paper explores ways in which the experiences and training methods of athletes can inform the training process for musicians. These two groups share the need to perform well under pressure and in front of a critical public. Thus, the ability to remain calm under pressure and execute their highly refined skills in a state of flow is critical for success. The process of training itself is explored to show how one might build trust between mind and body, as well as confidence in one's abilities. This is achieved while also building fitness and developing technical skill.

Marathon training is used as an example to explore this process because the runner's experience is so similar to that of the musician's: both must be disciplined throughout many hours of intense training in solitude and execute a rigorous training plan set months in advance of

the most important events. A more detailed discussion of musical practice is given through an exploration of how the Piatti *Caprices* might be used to develop a formidable performance mindset and technical prowess simultaneously. Examples from other sports are given in this section to show further similarities in the mindsets of athletes and musicians, particularly during performance, but also how sports and music are both received by their respective audiences. Finally, it is discussed that the role of the teacher as a coach is one that not only helps students develop technical skill, but also acts as a planner, advisor, and motivator.

This dissertation of Jonathan Thomson is approved.

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## CHAPTER ONE: INTRODUCTION

### *Setting the Stage*

Many understand the drama of the situation as an the athlete steps up at the pivotal moment to attempt the game winning free throw, field goal, or penalty kick. Years of training, family sacrifice, setbacks from injuries, and the influence of many coaches and advisors bring athletes to these moments, yet those experiences should all be far from their minds in order to execute the task simply. They have been in many similar situations before and will likely be in many more in the future. Some situations will define an athlete's career more than others: consider the importance of events like the Olympics, the World Cup, Wimbledon, or the Super Bowl. In the same way, musicians face the build up of intensity and stress around career defining performances like auditions, competitions, and recitals. While walking out onto the stage, they bring with them years of experience, family influence and pressure, ambition and self-desire, and hours and years of preparation and dedication. Unlike finding themselves in potentially game-winning scenarios, their repertoire is pre-planned and intimately familiar. There will be crucial moments of dazzling technical display or most poignant expressive turning points, however, upon which their success will be judged by themselves, their audience, colleagues, potential employers, and adjudicators.

This paper draws from the world of sports to explore the training process to best prepare musicians for success in these most defining performances. One must practice not only for technical mastery, but also to develop a trust between mind and body which allows one to remain focused, relaxed, and free from distraction during performance. It would be impossible to focus only on the technical details in the practice room and expect a magical transformation in mindset upon walking onto the stage. Instead, the performance mindset must be explored and the mind-

body connection developed during the training period itself. It was explained to me in the following manner by my high school cello teacher, the late Pall Grondal:

*There are only two rules in cello playing:*

**Rule #1: Never Stop!** *Once you begin the piece, you never stop until the end. If you make a mistake, you cannot correct it: go on to the next note. If you have a memory slip, play something, anything, until you find your place again. You must practice this way; it is difficult, you cannot expect to be able to keep your focus and go on--no matter what--unless you practice that way!*

**Rule #2: Always Stop!** *When you are practicing, you must not allow any mistake, dirt, scratch, or squeak. If you practice with mistakes, you are teaching your muscles "this is how the piece goes," and establishing bad habits. The next time you get to the same place, you will make the same mistake! Start again from before the mistake, correct what caused the mistake, and repeat the passage until it is solid.*

Rule #1 and Rule #2 may seem contradictory, but they are not: in fact, they go hand-in-hand.

Rule #2 is intended for detailed technical practice, the process of solving difficult passages, and committing the proper coordination to muscle memory. One must practice Rule #2 with Rule #1 in mind as the ultimate goal: the excitement to share and communicate in future performance provides the urgency and motivation to be focused and disciplined while practicing. Rule #1 can only be achieved through Rule #2: one will not be free to perform in a state of flow until technical mastery is achieved.<sup>1</sup> Further, getting into the Rule #1 mindset in the practice room does not mean being oblivious to mistakes--an awareness still exists to remember any mistakes or near-mistakes that will need to be addressed again with the Rule #2 mindset.

The exploration of these mindsets in training leads to more effective practicing. Athletes and performers alike can benefit from learning how to be more efficient in their practicing, in order to more quickly achieve technical mastery while simultaneously building mental strength for performance. The result is an individual who is un-phased by unforeseeable circumstances,

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<sup>1</sup> The concept of *flow* was developed by Mihaly Csikszentmihalyi in his book entitled, *Flow: the Psychology of Optimal Experience*, published in 1990.

"clutch" under pressure, and consistent and reliable in the most stress-filled moments.<sup>2</sup> Simply put, these musicians are the ones who are eager to walk out onto the stage and who enjoy the spotlight; these are the athletes who *want* to take the shot when the game is on the line.

### *Brief Introduction to Performance Psychology*

The word "performance" is used frequently in many fields. It has specific connotations in sports, and those connotations are not dissimilar to those in music. Whether on stage or in the arena, the high-stakes circumstance of "having only one chance to get it right" makes this kind of performance particularly stressful. This must be dealt with during training in a way that promotes physical and psychological health interdependently.

For the professional level musician who plays at the highest skill level, knowing how to approach her instrument to promote good mind-body connection is required for consistent delivery of top-level performances, sustained throughout a long career. Part of this comes from a commitment to the physical fitness needed to play her instrument with ease. Yo-Yo Ma put it succinctly, with a warning: "musicians often forget they are athletes."<sup>3</sup> An understanding of how one acquires skills and how to handle the stresses of a performing life are both crucial, as well. As with many athletes, the dedication and singular focus toward attaining a far off goal (such as participation in the Olympics or the Tchaikovsky competition) begins at a young age, as early as four or five in many cases. The goals themselves may originate from the parents, but as the child grows and these future goals become her own, the motivation and risk also changes. There is further overlap between the musician's and the athlete's experience in the sense that the

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<sup>2</sup> *Clutch* in sports refers to the ability to be calm in the most pivotal moments, e.g. make the most difficult shot at the end of the game, or in the moment when winning or losing hangs in the balance.

<sup>3</sup> Joan Anderman, "Yo-Yo Ma and the Mind Game of Music," *The New York Times*, October 10, 2013, accessed October 12, 2013: <http://www.nytimes.com/2013/10/10/booming/yo-yo-ma-and-the-mind-game-of-music.html>.

individual becomes a kind of commodity. Thus, all issues of lifestyle impact the person as a whole and her own "brand" within her discipline. In this way, the discussion could branch out into nearly all areas of life, including diet, sleep, spirituality, public image, and many others.

### *Performance Practice*

This paper concerns the discipline of performance practice in the sense that it is positioned to address issues related to modern musical performance. Performance practice is a broad area of study that includes the historical study that traces the original intent of composers, changes in instrument technology, societal influences on performance scenarios and meanings, and the development of playing styles. The ideas explored here concern present-day realities of the competitive landscape in the field of music, and the permeation of sports in 21st century United States culture. Thus, this paper addresses the realm of performance studies: specifically, how the training process and psychological approach to present-day performance impacts the quality of those performances and well being of the performers. Further, it is not a detailed scientific study regarding neuroscience or biomechanics, but rather a discussion of principles as they relate to the common experiences of athletes and musicians.

### *Why Marathon Training?*

This paper presents general concepts of sports psychology and shows their similarities and usefulness to musical performance. Much of the specific discussion focuses on marathon training, because of the specific ways running relates to instrumental performance. While progress in running can be traced by numbers of distance and time, there is a firm mindset that the competition is internal within oneself to improve. At the highest level, racing does occur

against opponents (mostly within the same small group of elites), but the struggle is largely within oneself. The principles of marathon training discussed here focus on the common experiences of the amateur runner, due to the personal experience of the author. In both running and music, the extensive hours of training are solitary. For the marathoner, the training is governed by a specific schedule, set months in advance of the actual race date. Whether working primarily with a coach or a self-generated training plan, the vast majority of the running and tracking of progress is done without guidance. Similarly, the advanced music student at the university or conservatory level may have the oversight of a single teacher who can only oversee a minuscule fraction of the student's total time on her instrument. The professional musician must monitor her own progress, and set her own goals and training schedule without guidance. For both the marathoner and the musician, then, the training itself becomes a lifestyle of daily discipline. This training has its own difficulties in motivation, commitment, persistence, self-awareness, and attention to detail that is similar and slightly different from the actual performance. This paper explores both the mindset to have in the moment of performance and the need to have the best mental approach to the training itself.

## JUSTIFICATION/LITERATURE REVIEW

This paper explores the idea of developing the mind-body connection that is so crucial to have during successful performance. This topic has been previously explored, particularly in the area of sports psychology. Athletes commonly work with specialized sports psychologists to practice visualization and build their mental strength so that in the moment of stress, their minds and bodies are allowed to flow and execute with highest cooperation and efficiency. Some have made the link between sport and musical performance to show similarities in how the mind should behave in these pressure situations. Most of the existing literature regarding performance,

though, describes either the nature of the act of performing itself or the phenomenon of performance anxiety. While this paper relates to these topics as they relate to performance, which is the goal of preparation, it will be more narrowly focused on the training process itself. Existing literature mostly addresses this area in an anecdotal way. Books like *The Inner Game of Tennis* and *Zen in the Art of Archery* have been used by some teachers to describe the calm focus a performer should experience during the performance. This mindset even reaches a spiritual dimension in *Zen in the Art of Archery*, where all faculties are in tune with one another to allow for full presence and flow. While these books and others describe what the moment on stage or in the arena should feel like, they do not effectively show the process of building that frame of mind during the daily discipline of practicing in preparation for critical performances. In *The Talent Code*, Daniel Coyle explains recent brain research that uses the concept of bandwidth to explain how the brain is able to adapt to the requirements put on it, and has identified the crucial nature of neural insulation in acquiring skills. In short, this neural insulation, myelin, wraps layer upon layer around neural circuits that are most used: as a skill is repeated, the insulation builds up and creates a kind of highway that allows for greater bandwidth allocation. Thus, the specific skills that are used and repeated most often are given the most bandwidth. Matthew Syed similarly explores this research and relates it to his experiences as a champion table tennis player. *Top Dog: the Science of Winning and Losing*, by Po Bronson and Ashley Merryman, explores the notions of success and competition by looking at aspects of modern American society like gender, economics, and education. Intended for a wide public audience, each of these works appeals to a need for parents and young people to understand how they may be able to position their goals, motivations, disciplines, and circumstances in order to best point them toward excellence.



There are also numerous biographies and autobiographies about the lives of famous athletes. The autobiography by Rafael Nadal details his quirks and insecurities, and how integral his close-knit team of family and professional assistants are to his success on the tennis court. From a much different angle, Andre Agassi describes his almost tormented relationship with tennis, and recounts the struggles and true crises he experienced from an early age. These kinds of stories give unique insight into the level of dedication, the amount of struggle, and the ability to endure pain and hardship it often requires in order to become a champion. Furthermore, they also describe the all-consuming nature of the ambition that touches every area of their lives, and the loneliness it can create.

In athletics, professionals and even amateurs are given instruction from a team of coaches who all advise them from different angles in order to unlock their full potential. For example, a linebacker on an American football team may work under the head coach, defensive coordinator, linebacker coach, weight-lifting coach, nutritionist, and physical therapist. All of the directions and aid from these experts help the player to execute at his highest abilities and uphold his specific role on the team. Tennis players travel with an entourage of friends and family, personal advisors, physical therapist, conditioning coach, and racquet stringer, all in addition to her main coach. A music student will usually have a main teacher who provides technical advice and may in some cases act as a mentor; however, it would be highly unusual for a musician to have such a large team of professionals available to her at all times. Instead, a musician will gather information to hopefully arrive at a routine and balance that works for her, given her specific career demands, as well as her own personal disposition and comfort. A university or conservatory private teacher should be a great resource to her students by being an advisor, confidante, strategic planner, motivator, and even disciplinarian when needed.

## MASTER-STUDENT TRADITION IN MUSIC

Musical study has long been driven by the master-student model of instruction found in many other kinds of trades and occupations. This tradition grew out of the apprentice model, where a young tradesman, such as a blacksmith, would work as an assistant to the older master for many years until his training was such that he could open his own shop. *Zen in the Art of Archery* describes a similar scenario in martial arts tradition, where the student may even live with the master not only as a pupil, but nearly as a servant.

While this scenario would be inappropriate today, the similar modern tradition of instruction allows for intense, long-term personal interaction between teacher and student under which both parties know each other deeply. Because of this dynamic, the process of preparation can be discussed, developed, and altered while considering many factors and life situations. The master teacher will understand the student's personality, diligence, and experiences with first-hand intimacy. This puts her in a unique position to instruct not only in technical details of the instrument and repertoire, but also as an advisor in the daily discipline of living out a musician's lifestyle. The process of planning--setting and achieving goals, monitoring progress and adjusting schedules, and observing and advising in mental and physical health--requires a profound amount of openness and trust between student and teacher.

The student respects the teacher's skill and accomplishments highly and seeks to discover and mimic the routines and habits which brought the teacher previous success. It is beneficial to the student that the teacher relates to her with openness and cultivates a close relationship. This can be mutually beneficial, since the student's success reflects well on the teacher and the teacher's success and reputation can similarly be advantageous for the student. One must be careful in making too strong of a correlation linking teacher and student, however: each must display excellence and consistency in her own right. With it in mind that each has her own

independence and the need to establish her own reputation, the teacher will feel a responsibility to foster the greatest progress and success for the student, who will eagerly follow the teacher's guidance. With this dynamic in play, both teacher and student can build trust and accelerate the learning process by sharing her experiences and attitudes while working together. With the exchange of ideas and awareness of which instructions and approaches are most effective, the teacher will be able to assess each student's individual learning style and personality. This knowledge is powerful in advising each student how to practice, as well as how to offer calculated challenges and encouragements with the greatest impact.

### *Teacher as Mentor/Coach*

In this way, the private music teacher adopts a role that is beyond just a technician on her instrument: that of a coach, mentor, or guide. This viewpoint shows the importance of maintaining a more general view of the student's personality, motivation, health, and life circumstances at play that will impact her progress musically. Given the extent of factors that influence a student's performance, the amount of a teacher's potential functions are daunting, if not impossible, to fulfill--she can simultaneously feel like the comforter, arbiter, psychologist, physical therapist, personal trainer, nutritionist, drill sergeant, guru, and technical advisor. As previously mentioned, a sports team may have a host of expert coaches and staff to enable athletes to perform their best. The marathon runner may hire a single coach but will largely undergo the training and racing alone, with possible informal help from a running group or other friends who run. In the same way, musical training is mostly a solitary activity. A musician may have a handful of main teachers throughout her life and will gain other knowledge from master classes, ensemble coaches, friends, and personal research. Even though the private, one-on-one instruction in music is intensely focused, this interaction only accounts for an extremely small

percentage of the overall time the musician will spend with her instrument. This only increases the need for the teacher to know each student well, to be sensitive to different scenarios and signals, and to be able to deliver the most impactful words during the brief moments of the lessons.

Given the amount of time between weekly lessons and the sheer amount of things to address, it can be difficult for the teacher to balance planning and evaluating progress with detailed technical and musical work. It may be useful, then, to set aside specific dates throughout the year/semester/quarter as planning sessions to create and adjust specific goals and workout plans. For example, a rough calendar can be created at the beginning of a six-month project, specifying benchmarks for progress on difficult passages or technical elements from the chosen repertoire. Ways to address these goals through exercises, études, or intensive study of short passages from the repertoire itself can be laid out into a daily practicing schedule that contains a variety of repertoire and elements that will be most intensely focused on. These kinds of workout plans can be highly specific or more generally laid out, depending on the personality of the student and the amount of motivation or annoyance such a training plan may provide her. This original plan should be frequently compared to actual progress--each week, every other week, or each month--and particular attention should be given to the achievement of goals for specific passages, techniques, or entire pieces learned. Even if the student does not function well with this kind of "Type-A personality" approach, the act of reflecting back on goals reached and seeing the long process from sight-reading to mastery will build motivation. This will fuel further persistence toward the completion of the project and confidence for the actual performance.

## PERSONAL RUNNING/TEACHING EXPERIENCE

While this paper is geared toward professional musicians and advanced college or high school students, the specific marathon training plan used as an example is mainly for recreational runners. An inexperienced runner may be able to complete a marathon by using a similar training plan and the same concepts discussed in this paper. This should not discredit the merit of the ideas linked between marathon and musical training, however. While I myself am not a professional runner, these concepts have been on my mind for many years and already benefited my musical development and confidence on stage. My own history with running began late in high school on a casual basis to build fitness for playing tennis, and I became a more serious runner when I moved to California in 2005. Since that time, I have completed five marathons and many more half marathons, 10ks, and 5ks. The experience of sustaining a painful IT Band injury was also very instructive. It required many months of healing along with the need to retrain myself to run with better mechanics. My eventual return to serious training, and even becoming faster than before, was a long but ultimately rewarding process.

During the course of researching and writing this paper, I successfully built a solid base for many months before beginning the highly structured marathon training schedule. These months of building a base included running a "streak" of 100 consecutive days: this somewhat arbitrary goal served as a way to keep my motivation high. This experience carried the added benefit of teaching the danger of accumulative fatigue and the importance of rest days. Since my previous injury taught me the importance of consistency and the need to build the base of weekly mileage slowly, I committed to running my next marathon nearly a year in advance. With a strong base, I finally began a 24-week training program (the most common are 16 weeks) and completed the 2014 LA Marathon. Though this race ended up being a disappointment, many of

the training runs themselves were the best workouts I have run to date.<sup>4</sup>

I am by no means a professional or elite runner, but I train with purpose and consider myself to be passionate about running. As with many other runners I have spoken to, the sport has taught me a lot about the other disciplines in my life. I see no peculiarity in the fact that, although an author, Haruki Murakami entitled his autobiography *What I Talk About When I Talk About Running*. Some of my clearest thoughts and lessons about the cello and music performance occur while running, not while sitting at the cello or working with a student. Specifically, it has taught me about the rhythms of training, resting, and eating, as well as the necessity of repetition and long term planning. Music, and especially the cello, is a physical activity that requires technique and coordination. It also requires trust between mind and body, particularly in the most exciting and nerve-inducing performances. To this passionate runner, the similarity to running a marathon is clear: in the hours of preparation and sacrifice for a far off goal, and in the need to combat nerves and worries about the unknowable and uncontrollable details that arise when that day finally comes.

I speak of these matters frequently with my own students and find that for many of them, analogies to sports are easy to understand. As a teacher, I have experience in a wide range of teaching situations ranging from public elementary school to university private instruction. I have taught cello students ranging from age four to the mid-sixties, and at all ability levels from complete beginner to advanced university level. Whether coaching orchestra sectionals or preparing a student for her Bachelor's degree graduation recital, sports anecdotes have been extremely useful in my teaching. Regardless of one's opinion of the value of sports, the fact is that they are a central part of 21st century life, particularly in the United States. Music students

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<sup>4</sup> All facets of the training were at a higher level than for marathons that I posted faster times in. Suddenly warmer weather and illness affected this race.

frequently have experience playing sports from a young age, and can readily benefit from connecting athletic and musical performance.

## FRAMING THE DISCUSSION AND DISCLAIMERS

### *Performance Anxiety*

Performance anxiety is a much-researched area of performance. While this paper deals with the situation of performance and explains tools to deal with nerves and stresses, these are in fact an integral part of the entire performance experience. This paper, however, does not directly address performers who have extreme cases of performance anxiety. These individuals may need to consult with a specialist to help unlearn established ways of thinking that cause their crippling anxiety. They will also need to develop personalized methods of preparation and routines that will help minimize the effects of performance anxiety. The ideas presented here may be useful to these individuals, though, as they are intended for a general audience of performers.

### *Intended Audience*

While this paper is written from the perspective of a cellist, it may be useful to other musicians and performers as well. Certain discussions, particularly regarding the Piatti *Caprices*, will deal with issues specific to cellists that other string players will easily translate into corresponding concerns on their instrument. Other instrumentalists will also be able to benefit from the mental aspect of performance and transfer ideas to the technical aspects of their specific instruments. For example, when discussing stamina, this will mostly concern the arms, particularly the bow arm, for the string player. Though she sits while playing, however, a cellist must have a solid foundation in her legs and core as well. A musician who stands while

performing may consider their movement and stamina while standing somewhat differently. A pianist or a percussionist may consider stamina to be focused on the use of her arms similar to a cellist. A vocalist or wind player, however, will need to carefully consider breath control and duration, as well as the muscles in the face. Most likely, though, any experienced musician would state that playing her instrument requires a total body effort requiring flexibility, stamina, and precise coordination.

### *Why the Piatti Caprices?*

The twelve *Piatti Caprices, op. 25* are presented as examples to aid in building the performance mindset and develop the mind-body connection during training because they are brief, technically demanding works. In this way, they serve as examples through which to more concretely frame the discussion relating sports psychology and training to their counterparts in musical performance. These caprices are unique in their usefulness because they are concentrated technical studies written with musical integrity, allowing them to be equally appropriate on the stage as in the practice room. Studying them connects technique to musical expression in the most challenging way and in a condensed format. The *Piatti Caprices* were previously used as required pieces for solo competitions, in order to challenge participants to demonstrate their ability to play repertoire with the highest technical skill, but in an expressive fashion. They are the cellist's equivalent to the Paganini *Caprices* for violin, but as Piatti was a virtuoso cellist himself, they are well-suited to explore the great range and color of the cello. At times, they have been approached as pieces intended only for study without the need to present them on stage. This diminishes these pieces' value and also avoids the true goal of technical study, which should always be to develop skill and ease of playing for the sake of expression and communication. It is worth mentioning that the Bach *Suites for Solo Cello* were once similarly treated as technical



or harmonic studies until they were "discovered" by Pablo Casals and elevated to their current place of high reverence.<sup>5</sup>

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<sup>5</sup> Piatti himself performed these and created an arrangement of the first suite to be played with piano accompaniment, at a time when others avoided performing the Bach *Suites* in public.

## CHAPTER TWO: MARATHON TRAINING AND MUSIC

### GENERAL INTRODUCTION TO MARATHON TRAINING

Amby Burfoot, winner of the 1968 Boston Marathon and a leading running figure, writes that, "The well-prepared marathoner looks after every detail of proper physical and mental training, nutrition, hydration, clothing, and equipment."<sup>6</sup> This kind of attention to a wide range of details occurs over many months of training, all with the ultimate goal of running 26.2 miles. Musicians can benefit from emulating how runners plan and train for marathons with great organization and structure. The following will connect aspects of marathon training to musical practice. First, an explanation of how runners organize their training, as well as the types of workouts they run, is given. This is followed by a general discussion of relating marathon running to music, both in the realms of physical training and mental preparation. Afterward, more detailed discussions of specific concepts of marathon training that can benefit musicians are given.

A runner with ambitions of completing a marathon has access to numerous training plans online, in books, and through professional running coaches. Each plan is customized to the runner's age, weight, current fitness level, recent race time, and length of training period before the desired race date. The main factors to be balanced while training for a marathon are: the weekly long-run distance, targeted speed workouts, and overall weekly distance. Each of these elements is addressed with variety throughout the marathon training plan. Regarding weekly mileage, a training plan begins from the mileage a runner has already reached before starting the regimen, and will not increase more than 10% each week. Avoiding sudden increase or decrease in weekly mileage is necessary to avoid injury during the training process. Consistency is crucial.

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<sup>6</sup> Amby Burfoot, *Complete Book of Running: Everything You Need to Know to Run for Fun, Fitness and Competition*, Emmaus, Pa: Rodale (2004) 281.

The weekly mileage will not increase linearly until the race day, either. Instead, a training plan may employ four-week cycles: an increase for three weeks, followed by a recovery week at lower mileage. This cycle repeats again and again, but beginning at or near the highest weekly mileage of the previous cycle. One of these cycles looks like this calendar below:<sup>7</sup>

13	DEC 16	DEC 17	DEC 18	DEC 19	DEC 20	DEC 21	DEC 22
42 Mi	<u>Rest / XT</u>	<u>Long Run</u> Dist: 16 Mi @8:44	<u>Rest / XT</u>	<u>Easy Run</u> Dist: 9 Mi @8:44	<u>Rest / XT</u>	<u>Tempo Run</u> Dist: 8 Mi, inc Warm; 5 Mi @ 7:26; Cool	<u>Easy Run</u> Dist: 9 Mi @8:44
14	DEC 23	DEC 24	DEC 25	DEC 26	DEC 27	DEC 28	DEC 29
43 Mi	<u>Rest / XT</u>	<u>Long Run</u> Dist: 20 Mi @8:43	<u>Rest / XT</u>	<u>Easy Run</u> Dist: 8 Mi @8:43	<u>Rest / XT</u>	<u>Speedwork</u> Dist: 7 Mi, inc Warm; 4x1600 in 6:52 w/800 jogs; Cool	<u>Easy Run</u> Dist: 8 Mi @8:43
15	DEC 30	DEC 31	JAN 1	JAN 2	JAN 3	JAN 4	JAN 5
45 Mi	<u>Rest / XT</u>	<u>Long Run</u> Dist: 16 Mi @8:41	<u>Rest / XT</u>	<u>Easy Run</u> Dist: 10 Mi @8:41	<u>Rest / XT</u>	<u>Tempo Run</u> Dist: 9 Mi, inc Warm; 5 Mi @ 7:23; Cool	<u>Easy Run</u> Dist: 10 Mi @8:41
16	JAN 6	JAN 7	JAN 8	JAN 9	JAN 10	JAN 11	JAN 12
35 Mi	<u>Rest / XT</u>	<u>Easy Run</u> Dist: 9 Mi @8:40	<u>Rest / XT</u>	<u>Easy Run</u> Dist: 9 Mi @8:40	<u>Rest / XT</u>	<u>Easy Run</u> Dist: 9 Mi @8:40	<u>Easy Run</u> Dist: 8 Mi @8:40

The weekly long run may be the most critical element in training for a marathon, as it is necessary for the body to become accustomed to the difficulty of running distances near the 26.2 miles of the full race. As with the cyclical nature of building the weekly mileage, the long run fluctuates within a four-week group. Non-runners may not realize that in training, a runner may not have run more than 20 miles prior to the race day. This sets up a psychological challenge for a first time marathoner, during the race itself, when the runner passes the 20-mile marker and realizes that she has never before run greater than that distance. The weekly long run in training is not always 20 miles, either. A common training plan is 16 weeks long and will contain only three 20-mile long-runs. Thus, the early stages of the training plan focus on building the weekly long-run up to 20 miles. After completing the first 20-mile long-run, the focus may shift to

<sup>7</sup> <http://www.smartcoach.runnersworld.com/smartcoach/>

increasing the distance of the other weekly workouts to build up the weekly mileage. Speed workouts may also become more demanding during this phase.

Speed workouts obviously focus on making the body accustomed to a faster pace. Set apart a few days from the long run in order to allow the body to recover, speed workouts also contain their own kinds of variations. The two main types of speed workouts are the tempo run and timed repeats. A tempo run is a set distance run at a specific mile pace. An example would be 7 miles overall, with 5 miles run at a 7:24 pace (the first and last mile are run at a slower pace to warm up and cool down). The tempo workout often alternates with a timed repeats workout, and the tempo run may increase in distance while also quickening the pace. The tempo run is a particularly important workout, because the long run is usually not run as fast as race pace. Instead, the long-run is geared toward getting the body accustomed to running long distances, while the tempo run is geared toward sustaining a quicker pace for long periods. Timed repeats push the body to run near its fastest limits while also building endurance. Timed repeats are run on a track, and are usually 800m (approx. 1/2 mile) or 1600m (approx. 1 mile) distance. A typical marathon training regimen will use 1600m and structure its timed repeats similar to the following: 4 x 1600m at 6:45 pace + 800m easy recovery between repeats + warm up and cool down = 8 miles overall. Throughout the training program, these workouts will demand a faster pace and additional repeats. Coupled with the tempo run, the timed repeats push the ability to run fast, and for longer distances.

As shown, marathon training is highly specific and contains great variety. The above workouts are tools in a long-term approach to prepare the body for an event that is actually somewhat unlike the training. The race is longer than any run during the training itself, and is to be run at a sustained pace only achieved in the shorter speed workouts. Yet, it may be surprising to hear a marathon finisher say that the training was more difficult than the race itself. Also, the

long-run and speed workouts discussed above account for only two workouts each week, whereas the runner will typically run four or five times each week (rest days are crucial, and some people may decide to cross-train with other activities like weight-lifting, yoga, or swimming). The remaining workouts are easy runs whose main goals are to increase weekly mileage and to stretch sore muscles to aid in recovery from the more rigorous speed workout or long run. As one type of workout shifts, so do the others: if the long-run for the week is decreasing while the weekly mileage is increasing, the easy and/or speed workouts must increase. With this in mind, it can be seen how interdependent and highly calculated these workouts are, and all for the ultimate goal of one specific race on one specific day.

Another crucial element to consider in marathon training is the final phase, known as the "taper," when the training dials back in order to give the body a chance to rest. During this time in the final two weeks, the speed workouts continue while the weekly mileage and long-runs are cut drastically. The overall mileage of the final week, which includes the full 26.2-mile race, is actually similar to that of a typical rest week during the heavy training phase. Considering the great distance of the race, the other workouts in during the taper hardly tax the body at all. During this period, the muscles rebuild and the body stores carbohydrates to be utilized during that race. Before race day, many runners experience moodiness and agitation as their bodies become restless and eager to expend their stored up energy. They crave the kind of long-run they have been accustomed to completing each week. Starved of this expenditure, the race day becomes a huge release, much easier than the long months of rigorous training.

### *Race Planning*

Throughout training, runners are encouraged to train in conditions as close as possible to those of the race. Since most races occur in the early morning hours, runners are advised to train

in the morning to get their bodies used to that cycle of sleep and digestion. If traveling to a race, they may look at historical weather records to try to predict the temperature, humidity, and chance of precipitation in order to seek out similar conditions when planning workouts near their own homes. Elevation may be considered because of oxygen levels, as well as the terrain and hilliness of the race course.

Almost no detail is too small for the runner to consider when preparing for race day. Listed above are external factors to be considered, however there are many other tiny variables the runner can exert a certain degree of control over. Sleep and nutrition have already been mentioned briefly, but are important factors to consider. The marathon requires massive amounts of calories, many of which are stored in the body leading up to the race.<sup>8</sup> In order to maintain energy, however, runners will eat at regular intervals throughout the race. Though the food required on training runs is different than during the race because of the difference in distance, they must become accustomed to the type and quantity of food eaten. Introducing a different type of food or even a different brand of gel or sports drink during the race can be disastrous. The wrong meals in the days before the race can lead to time-consuming trips to the bathroom midrace. One must carefully consider water, too. In training, a runner will carry a bottle around her waist or in her hand, and become accustomed to how much water she needs during long runs. She will learn how changes in temperature and humidity affect her rate of sweat and need for water. Wearing a pack around her waist could cause discomfort, but holding a bottle in her hand may also be a nuisance. Thus, when planning the race, she must decide whether to carry a water bottle as in training, or if she should rely on water stations. If choosing the latter, she will have to consider where the water stations are located on the course, which ones she will utilize, and how

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<sup>8</sup> Around 3000, depending on the individual runner's size. Brian Rohrig, "The Chemistry of Marathon Running," ChemMatters, October 2008, 6.

much she should drink at each stop. Choice in clothing is another important variable. Socks with seams can lead to crippling blisters. Ill-fitting shirts can lead to chaffing. Shoes that have not been properly broken in can cause blisters or leg problems. Shoes that are too old can cause fatigue or injury. Even though these are the elements a runner can reasonably plan for and control, the amount of variables and things that can go wrong can be maddening!

To help relieve the stress caused by having to consider so many factors, runners may develop rituals and routines. They may run with music and podcasts, and may craft a specific playlist of songs to motivate them at strategic points on their run. They may learn to wait three hours after eating before they run. They may develop mantras to repeat to themselves to stay motivated during difficult stages of their workouts. These kinds of rituals are particularly important on race day so that there are no unpleasant surprises. Transportation to the starting line, packing a bag full of all the necessary gear to be left at the gear check, eating the right kind and amount of food, etc., are all carefully considered to minimize any physical or psychological duress.

Unforeseen disruptions in training may occur, becoming either minor bumps or major setbacks. Injuries impact most runners: many of them are minor nagging injuries, while others can cause temporary or long-term interruption in training. Travel for work or personal obligations also shakes up daily routines and make training difficult. Missing just one or two key workouts can negatively impact a runner's improvement. Stiffness from long car or plane trips, heavy meals from holidays, or family and work obligations during trips can all hamper training. As with injuries, illness is always unexpected and can range widely in severity. In fact, illness may be more likely during difficult stages of training, because the immune system is actually weakened for a short period of time after long-runs.

### *Relationship to Musical Practice*

As can be seen, a wide number of small details must be worked out during training to give the runner confidence and peace of mind heading into a race. Whether from illness, injury, bad weather, or choosing the wrong shirt to wear, there are many things that can ruin a runner's race. This is a bitter pill to swallow after the months of dedication and preparation that go into a marathon. The runner learns to control as many variables as she can to avoid likely pitfalls. She also learns how to take a long view in her training, where both consistency and a certain degree of flexibility are used to combat unavoidable obstacles. This mindset of discipline and focus throughout all areas of one's life, in the service of specific and difficult goals, becomes a lifestyle of dedication and improvement.

This kind of discipline does not come easily to musicians simply because they are passionate about music. Instead, one's motivation, whether as a musician or as a runner, must be continually renewed. For the runner, the clearly defined challenges and scheduled nature of each workout also gives inspiration: by finishing each workout, the runner feels closer to a new fitness level and to the final race goal. Even failing to meet workout goals can provide incentive to do better on the next run, and give a clear indication that adjustment to one's rest, diet, or goals may be necessary. Musicians would benefit from adopting similar attitudes in their practicing and planning for important performances, because they provide such a high degree of structure and motivation.

While not entirely of the same nature, there are many similarities between musical training and that of training for a race. The aforementioned marathon training plan is mainly utilized by amateur runners. Many people could bring their fitness level up to the point necessary to begin such a training plan and complete a full marathon. Still, even an amateur runner will reach a point where she will consider technique carefully and broaden her perspective to consider



a wide range of minutia in her training, nutrition, and daily habits, as she becomes more serious about the sport. The skills required to be a professional or conservatory level musician, though, are much more specialized and numerous than running. The highly skilled musician must undergo many years of training and building individual techniques with countless combinations of motor skills.

Marathon training is focused on one race, on one day. Such situations are frequently present for musicians in the way of highly important performances such as: job auditions, major competitions, graduation recitals, first performances of new works, or live broadcast performances. These types of performances are strenuous because they are special, more demanding, or beyond the scope of the typical performance. These dates jump out of the planner and occupy a large mental space for months. No performance should be "phoned in" or feel commonplace, but there are certain ones that demand more focus and preparation. It is in these events that the connection between marathon running and musical performance is most relevant.

At this point, it is important to note the impossibility of quantifying benchmarks in musical training in the same way that progress in running can be tracked through numbers. A musician or teacher could conceivably create a calendar containing timed practice sessions and create "workouts" that call for specific amounts of time on difficult passages or skills. There is no way to justify a claim, however, that practicing a difficult skill such as up-bow staccato would actually bear the desired result in the set amount of time. Simply deciding to practice that skill thirty minutes each day, four days a week (on Monday, Wednesday, Friday, and Sunday), for four months, would not guarantee a fine up-bow staccato! The development of new skills will vary from person to person. Each student will have a mixture of weaknesses and previously mastered certain skills. Different performances will require a different set of skills and stamina, depending on the repertoire to be performed. A solo recital may contain ninety minutes of music

representing repertoire from multiple contrasting styles, whereas a concerto performance with orchestra may barely be twenty minutes and require less variety in execution. In the same way that marathon training goals may need to be adjusted because of travel, illness, running surface, or injury, a musician's progress before a performance must be constantly monitored and practicing habits tweaked to ensure successful delivery on the performance day. A musician must also balance preparation for other performances while still keeping the longer term goal in mind: she must not neglect the difficulties unique to the repertoire of the later, more career-defining performance, that require consistent attention over the long term.

It is clear, however, that simply practicing in order to play through repertoire and eliminate mistakes that arise is not a sound strategy. Looking at a marathon training plan, the variety in types of workouts, as well as the variety within units of weeks and months, is worth applying to musical preparation. Too often, teachers advise students that they should practice a certain number of hours daily, while giving assignments of things to prepare before the next lesson. Even if the teacher avoids giving this kind of time minimum and instead provides constructive exercises and a specific plan for practice, she has no control over how the student actually spends her time in the practice room. If a high-level conservatory student is practicing six hours each day, every day of the week, while also receiving a one hour lesson weekly, the teacher is only able to supervise the student for one hour out of the forty-three hours she spends alone on the instrument. This does not even include time spent in other rehearsals in orchestra or chamber music! Seen from this light, it is plain to see how critical it is for the teacher to lay out a training plan with the student at the beginning of a critical performance project, but also to help monitor progress and adjust the training plan as needed. Still, it is important to always keep in mind that musical practice cannot be quantified in terms of "minutes" or "miles" in the same way that running can. Instead, each musician needs to master her repertoire and be able to execute it

cleanly, time and time again, while also keeping it fresh. Progress, then, is monitored by accuracy and awareness of how closely the musician is playing to her optimum. In the student-teacher relationship, this awareness is both from the self and from the teacher's close understanding of the student's abilities. For the professional, such awareness is almost completely internal and tempered by feedback from audiences and trusted friends.

Without a concrete way to quantify progress, the best judgment lies within the performer herself. While playing her instrument, she is rapidly exchanging information between what she intends to play and what she actually hears. As she recalls the pitches, the hand positions, the bowings, the rhythms, the dynamics, the physical commands such as "raise your elbow at this moment," and any number of other small details, she is imagining the music that she is about to hear. In the next moment, she hears the reality of what is actually achieved. While continuing to play, she is analyzing and comparing what she has intended and imagined with what she has just heard. Day in, day out, through practice of the physical coordination required in the piece and making decisions about its meaning and expression, a connection between the mental and physical elements solidifies. The internal imagination of "how I will perform this piece" and the external reality of how it is executed by the muscles and how it sounds in the physical space should increasingly come closer and closer together. Thus, it is really only the performer herself who can gauge how effectively and consistently she is achieving this synthesis.

## CONCEPTS

### *Plan Ahead*

A useful element in musical training that can be transferred from marathon training is the clear and structured way that the runner must plan ahead. In the most general way, a marathon training plan is around four months in length and ends on a very specific date when the marathon will take place. During those four months, the runner must make time for each workout and adjust meal times, sleeping schedule, family events, and others activities as much as she is able. The initial planning stage is critical, too. The runner must make realistic goals based on her current fitness level before even beginning the real training. For example, some coaches advise that a runner should be able to run thirty miles per week for many months before starting the marathon training program. In the same way that running a marathon with little fitness is a recipe for disaster, choosing recital repertoire that is too difficult can lead to great frustration and debilitating performance experiences. Similarly, as marathon training plans factor in recent race times when making both workout plans and future race goals, musicians and their teachers must evaluate recent performances to set goals that build on current strengths and carefully aim to improve on weaknesses. In this way, choosing repertoire that will provide surmountable challenges provides opportunities for growth without creating unrealistic expectations and frustrating battles.

### *Stamina*

The most obvious challenge of running a marathon concerns stamina: training the body to be able to run 26.2 miles. Dr. Russell Pate describes this process of adaptation: "you must force your system to do something that it is not currently used to doing."<sup>9</sup> Musicians must similarly

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<sup>9</sup> Burfoot, 166.

learn how to prepare the body for the physical demands of long recitals or demanding concertos. Awareness of how to extend fitness without injury is key to a long and successful career. The idea stated previously, that a marathoner does not run the full marathon distance during her training, allows for an interesting discussion relating to musical performance. The special nature of race day is clear: training occurs in order to prepare the body to run a great distance, but the actual race day is set apart to go beyond the longest distance experienced during training. It may not be immediately clear how this works, but the extensive training and taper period before the race sufficiently prepare the body to run the full distance, even at a faster pace than the long-runs during training. In music, it may not be necessary to play an entire recital program before the actual performance day, but instead be accustomed to playing the individual pieces in their entirety. Others may find it useful to feel what it is like physically to play through their entire program in one sitting. Building off of the marathon training model, then, it may be useful to see how not only distance, but also speed, is increased during the actual race. In mock musical performances, it may be useful to focus on the physical feeling of playing the entire program without necessarily giving full emotional effort. This allows the performer to get a sense of the physical demands of the program while still conserving emotional energy for the actual event. To some extent, this will naturally happen because of the presence of an audience at the performance, which cannot be manufactured in rehearsal.

What is this emotional energy, then, that could be withheld in rehearsal but must be present in performance? If stamina is measured in miles in running, how is it measured in musical performance? If using this model of going beyond normal training conditions in performance, what is the criterion that is improved or extended in musical performance compared to training?

## *Quality*

Though it is impossible to quantify in the same way that running can be measured in miles and minutes, musical progress is clear in terms of quality. This progress begins in more black and white terms during the initial phase of playing the correct notes and rhythms, but then becomes increasingly refined and subjective as mastery is achieved. In a sense, even a casual listener can tell the quality of a performance, and a well-trained ear may be able to tell after even just a few notes. There is a tangible factor of skill and preparation that is apparent in performance: this may come across as a general impression of ease and comfort, but at a closer listen, demonstrates the sophistication and wholesomeness of the technical skill. While some elements such as vibrato and interpretation are subjective, these matters of personal taste are still different from the recognition of general skill and quality. Both student and teacher must be able to listen for the progress of quality throughout the training process during lessons, mock performances, and personal recordings. Recording is particularly useful for the student, since it is very difficult for an instrumentalist to hear what she sounds like while she is actually playing. Distracted with numerous thoughts about fingerings, bowings, shifts, and many other details, the player is unable to dedicate the same amount of attention to observing the overall quality of her playing while it is happening. Reviewing recordings is not entirely objective, either, but egoless observation is a crucial skill that must be developed. As the player develops this ability to listen to herself on recordings, this objectivity in observation can be better applied while actually playing, too.

## *Taper*

A very important element in the marathon training process is the taper period. As the final stage of training, the taper period utilizes dramatically reduced intensity to allow the body to rest,

rebuild muscles, and store glycogen to be used during the race. The *Complete Book of Running* recommends: "a 50 percent cutback in mileage during the last two weeks, with very little running the final two or three days."<sup>10</sup> The taper period enables the runner to perform at a higher level during the actual race: she will run farther than at any point during the training and at a faster pace than its long workouts. Though musical progress cannot be precisely quantified, musicians can effectively learn from this taper concept. While there may be a temptation to practice until the very last minute, it is important for a musician to plan for, and be disciplined in holding herself to, a period of less intensity immediately leading up to the high stakes performance. The duration of this taper period will vary for each performer. During these final days, she should find substitute activities that help her expel some of her nervous energy in order to feel relaxed at the performance. For some, it may be difficult to avoid spending too much time on their instrument on the day of the performance, but over-practicing may only serve to tire them. While a certain amount of playing is useful to get rid of psychological agitation or any sort of separation anxiety from one's instrument, it is critical that the performer can walk out on stage feeling fresh and full of energy. This allows her to "leave it all on stage" without running out of strength in the final stages of the program.

While the length of taper will vary from musicians to musician, it is necessary to develop a routine that is proven to be successful. The goal is to "peak" with maximum physical and emotional output on the performance date. The idea would be, then, that the most strenuous practice days would occur perhaps a week or more before the performance. The remaining days would be spent reinforcing positive outlooks and confirming the ease and correctness felt in executing the repertoire. The final two or three days should be very light practicing days, during which the performer will also spend time reading, meditating, doing yoga, or relaxing--

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<sup>10</sup> Burfoot, 260.

whichever activities leave the performer feeling comfortable with her creativity sparked. This is done to build excitement for the upcoming performance, but also to arrive at a place of happiness and wanting to communicate and share through performance. Sufficiently rested and primed, the output during performance will feel like a natural and enjoyable pouring out of all the ideas and skills she has been anticipating and working toward. After months of preparation, this can be done with a feeling of generosity and fun, rather than encountering a sudden panic upon walking onto stage.

Since the duration of the taper period may vary from person to person, it must be approached with a certain degree of experimentation. It may be a mistake to cut practice time as dramatically as the runner will alter her schedule. A runner will likely only train four or five days each week, whereas the musician should practice every day, without fail. The taper period, then, can be approached in multiple ways. If an instrumentalist is used to practicing in two or three sessions each day, she may reduce that number, shorten each one, or simply change the intensity of each session. A general change in the mix of activities during practice session may be helpful. Some individuals may feel that a reduction in time dedicated to practicing can promote a feeling of guilt. For these people, a break from their normal regimen will not be relaxing and they will not find rest in other activities. For example, she may choose to spend more time in score study in order to rest physically but still feel mentally engaged with the repertoire. A shift from extremely detailed and repetitive practice to more general run-throughs of longer passages and complete works may also feel more relaxing. To others, reduction in practice time to enjoy hiking, light exercise, watching a good film, or other favorite leisure activities is optimal. Each performer will want to find what allows both mind and body to rest in the days before the performance.



## *Long Run*

In marathon training, the most intense period occurs just before the taper. An element of marathon training that surprises many is that the runner typically will not run the full race distance prior to the actual race. Most training plans have the longest runs maxing out at twenty miles, while others may extend to twenty-two. While this may present a psychological worry for the first time runner when she reaches the twenty-mile marker during the race and realizes that she has never before run further, the months of training have built the trust that her body is prepared to finish the remaining distance. The idea of never performing the entire repertoire prior to the performance may seem strange to a musician; however, there are multiple useful ideas to be considered from this example in marathon training. This moment the marathoner faces at mile 20, with 6.2 miles remaining, may seem terrifying and foolish at first glance. However, the long training plan, with its many weeks, is calculated for that specific day. Over the course of sixteen or more weeks, the training builds up to the most rigorous twenty mile run, which occurs just two weeks before the race. This is still very recent over the scope of roughly four months, and the body has experienced a period since that run that is much less demanding than any other phase of the training. The psychological challenge at mile twenty is real, but the runner should also feel more energy and stamina during the race than during most of the training. She may be surprised during that race that she is actually running faster and feels better doing so than she has felt for many weeks! A returning marathon runner will have experienced the full 26.2 miles before and has already learned to trust the training plan's effectiveness at building the stamina needed for those final miles. This trust is key in order to allow the mind to stay relaxed and keep a positive outlook as the body nears its limit. This shows the need to have a well-constructed plan for the long training period, but also the way in which the completion of the training plan itself fosters the trust between mind and body.

### *Design Variety of Training Sessions*

Similar to a marathon runner, musicians can structure their practicing sessions in a way that includes variety. At the onset of a project, the musician may choose specific points of emphasis depending on her chosen repertoire: stamina, tone production, fast passage work, large shifts, freedom of expression, or many other elements may need constant emphasis and reinforcement. Thus, it is possible to design exercises and practice methods in a way that improves weaker areas while still building on strengths. The types of practicing sessions and flow of the week will be highly personalized. Practicing sessions will be divided into different parts: a warm up routine followed by passages from different pieces, related études or exercises to work on targeted techniques, focused practice of targeted difficult passages from the repertoire, and practicing performing larger sections of the work. It is also likely that daily goals may be divided into multiple practice sessions. The performer will want to carefully lay out a training plan spanning many months that will address the challenges in her chosen repertoire and develop the necessary skills incrementally. Instead of an approach that focuses on one element repeatedly in one session until it is solved and expecting the solution to stick long term, it is important for the performer to build the skill gradually with frequent reinforcement. This more long term approach requires variety in workouts and less intense periods in order to allow the mind to stay fresh and relaxed as new skills become embedded in the physical motions. This muscle memory is crucial in performance, because the performer will need to be in a relaxed mindset. When this kind of flow is achieved, the mind will trust the body and allow the muscles to execute their tasks without sending them distracting and contradictory instructions.

### *Observation/Correcting Errors*

This cooperation between body and mind must be developed throughout the entire training period. All too often, there is a temptation to remain stuck in a negative thought loop while practicing. When a problem occurs, the healthy desire to address it can easily turn into a damaging obsession that the player cannot move past. While attempting solutions and banging one's head against the problem again and again, one can become so tense, mentally and physically, that the solution cannot present itself. Instead, the repetition only reinforces the problem at hand and destroys trust between body and mind. A better approach would be to stay in a mindset of observation in order to detect causes of the problem and potential solutions. These elements may not uncover themselves quickly, yet even a small hint can lead to the ultimate solution. When that moment occurs, one must be in a non-judgmental and relaxed state of mind in order to detect it. This relaxed and observant state of mind is intentional and must be learned. Establishing rhythms in training and using a variety of workouts allow the mind to stay engaged without interfering, and curious and active without being overbearing.

The player may also need to learn when to deviate from the plan or adjust goals when necessary. Nearly every runner will experience some sort of injury, whether big or small. It may be difficult to understand the likelihood of an injury during difficult stages of training until after one has the experience of injury and recovery. Even if one has this knowledge, it may be difficult to be honest with one's self and know when to dial back training intensity in order to avoid a developing injury. Aside from physical injury, one may encounter periods of mental exhaustion and stagnation. During these times, a reboot may be required. The musician can learn from this kind of experience as well. Physical injury is always a possibility, though mental frustration and stagnation is more likely. Knowing when to change things up and build new variety into one's practice schedule, or dial back practicing for a period of time, is healthy. At other times, spending

more time on a technique that is close to being solidified may come at the expense of time spent on a different skill. This ability to keep the long-term goals and overall progress in mind, while still permitting flexibility in the daily and weekly schedule, proves to be valuable in achieving all goals over the course of the long training period. Knowing when to take easier days can also help to ensure that time spent, whether brief or extended, yields results.

### *Vary Weeks; Holidays*

The marathon training plan clearly shows how weeks and cycles of weeks contain specific goals and a variety that allows the body to rest and the mind to focus on targeted challenges. Musicians can emulate this structure as well. The runner may need to consider travels, holidays, and busy times to customize her training plan and move key workouts without losing weekly mileage or important rest days. It may be fairly simple to move an easy six mile run at a slow pace, but one must consider not only the day of a challenging twenty-mile run, but perhaps even the activities of the previous and following days as well. The musician will similarly need to plan around other performances she is involved in that may only require shorter-term preparation, but will still deserve their own respective focus. These performances can even be used similar to the way runners will use a "tune-up" race before a marathon. The runner can use this race to test gear and hydration or fuel methods, while also feeling how the body responds to the desired race pace of the upcoming marathon. Even if performing different repertoire, a musician can benefit from time on the stage to evaluate her general fitness and comfort on the instrument, execution of similar types of shifts or bow techniques, general confidence level, and response to nerves. This can also be used as a type of rest period from the other repertoire, which can refresh the mind. In marathon training, perhaps one out of every four or five weeks is a light week, intended for rest and recovery. The musician would benefit from

planning more rigorous periods of training in advance of these rest periods, allowing her to stay motivated during a big push by seeing an upcoming rest period on the horizon. This is certainly a much better approach than falling behind in preparation, assuming that the important date is far off in the future, losing additional preparation time during holidays, and realizing afterward that valuable time was wasted and little remains.

Variety in planning workouts is crucial as well. Some weeks in marathon training may be more heavily focused on the speed workout, whereas others may focus on the long-run. The musician may have to consider many more factors in preparing a recital than a runner in preparing for a marathon; however, she should carefully consider how to build variety into her practice regimen. If she were to list in advance all the techniques she needed to develop or polish and all the specific passages that would need the most attention, she could build a rotation schedule to practicing these skills in which she is consistently working on each element, but with varying intensity. This could, of course, be adjusted as certain techniques fall into place or prove to require more time to iron out. Having a plan for which techniques to emphasize in a practice session helps the player to manage time and prioritize very specific passages, techniques, and exercises. Meanwhile, the variety within the workouts themselves allows her to continue working without stagnating or losing motivation since she is frequently encountering a new goal.

### *Simulate Performance Conditions*

Some runners are advised, or choose on their own, to run a warm up race approximately one month before their marathon date. This allows them to test their planning and training for the marathon, but at a shorter distance (most likely a half marathon). The runner may, especially if she has not participated in many races before, have many questions and anxieties about the race environment. How much water should I drink and when? How much food should I eat and

when? Where do I check my gear before the race? How much time before the start do I need to arrive--taking into account traffic and parking, walking to the start line, picking up my bib number (if not on a previous day), lines for the toilets, etc? How will my body feel at the end of the race if I run at my anticipated race pace for the future marathon? How will my body recover after the race? Simply having a race experience to confront these questions can help to instill confidence about the upcoming marathon itself. Even though the "tune-up" race should be a lesser distance than the marathon, it does not benefit from the taper period like the marathon will. The two events will not feel identical, but it is helpful to work out any issues concerning logistics: not wearing the right gear, not starting the race too fast and crashing at the end, not eating enough, not sleeping enough, etc. Having this extra experience can help to answer questions about these elements and quell worries leading up to the main race.

The musician may benefit even more from these kinds of test performances, both public and imaginary. There are many factors about the venue and other factors specific to the performance day that cannot be precisely replicated, but having multiple performance experiences with the chosen repertoire allows the performer to be able to adjust more quickly to different environments. One big concern is the sound quality of the room itself: is it reverberant (wet) or dry? Does the instrument project well or not? Are certain instruments of an ensemble or registers of a solo instrument more hidden than others? These and other questions can make a musician very uncomfortable and end up changing the way she physically approaches the instrument in that space. For example, in a dry room, she may end up playing with tension and a scratchy tone resulting from the desire to project well within the unforgiving environment. Conversely, in a wet room, she may play with ease but fail to play with good articulation. Some rooms may be deceptive, with the audience hearing a different kind of tone and reverberation than that which the performer can personally sense on stage.

Experiences in all types of rooms, then, are useful in teaching the musician which adjustments are required in different types of sonic environments. Ideally, before a performance, the musician will have plenty of time to rehearse in the space and have trusted advisors listening from the house to provide feedback about how the sound carries across the distance. Many times, though, especially for auditions and competitions, the player may have very little time, if any, to evaluate the performance space and make the proper adjustments. Any adjustments would need to happen "on the fly," then, so previous experience in different spaces is critical for the performer to learn how to quickly sense and make the proper adjustments.

The experienced runner understands the need to account for many other performance conditions, as well. She will want to plan her training in advance to account for course conditions like altitude, elevation, climate (as much as one can possibly predict the weather), surface, time of day, where hills occur, and where water stations or portable toilets will be placed. The runner will attempt to simulate these conditions as much as possible during training. For example, if the race course features sizable uphill climbs in the last four miles, it would be a mistake to train on courses with inclines in the first miles and ending downhill--even if elevation gain and types of hills are similar, experiencing them at different stages of the training run will not prepare one for the difficulty of facing them at the end of the exhausting marathon. The training surface must also be carefully considered. One may not realize without experience that asphalt is a softer surface than concrete. Training on asphalt, gravel, or dirt, but later racing on concrete can lead to unexpected pain, tiredness, or even injury. Planning when and how much water to drink is dependent on where water and sports drinks are provided along the course, or by planning to carry a water bottle or hydration backpack.

The musician will also benefit from taking as many external factors as possible into consideration. Something as small as the height of stand can affect the performer's feeling on

stage, depending on the type of room: for a cellist, a stand can completely obscure the performer from her audience, depending on the height of the stand and the angle from the stage to the floor. She may choose to use a portable stand, which can be lower than a larger orchestral stand. This provides its own difficulties, though, as a portable stand may not support heavier scores or extended pages. The performer would want to practice looking at her music at a lower angle in advance of this situation, as well. Similarly, it may be useful to place the stand to the side in a way that it unlike in the practice room or in rehearsal. Heat from intense stage lights, overly air-conditioned rooms, slippery floor surfaces (for cellists' endpins and standing performers' footwear), chair height, and visibility of the audience from the stage are all small but potentially influential factors a performer can face that are not directly related to the sound of the room. Being able to predict and manage such elements successfully can diminish stress levels.

### *Equipment*

Experience with, and trust in, one's equipment is critical for runners and musicians alike. It would be a mistake for a runner to debut a pair of shoes, shorts, or even socks during a race. Instead, she will want to test any article of clothing on training runs to ensure that it does not cause any kind of discomfort, blisters, or chafing, and also can gauge the amount of ventilation, sweat wicking, and warmth it provides. Hats, sunglasses, waist packs, gloves, jackets, watches, socks, and headphones all must be tested ahead of time and be familiar, known commodities. A musician must also learn about her equipment and keep it in optimum shape through maintenance. A cellist will need to understand how often she should change her strings and how many days before a performance it takes for them to hold pitch stably when new. The same is true for the bow hair. The spike of the endpin may need to be sharpened, the sound post occasionally adjusted, and humidity carefully controlled inside the case and room the cello is



stored in. In some climates, the bridge may need to be changed for differences between winter and summer months. Different types of mutes produce a different tone and may be changed depending on the repertoire performed. Simply planning for every possible factor will help put the performer at ease, knowing that every detail has been accounted for.

There are also instances, though, where a runner will use equipment differently in training than in the race. The two main examples of this would be the use of a water bottle and mp3 player or audio from a smartphone during training. To more easily carry the water bottle, she may wear a holder around her waist or around hand. Since the race course will have water stations each mile or two, most runners will forego carrying their water in order to feel unencumbered during the race. The need to stop at water stations during the race means that they will slow down and lose time at those points. They may plan for this scenario by studying the course map to learn where water stations will be placed, which allows them to take water during their training runs similar intervals. Changes in weather and intensity of running makes this inexact, however. In the same way, musicians may try to approximate performance conditions, wear the same attire they plan to perform in, and play in front of friends and family to induce nerves. Each performance is different, however, and any number of factors like illness, traffic, unexpected events, or weather changes that affect the instrument, can require "on the fly" adjustments on the day of performance.

The usage of mp3 players during training but not on race day creates an interesting parallel for musicians. This is a point of controversy within the running community, since many races ban the use of mp3 players while others are beginning to allow them. Many runners find listening to music or podcasts helps them pass the numerous hours of training, whereas others feel that it distracts them from receiving feedback from their bodies, focusing on the breath, or maintaining good running form. For many, the use of a mp3 player during training is a willful

distraction that they do not intend to use during the race. This may also be useful to many musicians. This is discussed later, in connection to Pjatti *Caprice no. 11*: in particular, the use of daydreaming to inspire musical expression. Musicians may find practicing with distractions may be useful to test their ability to stay focused, but also as a way to purposefully divide their attention. For example, practicing with the television on may allow the player to stay relaxed while playing exercises or repertoire she knows very well: this may make repetition for the sake of fitness or reinforcing muscle memory more enjoyable. Similarly, a player might use distraction to test how well she knows a passage: successful playing despite distractions can reinforce trust in her preparation.

### *Performance vs. Training Mindset*

The runner and musician alike will experience two different mindsets: one of training and one of performance. These two may overlap, as shown in previous discussions of how to practice in a way that mimics or predicts the state of performance. As in the use of mp3 players or willful distractions, though, there are distinct ways in which these two mindsets differ, as well as how they may be differently for the athlete and the musician. During training, a runner would be wise to be alert to feedback from her body and take the opportunity to stretch, eat, drink, and scale back or even stop a workout when necessary. This is true also for a musician who may be over-practicing and reaching a state of fatigue or playing carelessly and risks developing bad habits. As already shown, the practice mindset, even when mimicking a performance mentality, will not be able to fully predict the conditions on the actual race or performance day. A key difference between musicians and runners exists here in the performance mindset, however. Especially for elite runners or those with lofty goals such as a Boston Marathon qualifying time, during a race, if the conditions are strenuous or something in their bodies does not feel right, runners may

choose to abandon their goal time or indeed drop out of the race entirely. This is unthinkable for a musician on stage, who must perform without any detection of struggle, even on her worst days.

*Outlook: Outside In vs. Inside Out*

Some may point out that there may be two approaches to undertaking a big project like a recital or marathon. It is possible to rush headlong into it, without too regimented of a plan. For some personalities, this mindset may actually feel more natural and freeing than boxing themselves into mundane and confining schedules. While it is possible for a new runner to complete a marathon with relatively little prior experience or formal training, more than likely, the experience of struggle and pain in the final miles and for days after the race will impress upon them the benefits of consistent and targeted training. Many musicians and teachers adopt the idea that the only way to improve at performing and handling nerves is simply to do it, that increased exposure to the stage will naturally help them develop their confidence and build their stage presence. It is true in one sense that experience is the best teacher, but negative experiences can be large mental setbacks. Improper training can also lead to injury, both in running and in music. It should also be noted that as scenarios change, so do the needs that must be addressed in training. It has already been discussed how different factors of the race or performance itself require consideration in the preparation and planning phase. One must also consider how the individual changes, too: life circumstances with age, relationships, job pressures, etc. As these things evolve, the pressures and concerns the musician must battle mentally may be vastly different than in previous performances.

The approach of looking ahead and planning every workout in advance may not be one hundred percent realistic, either. Instead, it may end up being more of a framework that will

require flexibility in its execution and allow for adjustments if the reality of actual progress diverges from the original plan. Unexpected events, injury, illness, lack of motivation, and other things can all require an adjustment of training goals. Understanding the general framework of the original plan, its important milestones, and the ability to step back see the entire process is of great importance. The process of reaching milestones, completing difficult workouts, or simply looking back at progress made over weeks and months of dedicated preparation can only help to build confidence. In reality, then, it is important to look at times from the inside out and at other times from the outside in: one must sometimes focus on the small details, individual techniques, and individual workouts, while at other times adopt a more general, broad viewpoint.

### *Nerves/Perform for Others*

Having experience in less intense performances is crucial for the performer to determine how she will respond to nerves and the unique challenges they may present in her chosen repertoire. Performing the repertoire ahead of the main recital, audition, or competition that has higher stakes will give the performer confidence that she has executed the program in public before. It also allows for an evaluation of areas that prove to be weaker under the spotlight, and thus can be addressed in a stage of final preparation before the main performance. These types of performances can be approached in different ways.

Performing small, intimate concerts in front of close family and friends is a great way to practice the performance mentality. These situations are supportive and safe environments, while the musician often feels a high level of stress or anxiety playing for those who know her and her playing the best. This allows the performer to experience her level of nervousness and preparation in order to discover which passages or technical elements need more attention. The experience of nerves, or lack of them, acts as a bellwether for what she can expect in the future.

This trial run gives her insight into which parts of her routine during the day before the performance are effective, which coping strategies are useful, and what additional mental preparation may be needed. Each performer will respond differently to different scenarios: where one will find playing for loved ones is actually more anxiety-inducing than a large audience, another may feel more stress around bigger crowds and larger spaces. The main goal is to gain experience in many types of warm-up concerts and develop an understanding of which types are most beneficial in preparation.

Another way to simulate the nerves of performance is by recording oneself. Even though this can be done in private and in the practice room, concert hall, or home, recording can feel as stressful as a live performance. The important element is to be in the mindset that once the microphone is turned on, *this time counts*. This idea that playing from beginning to end, in real time, no matter what happens, is set apart and different from the usual mentality of practicing. Recording also feels different because it is more permanent in the sense that once captured, it can be played back again and again. Putting oneself deliberately into this Rule #1 mindset is a great way to practice performance and induce a similar stress to the one experienced on stage. Recording has two added benefits as well: the performer has the ability to review and evaluate the run-through, and it can be done with little planning or need to arrange other people's schedules. This makes recorded trial performances very easy to do and useful for the final tune-up phase of preparation.

For the marathoner, this kind of test can come in the form of shorter distance races where she can feel the nerves and excitement of a race. This gives her the opportunity to test gear, feel what it is like to wake up early, and deal with the crowds of a race. She will likely feel an adrenaline rush and the temptation to go out fast, which will test her concentration and self-control. Though this type of "tune-up" race is usually a shorter distance and different location

than that of the goal marathon, it can help a runner test her race day plan. It may also serve as a predictor for how she may react to the excitement of race day, and thus allow her to prepare herself mentally in the time between the warm up race and the goal race.

### *Roles for Mind and Body*

A critical element of sports psychology is the need to cultivate the proper relationship between mind and body. In *The Inner Game of Tennis*, Galwey describes well the two tasks involved with mind and body and the need for proper flow between them. To summarize, the body's main task is to execute the commands given by the mind. The muscles can become confused when it is given contradicting instructions and is ineffective at completing its tasks. The interaction between mind and body can be compared to a computer using binary code: it is either on or off, 1 means fire, 0 means off. Whereas the body does not think or evaluate, the mind is concerned solely with managing and instructing--yet still needs the body to execute its commands. Mind and body, then, are interdependent, sending signals back and forth. Each system must function freely and without inhibition in order to create an overall successful performance, whether in tennis, music, or other activities. The mind must learn to trust the body to execute its task properly without giving it overlapping or confusing instructions. In order to do this, the mind must be in a non-judgmental state where it observes what is happening without adding any negative thoughts about the pressure of the situation, what is at stake, the importance or personal desire involved in it, or any sort of condemnation for moments that do not unfold as wished. The best state of mind is described as one of *flow*, *emptiness*, *selflessness*, *effortlessness*, or simply, *play*. In the best performances, the performer or athlete experiences a sense of complete control and awareness without forcing things or feeling a need to try too hard. She may experience everything happening in slow motion, as if from a distance with a kind of egolessness

that seems contradictory: she may feel complete involvement and ability to shape every instant with joy, but feel no sense of danger or worry that the performance reflects on her.

This mindset of what is sometimes called "peak performance" has been described by athletes, researchers, and mystics, but is shown to come only after long periods of study or practice. In *Zen in the Art of Archery*, Herrigel skips over the process of many years of living in Japan and only gives anecdotes of specific moments during that time. Many writers tout the 10,000 hours model of expertise in a variety of disciplines, but give little insight into the way one should practice and cultivate the mind-body relationship during those long hours. Nearly everyone has heard of a "runner's high," too, but there is a danger in assuming that some kind of magical performance mindset may happen at times purely by coincidence. It is true that the experience at some performances or events may have a magical quality where all conditions are optimal and the athlete or performer experience an elated and highly efficient state. However, it would be foolish to explain these experiences as mere chance. The true masters learn to create these moments for themselves consistently through discipline--this mental aspect becomes just another tool in their arsenal.

### *Observation Mindset/Listening*

A crucial mental skill is to place the mind into a state of observation without judgment. It is easy to describe many instances when the mind interferes in the flow of performance by inserting condemnation and fear. In tennis, when a player misses an easy shot, the viewer in the stands or at home can often witness the player talking to herself and gesturing wildly. This kind of inner dialogue can be very detrimental. Under pressure, a simple mistake can appear as a crisis; instead of giving herself a simple reminder of how to correct the error the next time she will need to hit that stroke, she may struggle with self-defeating thoughts completely out of

context with the small technical correction needed in that moment. For example, she may criticize herself harshly in an almost disbelief: "Ugh! How could you be so stupid to miss a simple forehand up the line like that? You always make the dumbest mistakes and choke at the worst time!" Such statements are simultaneously false and irrelevant. What is actually needed in that moment is to take a deep breath, stay relaxed, and look forward to the next point. To prevent future errors, she must be able to quickly assess why the error happened and give brief, clear instructions to the muscles about how to prevent it later (e.g. *keep the racquet face closed, swing through the ball, move your feet quickly to be in position sooner, etc.*). This can only be achieved when the mind stays calm and does not give in to any self-condemning urge. Instead, the mind should only observe, calculate, and relay instructions to the body.

Similar scenarios play out for the musician, too. One can easily become tight when attempting a difficult shift or fast passage. When the performer hears a mistake, the temptation is to judge and condemn, thus becoming distracted and losing focus on what she must currently playing in the passages immediately following the error, and perhaps continuing to make other mistakes amidst her distraction or frustration. Instead of becoming focused on the consequences of an error such as the judgment of the audience, an unfavorable review in the newspaper, the destruction of the recording, not continuing to the next round, not winning the job/prize, or family members having doubts about your career or life choices, the performer must refuse to give into the judgmental mindset. The moment has already passed and she must remain focused and relaxed for the rest of the performance. When a similar technique occurs later, she must be able to stay relaxed to remind herself of the calculation needed: something clear and simple such as lead with the elbow, use flatter bow hair, or gesture clearly to the pianist. Receiving only clear signals from the mind, the body is then able to respond with the relaxed and easy coordination that has been developed through hours and hours of practice.



This experience is different between the athlete and musician, though the mindset is the same. The tennis player must quickly judge rapidly changing scenarios in order to choose and execute the best shot available to her. The musician's job, however, is largely pre-planned: it would be inappropriate to go off-script and insert a spontaneous cadenza in the middle of a string quartet! The musician must execute the notes and rhythms the composer set down years, decades, or centuries ago. It is also true, though, that as phrases unfold differently than planned, ensemble members rush or enter late, or other slight variations occur, the performer must make split-second calculations on how to redirect the performance in the best possible way. This is part of the illusion and spontaneity of successful performances: the skilled player develops the flexibility to turn an unplanned event into a new phrasing or expressive device, without anyone in the audience knowing otherwise. These kinds of rapid adjustments can only be made successfully if the mind does not panic at the unexpected errors that occur in performance. Instead, the mind must remain free of anxiety or judgment and simply relay clear instructions to the body, all within a moment.

## CHAPTER THREE: PRACTICAL APPLICATION--PIATTI *CAPRICES*

### GENERAL INTRODUCTION

The above discussion of marathon training outlines many general guidelines for the performing musician to consider. Many parallels exist regarding the daily discipline and long-term planning both athletes and musicians must exhibit. These include consideration of a great number of details for the events of greatest importance, as has already been shown. Whereas an athlete may have a sizable team of coaches and experts to monitor and advise her depending on her sport, the musician is largely self-sufficient and will rely on only one teacher at a time during her developmental years. It is critical, then, for this main teacher to act as a coach, or guide, and carefully consider setting goals and establishing training plans with utmost care.

Given later is a discussion of the *Piatti Caprices*, and how they might be used to develop the attitudes and mindsets already discussed. Though they are useful in this way, and are sometimes treated only as technical exercises, these caprices are performance works worthy of being presented on the stage. In order to give well-informed performances, one must be aware of the history and performance traditions surrounding the repertoire. It is fitting, then, to provide background about Piatti's life and career here.

#### *Piatti Background*

Though born and raised in Bergamo, Italy, Alfredo Piatti found his greatest fame and lived much of his life in London. Living between 1822 and 1901, the cultural environment during his performing career emphasized individuality and elevated performers to a larger-than-life status. To say that Piatti achieved fame in London is not an overstatement. After his death, *The Musical Times* began its story about his life by saying that “the greatest performer on the

violoncello passed away."<sup>11</sup> Cello was a prominent part of his life from a very early age. Though his father was a violinist, Alfredo began studying cello with his great-uncle at a young age. By the time he was seven, he was performing with the local orchestra, which was under his father's leadership. He entered the Milan Conservatory at age ten, and his solo debut came at the age of thirteen. In 1843, he gave his first performance in Munich. This concert was arranged by Lizst, who presented him with an Amati cello after his successful performance. His breakthrough concert came the following year in London, when he was twenty-two years old, at a concert presented by Queen Victoria's piano instructor. Piatti dazzled the audience with a performance of his own composition, *Fantasia*, even though his name was not included in the advertisements. It was in this same year that the violinists Heinrich Ernst and Joseph Joachim made their debuts in London. Later remembering his own London debut, Piatti reflected: "I came to this country unknown to everybody, with no friends and no money. Some kind people advised me to go back at once; but I thought London was rather a big place and that I might find a home for myself as others had done."<sup>12</sup> Piatti returned to London often and eventually moved there permanently.

With London being a cultural capital of Europe, Piatti had access to the leading performers of the day. He developed a close friendship with Joachim and they traveled together playing string quartets. The *Musical Times* recounts his chamber music prowess:

As a quartet player he had qualities beyond compare. A perfect intonation, wonderful tone, command of every shade and degree of expression, a masterly feeling for tempo, an intellectual grip of his subject, clearness in all rhythmic complications and an unfailing memory. Every quality, in short, that goes to the making of a great ensemble player.<sup>13</sup>

Even though this reflection speaks of chamber music, it points to many differences in

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<sup>11</sup> "Alfredo Piatti," *The Musical Times and Singing Class Circular* 702 (1901), 534.

<sup>12</sup> "Alfredo Piatti," 534.

<sup>13</sup> "Alfredo Piatti," 536.

performance conventions between Piatti's time and the current day. For example, from this quote it appears that the quartet performed from memory, which is contrary to the practice today. In addition, many people currently have the opinion that quartets during the time of Joachim and Piatti were ruled by the first violinist, as if the repertoire were violin concertos with miniature accompaniment. This very positive review of Piatti's quartet playing shows the importance of his role within the group and the level of sophistication he displayed. To say that he “[commanded] every shade and degree of expression” and had a “masterly feeling for tempo” implies that he had personal involvement in and responsibility for the both the expression and timing of their performance.

Piatti also knew Mendelssohn intimately. Together the two played Mendelssohn's *D Major Sonata* soon after its completion; the composer was allegedly so impressed by Piatti's playing that he remarked in 1847, “I must write a concerto for him.”<sup>14</sup> At the time of his death, Mendelssohn had already completed the first movement of the concerto, but it has since been lost.

Piatti's technical abilities on the cello and popularity as a performer, both to the public and to fellow musicians, were well documented. He was also somewhat successful as a businessman. He organized the London Popular Concerts, which gave the non-elite access to concerts of the top performers of the day. His business savvy kept him in the close circle of musicians like Joachim, Mendelssohn, and Berlioz, who included him in their own performances, as well as increasing his popularity with and demand from the public. He also sold string instruments. Despite being in high demand as a performer, he remarked to a friend that he “made more money buying and selling instruments than he did by playing.”<sup>15</sup>

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<sup>14</sup> “Alfredo Piatti,” 536.

<sup>15</sup> “Alfredo Piatti,” 536.

Without recorded artifacts of his playing, it is difficult to pinpoint Piatti's playing style. Secondary source material does provide some insight in this area, however. For example, a contemporary in 1894, when Piatti was already into his seventies, remarked:

His performances are proportionably marked by fine tone, the greatest purity, tasteful rendering, as well as by a perfect mastery of all technical difficulties. He is not only the most important cellist in England, but belongs altogether to the highest rank of artists of the present time.<sup>16</sup>

Again, his playing is praised highly, citing his technical mastery of the cello, but here we are also given an idea of what was specifically desirable in his playing: fine purity of tone. In recounting a performance of the Mendelssohn *Bb Quintet*, the *Musical Times* contributor said that, “his perfect simplicity of expression, beauty of tone, shading, and the heavenly calm of it, went straight to the heart.”<sup>17</sup> This quote corroborates the statement above. Piatti's playing was distinguished not only by its accuracy, but found desirable because it was simple, calm, and pure. In her overview of the history of the cello, Cowling states that he played without continuous vibrato, like the other Joachim Quartet players.<sup>18</sup> This furthers the notion that Piatti's tone was perhaps not extremely complicated and likely quite different from a modern player's sound.

Another indicator that Piatti's sound was markedly different from that of players today is his posture: he played without an endpin. The posture of holding the cello predominantly with one's legs produces a much lighter sound than if one uses an endpin. The stability of the endpin, coupled with the less vertical angle created with the floor, allows the player to play with much more force. Disregarding the notion of exertion created by the player, the slope of the cello with the endpin creates a heavier sound, since gravity is more in play compared to the more upright

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<sup>16</sup> Willhelm Joseph Wasielewski, *The Violoncello and its History* (Novelo: London, 1894), 111.

<sup>17</sup> “Alfredo Piatti,” 536.

<sup>18</sup> Elizabeth Cowling, *The Cello* (Scribner: New York, 1984), 25.

position of the cello without an endpin. Neece gives an anecdote that “when trying a strange instrument which was fitted with a sliding-pin, [Piatti] quietly pushed in the pin, and held the violoncello in his accustomed manner.”<sup>19</sup> Piatti was either unable to adjust his posture to the use of the popular new technology, or simply did not wish to make the change because the benefit was not great enough in his mind. Whatever his reasoning was, the absence of endpin, coupled with a sporadic use of vibrato, suggests that his sound would have been much lighter and more pure than the typical cellist's sound today.

### *Practicing Mindsets*

The following training guidelines serve as general concepts, which can aid musicians and their teachers, especially those who also have experience in athletics. These concepts serve to address the process of cultivating the mind-body connection through the discipline of daily practice: it is so crucial to build this mental strength during training in order to find it to be familiar and reliable when the moment of performance comes. The athlete and musician both, in the pivotal moment, must be able to trust that the hours of preparation have prepared her well and that she can proceed without fear or hesitation. The actual process of training is under-represented in the existing literature--what follows is an attempt to provide useful ways for musicians to concentrate the mind on specific tasks or mantras while practicing for their most important performances. These concepts are given in connection to how they may be applied to the Piatti *Caprices* because these short works contain a musical integrity and technical difficulty in a condensed format: this positions them as great pieces to not only build cello technique and expression, but the mental strength and performance mindset itself.

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<sup>19</sup> Brenda Neece, “The Cello in Britain: A Technical and Social History,” *The Galpin Society Journal*, vol. 56 (June 2003), 109.

What follows is a very personal approach to studying the Piatti *Caprices*. Other teachers and performers may adopt a different approach based on their own experiences. The ideas presented here are intended for the great number of students, teachers, and parents, who have an experience and understanding in sports. For them, these ideas will seem highly accessible and familiar, which allows musical training to be undertaken in a very natural way. Developing and intentionally practicing these general mindsets through these brief pieces of such technical difficulty will also teach the cellist useful ways to approach larger works and their most challenging passages. Once a cellist experiences an effortless flow between mind and body while playing these caprices, she will easily be able to transfer that experience to other repertoire. Further, when useful, she will be able to return to Piatti to reinforce and maintain these tools.

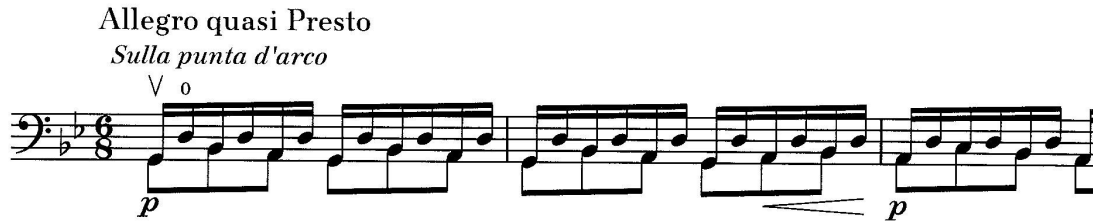
Given below are twelve specific concepts, which are intended to focus practicing and serve as general guidelines. Each concept is assigned to one specific caprice, because it functions in one of the two following ways: the mental approach can be developed well through practicing that specific caprice, or because focusing on that over-arching mindset can help bring about solutions to the technical challenges contained in that caprice.<sup>20</sup> The twelve concepts are not presented in this way to suggest that they are confined to only those caprices. Instead, each concept may apply to many caprices, and indeed to performance in general. They could easily have been assigned to different caprices, but are given in the order the author has found them to be most useful. Further, it is intended that the mental strength gained from this kind of practicing will be applied to undertaking other concertos, sonatas, chamber music, or orchestral works. In this document, though, they are presented in connection to one caprice so that their application

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<sup>20</sup> As is so often the case, many technical solutions come through focusing on the musical goal. Often, performers suspend developing the musical expression because they want to solve the technical issues first. At times, approaching it from the opposite approach allows the technical solution to present itself quickly because of a different sense of freedom or timing.

can be quickly understood and practiced in a condensed format.

### I. Build Stamina



Stamina is a key to success for performance of any recital, concerto, orchestral, or chamber music program. Discovering physical limitations and how to practice in a way that pushes against those limitations in order to build stamina (without causing injury) is beneficial for long-term success. In a more general way, having a base of fitness and understanding how to maintain it allows the musician to enjoy a long career that features consistent performance, always at a high level and without interruption or injury. As for the athlete, this base level of fitness is necessary before taking on more challenging projects or “ramping up” for the most important races, tournaments, or events. Though these most important dates are always in sight, the other regular events or performances can be successfully undertaken without overly taxing the body.

Throughout a cellist's career, she will undergo natural fluctuations in numbers and types of performances. Understanding how to prepare for the physical demands of performances, as well as the importance of rest periods, is invaluable. Further, a reserve of stamina allows the performer to play her best despite the added stress and adrenaline that are present on stage. Approaching this little caprice from a mindset of building stamina and being aware of her muscles and fatigue level will help build awareness for her body. Learning how to build stamina and general cello fitness will also pay great dividends throughout the cellist's career as her body



changes through different career demands and stages of life.

More than any other caprice, this first one is straightforward in isolating one element: stamina. While coordination between the two hands is important at certain moments requiring rapid shifts or left hand fingers switching strings to execute double stops, the main focus of this caprice will be on the right arm's stamina. Played at the tip of the bow with unchanging sixteenth notes that alternate between two strings, this caprice is a workout for the right hand and upper arm. Efficiency of motion is critical for the right arm to execute this relentless motion without reaching an amount of fatigue that disrupts the flow of performance.

The main focus of this caprice, then, is to push the muscles in order to gain fitness. Without reaching the point of pain, one should experience and welcome tiredness in the muscles. This is the natural process of building strength and stamina: warm up, push beyond the limits of comfort, rest to let the muscles rebuild (soreness is a byproduct), and repeat. Repetition of this cycle will move the limit: whereas it may be initially difficult to play through the entire caprice without stopping, after days of consistent training, it will become possible to play it through multiple times in the same practice session. This process is only possible if the player expects and welcomes difficulty. She must also understand that continuing through mistakes is necessary to keep the physical workout in progress. While precision is important, the main goal will be the completion of the caprice without pause.

## II. Convince Yourself it Will be Perfect



Successful athletes are able to suspend disbelief and know with 100% certainty that they will make the game winning shot, even if it is statistically unlikely. Indeed, for these athletes, in the moment, losing is simply impossible. Matthew Syed writes about this mindset of champions: in the crucial moment, they have belief in making the winning shot or play to the extent that not doing so is completely out of their minds. This kind of belief is paradoxical and can be referred to as *doublethink* or the *placebo effect*. Syed writes that, "the thing that often separates the best from the rest is a *capacity to believe things that are not true but which are incredibly effective*."<sup>21</sup> Taken even a step further beyond self-certainty, Syed describes how when facing a crucial putt, Tiger Woods must simultaneously hold a firm belief that he will make the shot, but also calculate it in a way that if he misses, the ball will remain close to the cup, making the next putt all but assured. Even though statistically it may be a 50/50 proposition, or even less likely than that, champion athletes possess an ability to suspend, entirely, any disbelief. Achieving this level of certainty is, in one way, a mental trick one plays. However, cellists can practice this caprice with the intent of developing this ability to eradicate doubt and disbelief.

Whereas a baseball player may be a batting champion if he successfully gets a hit one out of every three times at bat, musicians must perform basically free of any mistakes to even be considered near a professional level. This need for perfection can be crippling mentally, especially during the most high-stakes competitions and auditions. The pressure and over-active

<sup>21</sup> Matthew Syed, *Bounce: Mozart, Federer, Picasso, Beckham, and the Science of Success*, New York: Harper, 202.

desire to get everything correct can easily lead to tightness in the muscles--the result of this focus, and of trying too hard, is usually a stiff and mistake-riddled performance. It is not paradoxical to practice a mindset where perfection is the goal, however. Instead, it is actually useful to develop the skill of being able to turn on a completely self-certain and confident mindset--to be able to suspend any disbelief and willingly believe with certainty that perfection is possible and about to occur.

The key to being able to turn this mindset on and off is by practicing it intentionally. In practice, one can tell oneself that the next play-through *can* and *will* be perfect, and accompany this willful pumping up of courage with a relaxed and accepting mindset. Even as mistakes or unplanned moments occur in this play-through, the mind must remain in a state of observation that is near indifference. By being completely aware of what is happening, the player can address these issues in isolated and detailed practice after the current play-through. Further, she will learn to not be distracted by unexpected moments, but instead learn to shape them into a different way of phrasing or timing than she had previously planned. This ability to not be distracted by errors must be practiced deliberately at first. By removing the distractions produced by a judgmental mindset, the player will be able to remain positive and be engrossed in a willfully confident state. As she explores this confidence and belief in perfection, she can learn how to remain in this state through focus on the breath, focus on playing for herself, or focus on the feeling of freedom that she does not play to please others or quiet critics.

Finding rituals or mantras that reinforce this allows the player to quickly slip into this frame of mind and stay in it. One such ritual can be seen in the basketball player, who will enact the same sequence of events every time she steps to the free-throw line, repeated thousands and thousands of times over many years. The free-throw line is always ten feet from the hoop, and

the actions leading up to the shot will always be the same, whether in the first quarter of a regular season of the game, or the potential winning shot of the NBA Finals.<sup>22</sup> The tennis player will undergo the same routine every time she serves.<sup>23</sup> Baseball players display their routines when they are at the plate, and at times even between each pitch.<sup>24</sup> While the rituals for the musician may be more internalized than these physical displays, she will want to develop a consistent way to get into a confident and focused place. This may be bringing her focus to her breath, as in yoga, or the repetition of a mantra like "this time will be perfect."

Practicing this mindset of complete certainty allows the player to explore the mental trick where she convinces herself each time that it will be perfect. The cycle of playing in this mindset while reserving some mental energy to keep track of mistakes, and then correcting those errors in later practice, brings the performer nearer to actual perfection. This proves to the player that her confidence is deserved. This caprice can be used as a tool to intentionally build the mind-body trust and confidence in performance by practicing the attitude that the next time will be perfect. This caprice is one of the longest and most beautiful caprices, marked *Andante Religioso*, so it lends itself well to practicing the performance mentality. Structured in ABABA form, with the A sections being beautiful chorales and the B sections containing rapid arpeggios with a broader melody on the top string, this caprice must have a singing quality of reverent emotional communication. For this reason, it is easier for the player to imagine speaking through the cello directly to specific individuals or to the general audience. The next step is to undertake this imagined performance with utmost sincerity: these chorales are of the spiritual dimension, taking

<sup>22</sup> Players have distinct rituals seen in the way they spin or dribble the ball, when they breathe, and where they look. Jeff Hornacek was well-known as an accurate free-throw shooter--he rubbed his cheek as a way to say hello to his children.

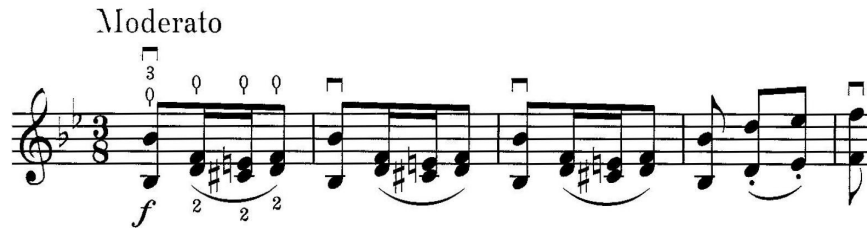
<sup>23</sup> Rafael Nadal is well-known for his routine: he adjusts his underwear, bounces the ball many times, tucks his hair behind his ears, and bounces the ball more before serving.

<sup>24</sup> Ichiro Suzuki has a distinct way of adjusting his shirt sleeves and pointing his bat. Nomar Garciapara would quickly adjust the velcro on both batting gloves in an unusual looking way.

on the fervor the *religioso* marking indicates. This intensity can focus the mind and call it to greater efficiency.

With this attitude of "this time counts," the performer can practice a willful suspension of disbelief: a kind of "fake it until it's real" approach. During this process of playing many make-believe performances of this caprice, the repetition of running it straight through with the focus on expression actually builds the confidence and belief that it can and will come off successfully in the future public performance. Between run-throughs, the cellist can briefly practice any problem areas to remind herself of the needed coordination, then immediately put it to the test again in another "performance." Thus, this process of willing oneself to believe that the next time through the caprice and all of its difficult passages will be perfect actually increases the likelihood that it will be: the belief that it will allows the mind to trust the muscles, thereby giving them freedom and allowing them to execute what they have been trained to do. What is more, while pretending to adopt this attitude and finding that in reality there is improvement with each run-through, one begins to believe in earnest that the preparation has made such an attitude justifiable.

### III. Cultivate Confidence



By practicing a willful confidence in this notoriously difficult caprice, the cellist will remove any sort of intimidation or fear and feel a great sense of achievement in her progress. The mindset is similar to the one practiced in *Caprice No. 2*, however the focus is to imitate the physical feeling of freedom and relaxation that will be felt during a perfect performance, long before the actual playing is near perfection. Rather than pushing a caprice that is already near mastery to that final place of perfection (as in the concept explained above), the goal here is to focus on the musical expression and feeling of physical ease *in order to* guide the process of achieving accuracy. This caprice carries such a reputation for being difficult and relentless in its nearly continuous octaves (that are supposed to sound light-hearted), it is easy to fall into a mindset that it is an insurmountable struggle. This can be overcome by discovering a sense of ease and musicality, as well as letting go of any inhibition or worry before it actually sounds polished in reality. The cellist will practice with complete freedom, giving herself permission to make mistakes, to cultivate the physical sensations of confidence and ease. When practicing with this freedom, the player will actually make mistakes but be un-phased by them: the goal is to play with fluid motions, proper timing, good tone and expression--everything but the intonation. She will then remember this pleasing feeling of freedom and coordination, be encouraged by it, and seek to reclaim it as she improves the intonation. The relaxation that follows encourages actual improvement, which in turn reinforces the confidence that may at first have been manufactured. As this positive reinforcement cycle increases, real progress occurs and

legitimizes a true confidence and belief.

This *Caprice No. 3* is notorious because of its relentless octaves that alternate with thirds in thumb position. It is a nightmare for the left hand, yet is supposed to sound effortless like a carefree circus tune. Nearly the entire caprice requires the use of the thumb and travels into the highest register of the cello. The technical difficulty for the left hand can easily provide psychological distress to the performer; only to be increased by the difficulty for the right hand to execute the staccato stroke with charm and brilliant tone, despite an often extremely short string length. While the immediate challenges of this caprice bring the player's attention to the left hand and the need to build comfort, there are difficulties for the right hand to address as well. Solidity in the right hand can aid the mind in relaxing and releasing its worry about intonation. The player must consider carefully the bow placement in relationship to the bridge, the amount of bow to use, as well as the amount of bow pressure used. These elements must change slightly in rapid succession as the left hand moves up and down the string. Variations in string length require the player to develop a highly refined and sensitive feel in the fingers of the bow hand.

Playing with attention focused on the expression and freedom of physical motion in both the bow and left hand allows the player to set a general feeling of ease that she will constantly return to as her accuracy improves. With this sensation in mind, she can use it as a reference and also as the ultimate goal: to execute pure intonation while also feeling that same relaxation. She can imagine herself performing this caprice with fluidity and all the right notes long before it is an actuality. This becomes an inspiring vision that comes closer and closer to reality as she practices diligently to develop the technical security and consistency of intonation. Visualization is a tool used by athletes in many sports to prepare for their biggest events. Olympians from weight lifters to shot-putters to gymnasts work with visualization coaches to help them envision

their perfect performance for weeks leading up to their events. Soon after winning the 2014 Boston Marathon, one year after the bombings there, Meb Keflezighi said, "I visualize[d] the race every day since it happened."<sup>25</sup> Through intimate familiarity with the race course and prior experience in many marathons, Keflezighi was able to repeatedly practice his tactics and prepare mentally for this race. Achieving the nearly unthinkable, the 38-year-old set a personal best and became the first American to win the Boston Marathon in over thirty years. In the same way, musicians can benefit from visualizing and mentally replaying their repertoire. This even includes imagining the physical sensations and the pleasure of playing well. Using this mental skill to learn this caprice serves to give the physical freedom of ease and accompanying mental relaxation long before mastery. This not only serves as the model of playing that will be achieved in earnest, but also provides the inspiration to realize the vision.

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<sup>25</sup> Nicholas Thompson, "Meb's American Victory at the Boston Marathon," *The New Yorker*, April 21, 2014, accessed April 21, 2014, <http://www.newyorker.com/online/blogs/sportingscene/2014/04/mebs-american-victory-at-the-boston-marathon.html>.



#### IV. Focus on Colors/Expression

The image shows two staves of musical notation. The first staff is labeled "Allegretto" and begins with a dynamic marking of *mf*. It features a series of chords and arpeggiated figures with various fingerings indicated by numbers 0, 1, 2, 3, 4. The second staff is labeled "Poco meno" and begins with a dynamic marking of *p legato*. It continues with similar chordal and arpeggiated patterns, also including fingerings like 0, 1, 3, 2, 4, 4, 1, 3.

Shifting the focus in this caprice to the expression, rather than focusing solely on technical execution, will help the player keep her priority fixed on communication with the audience. This must be reinforced in the practice room through weeks and months of preparation: it is not an element that can be "switched on" when she walks onto the stage. Part of the charm of the Piatti *Caprices* is that they are extremely difficult technically, but are intended to be expressive works that can be played in public. It is clear to audience members, visually and aurally, what a performer is concentrating on. The performer, then, acts as a guide: *I am focusing on this, since it is what is important--you pay attention to it, too!* The goal in all the *Caprices*, then, is to overcome the technical challenges to reach the point where the focus is on the expression, and to give the audience an enjoyable and imaginative experience. This really gets to the heart of what virtuosity is: the ability to perform fiendishly difficult works, but in a way that conveys ease and musical expression, and not showing any distraction or attention to the technical difficulty. It is imperative that the player practices this intentionally to build this relationship between taking care of the technical details but putting them always in service of the musical expression. Practicing consistently with this mindset will increase the player's awareness and ability to listen to herself in a way that receives what is actually transferred to the audience.

This concept is easily seen in sports, as well, in many different forms. Certain sports contain artistic (style) elements that are at the center of how it is judged by a subjective expert: figure skating, gymnastics, diving, cheer or dance teams, and even formerly, ski jump.<sup>26</sup> This need to impress viewers is critical for success in all musical performances as well, but particularly so in auditions and competitions. Understanding the criteria upon which one is judged is necessary for success. In a more general sense, all musical performances should be focused on the communication and stirring of emotions for the audience. Aside from the sports, such as those listed above which rely mainly on judges, there is a commonly perceived sense of artistry and ease that can be easily viewed and widely agreed upon. The Brazilian style of soccer playing, and their dazzling display of ball handling, has come to be known as *jogo bonito* (meaning "beautiful game").<sup>27</sup> The baseball player Ken Griffey Jr. was widely admired for the ease and fluidity of his batting swing. The tennis player Roger Federer is widely considered to be the greatest tennis player of all time, in part because he plays with a visible sense of ease and grace on the court.<sup>28</sup> These, and many other examples from sports, show that there is a value not only on *what* a player's stats or victories are, but also the *style* or *how* they achieve them. Viewers are in awe of those, whether in sports or music, who execute difficult or seemingly impossible tasks with the greatest of ease. To them, it may seem completely commonplace and occur without any thought at all. Instead, they are the result of countless repetitions and intentional preparation for such a moment. Practicing with this understanding and keeping the priority on

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<sup>26</sup> Robert Siegel, "Add A Judge And Things Get Tricky: The Quandary Of Subjective Sports," *All Things Considered*, NPR, February 21, 2014.

<sup>27</sup> The Brazilians distinctive style of play is a result of many player's background playing *futsal*, which is a game similar to soccer, but played indoors on a much smaller court than the soccer field.

<sup>28</sup> The claim that he is the greatest in history is most easily supported by the fact that he holds more Grand Slam titles than any other (17). However, he has consistently lost Rafael Nadal, who is five years younger and holds 13 (and against Federer is 23-10 lifetime and 9-2 in grand slams). Though he has dominated Federer, Nadal's forceful style makes him less pleasing to watch, for some, and less commonly discussed as being the "greatest of all-time."

the expressive element, with the listener in mind, is paramount.

Approaching this caprice with the goal of expression is easy, as it contains many chords and double stops with a dark and rich tone. The harmonic changes throughout the many double stops allow for color changes with the bow and vibrato. It is easy to be distracted by difficulties with the bow and intonation; however, the player must always keep the musical expression in mind. With this as the goal, she will feel encouraged to make the improvements to achieve it. Focus on the timing of the string crossings and coordination of chords, as well as the fluidity of the left hand motion will connect the musical expression to the physical feeling. This results in a well-seasoned approach where the technique and musicality are synthesized.

## V. Program the Computer

The image shows a musical score for a piece titled "V. Program the Computer". The score is written in bass clef with a common time signature (C). The tempo is marked "Allegro comodo". The music consists of two staves. The first staff features a melodic line with several slurs and a triplet of eighth notes. The second staff begins at measure 24 and includes a triplet of eighth notes, a dynamic marking of *pp* (pianissimo), and a four-measure rest marked with the number 4.

The idea to practice in this caprice is to treat the muscles like a computer's hardware and the brain like the software that controls it. As the player develops proper execution of the piece, she must learn how to "save" the feelings of coordination and commit them to the "hard drive" (muscle memory). This caprice mostly uses the up-bow staccato technique, which may be new and challenging for many cellists to develop. This technique is awkward because it is akin to an uncontrolled twitch, which is precisely the opposite of the relaxed, smooth, and unwavering legato bow stroke cellists work so hard to develop. Treating the mental and physical elements as

one integrated system in this caprice can teach the cellist a lot about other areas of her playing, too. She will have a general idea of what the up-bow staccato stroke should sound like, through examples from the teacher, other players, and recordings. In practice, though, the body will, in a sense, teach the mind what works and what does not. There must be continuous feedback between mind and body: the mind must observe what the muscles do and what the resultant sound is. Then, when desirable staccato notes occur, the mind must learn what posture, which angle, which bow grip, and which physical feeling achieved those good sounds. The final goal is to play with the simple mindset that the muscles only respond, like a computer, to simple commands. Like ones and zeros in binary code, the muscles need simple "on/off" or "fire/do not fire" instructions from the mind. After the mind and body work together to learn this caprice and write the software code for how it will be played, it is important to keep these roles uncluttered by any kind of judgment, worry, or tension.

Athletes will practice numerous drills or simple repetitions of a stroke or shot in order to make it completely second nature. This deliberate reinforcement of a skill treats the body as an efficient machine and programs each task individually. In this way, as each skill is developed and maintained, it will be found to be reliable without a second thought or worry in the critical moment when it is needed. Andre Agassi writes in his autobiography about how his signature baseline ground strokes were a result of his father's background as a mathematician. With a firm belief in numbers and probabilities, Andre's father made him train with a ball machine to hit thousands of ground strokes each day.<sup>29</sup> Further, he made it more difficult by placing the machine high off the ground and at the net. By practicing his ground strokes in such a difficult way, from such an early age, Andre became one of the best baseline ball strikers in history.

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<sup>29</sup> Agassi recounted the scene, at age 7: "My father says that if I hit 2,500 balls each day, I'll hit 17,500 balls each week, and at the end of one year, I'll have hit nearly one million balls. He believes in math. Numbers, he says, don't lie. A child who hits one million balls each year will be unbeatable." (Andre Agassi, *Open: an Autobiography*, New York: A. Knopf, 2009: 26).

In the same way, learning *Caprice No. 5* (and *No. 12*) without an already developed up-bow staccato bow stroke can seem like an impossible task. One must approach it as a long-term endeavor, though: through repetition over many weeks and months, the stroke will become more consistent and its quality will increase. Suspending any feeling of frustration will allow the muscles to remain clear of any conflicting signals from the mind. By listening to recordings and watching others perform the stroke, the player will have a clear direction to develop the stroke and can develop it with patience and a long-view approach. The mind needs to be calm and observant in order to pick up on the small moments of hope that can turn into big breakthroughs. For example, at first, the staccato stroke can be choppy or dense, without much ring in the sound. One must be able to detect when even a single note amidst the rapid succession of notes produces the quick articulation, immediate relations, and resulting ring that is desired. In the early stages, these may be rare occurrences and be difficult to reproduce. The awareness of when they happen, and what the physical feeling/motion connected to them is, must be cultivated in order to learn how to control the muscles and produce the staccato stroke consistently.

Along with this calm and observant mindset, the player must also exhibit a creative approach to practicing. Rather than getting stuck repeating unsuccessful techniques, she should have flexibility in her approach and a curiosity and involvement in the practicing process. Regarding up-bow staccato, it may be useful and even necessary to take radically different approaches, even to try things that would seem opposite or "wrong" at first thought. For example, many play up-bow staccato with an extremely pronated bow grip by raising the elbow and turning the forearm in. This allows the first finger to grip the string and play with a heavy articulation and a rapid succession of notes through a kind of twitching motion in the upper arm. It may feel somewhat tense or heavy in the arm, but the wrist and the stick of the bow are

actually very springy. Nearly the opposite, though, a different approach is to hold the bow with a more flat grip and use the pinky more actively in holding the bow. With a curved pinky on the frog, one can have a feeling more like lifting the notes out of the string with a lower elbow and pushing motion. With both grips, gravity, natural arm weight, and the springing stick, one can create the articulate and fast-moving notes. However, the bow grip, elbow height, arm shape, and overall feeling are vastly different!

This caprice may actually require both techniques, and a flexibility to change the feeling in the right arm, because it uses up-bow staccato in two different manners. It is first used in an arpeggiated manner across all four strings, then later in a descending scale that is mostly on the A string. Executing the staccato stroke amidst rapid string crossings will feel very different than when remaining for longer on one string. While the former has a static left hand and requires an adjustment of contact with the changing thickness and response time of each string, the latter requires more coordination with the left hand and a consistent articulation on one string. In order to achieve both styles of staccato stroke, the player must be open to experimenting with slight changes and be observant and open to the feedback small adjustments in the right arm and fingers provide.

## VI. Convince Yourself It's Easy!

Adagio, largamente

The simple idea that a work, passage, or specific technical element is difficult can be enough to undermine its successful performance. Whereas some children may be able to learn advanced techniques without a second thought, the older advanced or professional cellist may struggle to overcome challenges. The unsuspecting child may tackle an issue without any second thought or worry about something being difficult, but a person who has knowledge of the cello repertoire may build up a psychological intimidation to certain elements of pieces. This caprice lends itself well to practicing the removal of any notions of difficulty. It is written in awkward keys with many flats, utilizes thumb position, and is intended to be legato and beautiful. A mere glance at the page, with seven flats and numerous accidentals, makes the challenge clear. However, one must approach it without strain. The cellist must simply address it as it is, without building up any kind of irritation or inhibition. After study and knowledge of where the notes and positions are, she will practice playing the caprice with a carefree feeling, focusing on its beauty and the relaxation of the left hand.

In the early stages of practicing, a willingness to make mistakes and confront failure may be necessary. The same is true for an athlete who is developing a new skill. For some, this process is painful. The figure skater perfecting a new jump may fall many times in training. An inexperienced pole vaulter will learn the hard way that not having enough speed and strength

means that she does not successfully make it over the stick, that the mat is beyond the bar and she is falling backward! In many sports, the early stages of a new skill can indeed be painful. When the skill is mastered, though, and the athlete is in the middle of competition, those early struggles and falls are far from the competitor's mind. Indeed, the coordination has become so familiar that it is nearly automatic and may feel easy. In the moment, the execution will be undertaken with the simple command: *do it now*.

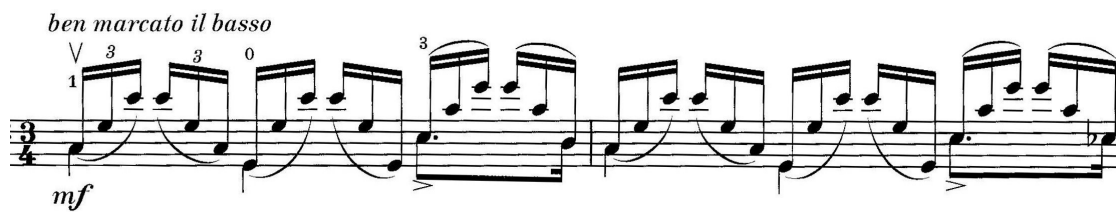
For the musician, too, she must nearly forget that the work to be performed or skill about to be executed was once difficult. The training has made it automatic and made her earn the right to play effortlessly. This is not the same as taking it for granted, but rather to be aware that what once seemed difficult has already been mastered and no longer provides the same intimidation that it once did. She can then proceed with calm determination and simply execute it as it is, and as she has done many times before.

This caprice is in ABA form, with the A section written in A-flat major and the B section in the enharmonic minor (7 flats). The presence of all these flats can make it daunting to learn, and with many double flats and corrective accidentals in the B section, confusing at first to even read and determine which notes to play. Since A-flat minor should be written as g# minor (5 sharps), this was certainly a deliberate trick by Piatti to force the cellist to think of the left hand and fingerboard differently. Instead of thinking about which notes to play and where they are on the fingerboard, the player is forced to think of the intervals and listen very carefully to the color and harmony changes. This can greatly improve the intonation and sensitivity to those changes, even if she is not conscious of the note names. It may actually be helpful, after learning them deliberately, to purposefully forget the note names in order to rely on the memory and listen intently on the tonality. The left hand will respond with ease to instructions about expression and color rather than less precise instructions like "play a C-flat." Being in the mindset that the work



is no longer difficult, but rather something very natural and second nature, removes any feeling of difficulty or intimidation. Since she has executed it successfully many times before, she has no reason to remember the time when it was difficult. Instead, her attention will be focused on the simple execution and the greatest expressive goals.

### VII. Relax (without trying)



As in all the *Caprices*, this one should be played with a feeling of relaxation. More than others, though, this caprice requires a fluid right arm in order to accommodate the rapid string crossings throughout the entire work. However, relaxation in this case does not mean limp, unsupported, or uncontrolled. In this caprice, the bow must still be controlled in order to bring out the melodic notes in the bass voice, employ a sense of rubato, and account for the differences in string thickness. This very quick and refined sense of control must occur inside the general feeling of a relaxed upper arm rolling back and forth to create the rapid arpeggiating motion. While the right arm must remain loose, the left hand has a more firm feeling, since the fingers must hold notes simultaneously on three strings (often in awkward contortions or stretches). The chord changes in the left hand must be timed in coordination with the bow, and moved through as fluidly as possible. Relaxation, then, also becomes about the hands working together in their timing and not letting any difficulty in one hand influence the feeling of ease in the other. Relaxation and the awareness of how to play with a supported sense of ease must be learned. It cannot simply be "switched on" when commanded. In fact, one must be careful not to allow an

attempt to relax to inadvertently cause stress. Many students may be familiar with the following scenario: the teacher urges with fervor, "*you must relax!*" which of course causes the student to try harder and tense up. Instead, one must learn to be aware of one's body, to remain mentally relaxed, and to coordinate the muscles most efficiently.

Here it is appropriate to return to the idea of stamina and general fitness as a concept, since it relates to the idea of relaxation. This caprice is not tiring in the sense that it requires strength to play loudly or sustain long notes. Instead, the concept of fitness applies to a general understanding of how the body works and where the point of supported relaxation is. Relaxation requires proper alignment and muscular support, which allows the joints to move freely. A golf swing or baseball pitcher's throwing motion can be seen in the same way. The freedom and speed of the motion is what generates the great force acted on the ball, not brute force. Thus, the efficiency of motion is the goal: mechanics that are unsupported and loose will result in a loss of power, as will being overly forceful and tense. Instead, balance and flexibility are needed. These are crucial parts of "being in shape" that are not simply having great stamina, but rather being consistently fit and in touch with how the muscles interact with each other.

Successful performance of this caprice requires refined and very quick changes in the bow arm, but also an independence of hands. The left hand must negotiate chords that may be tiresome to hold three strings simultaneously and stretch awkwardly. The left hand often has to quickly adjust to a new chord that may require a complete reconfiguration of the fingers onto different strings. Though it is important to practice moving fluidly through these chords and to minimize as much tension and effort, as possible, it is also crucial to develop an independence of hands: while the left hand may feel blocky and strong, the right arm must remain fluid and loose. An understanding of tension, and how to quickly release it without panic or psychological distress at its presence, is a critical skill for a musician to develop. For the cellist, successful

execution of this caprice requires it.

### VIII. Feign Difficulty

Moderato ma energico



By pretending this caprice requires more effort than the performer actually experiences, she is able to create an illusion of intensity that heightens the expression communicated to the audience. This manner of pretending difficulty can only be achieved when it is actually easy for the player. The implicit goal in this mindset, then, is for the player to become so familiar and comfortable with the caprice that she is able to concern herself in part with gesturing or making facial expressions in a way that makes it appear more difficult than it is. This is not insincere, because the caprice is in the darker key of A minor and employs many accented, brash chords in the lower registers. Other sections feature octaves in the upper register, diminished harmonies, and large jumps between the highest and lowest registers. These elements create an angular and intense feeling throughout the caprice. The player could easily lose these expressive elements after spending many hours to master the work. It would be a mistake to lose sight of the dramatic tension the initial difficulty and physical activity of the caprice created!

Many related elements come out in sports. In some instances, a player may use deception as a technique to trick the opponent into letting his guard down. A boxer may pretend to be near defeat, acting passively and without energy, waiting for the moment to suddenly strike the knockout blow. The tennis player may limp around the court and call for the trainer to address a phantom injury, giving the opponent a false sense of having the upper hand--but at the pivotal

moment, the injury magically disappears, and she proves to be stronger than ever. The opponent has likely either expended great amounts of energy in her excitement at having the upper hand, or has been lulled into becoming unaware. While the musician does not see her audience as an enemy to be vanquished, there is a similar use of deception at play during musical performance. To many, the performer's display of skill can seem impossible, as if there were no effort involved and she somehow possessed these abilities from birth. In truth, each skill and every note of the piece has been meticulously sculpted and practiced over many hours of practice and informed by lifelong study of the instrument. It may also be perceived that the player is in a deeply emotional state, pouring out her emotions, when in reality she may be thinking of the technical details and managing a very elaborate and much less glamorous set of instructions. This is the illusion of art. The perceived effort level can be used to build the illusion both ways: the performer can make it appear difficult when it is not, or to appear effortless when it is in fact the result of great effort in the moment, and during the vast time of preparation.

While the suggested exercise for this caprice is for the performer to pretend that playing it is more difficult than it actually feels, she must first achieve that technical ease and security. This may come more easily than in other caprices, however, because it is more straight-forward in nature. In ABA form, the A section is a driving dance in minor mode which features triple-stopped chords and brief trills on the second and fourth beats in 4/4 meter. The bow quickly deserves the attention here, demanding the coordination to make the chords speak quickly and resonantly, so that the timing is not disrupted. The B section moves the opening theme into the upper register, but utilizes octaves in arpeggiated motion instead of triple-stopped chords as in the A section. The B section develops the use of octaves in a free, quasi-improvisatory way that allows it to be considered a separate section rather than an extension of the main theme. The coordination of the bow in the opening, with its chords and staccato notes in between, as well as

the extensive use of octaves in the B section, are the main technical concerns in the caprice. Finally, the coda features a variation of the main theme that jumps rapidly between the A and C strings, which presents difficulty as well.

In order to play the chords throughout the A section quickly enough to avoid disrupting the speed and clarity of the pulse, the cellist will want to develop the technique of grabbing three strings simultaneously with the bow. This can be achieved by moving the bow closer to the fingerboard where the strings are closer together in their vertical height. At this place, the strings are also less resistant, so they speak more quickly but also softly. The correct pressure of the bow will depress the middle of the three strings down enough to make the outer two strings accessible to the bow hair. The player should be careful not to press too hard with the bow, though: the strings are easily choked here. Instead, the motion of the bow stroke is to grab the notes and pull them out with a rapid horizontal motion. Done correctly, this achieves a vibrant and quick response. Some of these other chords can be broken to emphasize their harmonic and expressive importance. These can be set up with a stretching of the preceding notes to create a natural slowing of the pulse, so that the extra time of breaking the chord does not disrupt the sense of flow.

The fast horizontal motion necessary to play most of these chords with energy and vitality makes the articulation of the remaining notes in the main theme more difficult. The explosion of the bow sideways during the first eighth-note chord puts the bow out in upper half of for the next two staccato sixteenth-notes. It is crucial that the player practice not only the explosive chord, but also the recovery, which must stop the bow cleanly on the string. The bow must not bounce or make a crunching noise as it comes to rest. Further, it must be set in the string, ready for a crisp articulation of the next two sixteenth-notes in the upper half (Up-Down). These two notes

are followed by a more gentle attack on the second and fourth beats of the measure. This quarter note in the bow is difficult, as it must be played smoothly on the beat, but then grab an accented chord on the second eighth-note of the beat. The chord in the middle of the slur should be connected as much as possible on the front but separated from the accented chord that follows. These coordination elements with the bow must be practiced slowly, with careful attention to how to the articulation of the initial chord, the following two sixteenth-notes, the up-bow on the second beat, and the chord in the middle of the second beat, are all slightly different from one another. It is a lot of information for the right hand to transfer in very little time. Luckily, once set, this dance pattern remains fairly consistent throughout the caprice.

The octaves in the B section should be practiced similarly to the way they are addressed in *Caprice no. 3*. Isolating the lower note with thumb, balancing them to emphasize clearly the bottom note, and keeping the third finger curved are all crucial ways to practice this passage. As in *No. 3*, practicing with a sense of ease and even playing without worry of intonation at times in order to feel the fluidity of left hand and general timing of motion can be useful. Practicing scales in octaves is also helpful. This section also features the occasional use of the fourth finger to create a tenth above the thumb. This can be practiced by holding the fourth finger straight and stretching to reach the tenth. For players with smaller hands or shorter fingers, it may be necessary to rotate the arm and hand to help extend and support the fourth finger: for these players, careful practice to return to the same weight and balance on the thumb will be necessary to maintain consistent intonation of the lower note.

Once the technical elements have been carefully made reliable and consistent, the performer can intentionally practice the virtuosic mindset appropriate for this, and all of the caprices. "Feign difficulty" is in no way insincere or cheap. Instead, it is a way to recapture the intensity and excitement one has when first tackling a work like this caprice. The goal of hours

of focused technical study is to make it feel effortless; however, it would be inappropriate to perform this work with an ease that the audience will not engage with intensely. The performer must then create the illusion of difficulty and of the physical nature of such dramatic expression. Long before walking out on stage, she must practice playing this caprice with that performance mentality and plan elements like: where to stretch the tempo, where to gesture, where to put her head down in struggle, where to move sideways along with the bow arm to show effort, where to show teeth in defiance, or where to scowl at growling notes in the low register. Whatever they are, such gestures must come from the sincere interpretation of the work and be executed in a way that conveys meaning and heightens experience for the listener.

### IX. Stay Engaged



All caprices rely on a high level of repetition in order to isolate technical elements and promote their development. Whereas other Piatti *Caprices* contain a contrasting B section or variety throughout, this one is without any deviation from the bow stroke it features. Just as in *Caprice no. 8*, the player must not allow it to become monotonous for the audience, despite having spent a large amount of time on it herself. Unlike in *Caprice no. 11*, in which the goal is to purposefully daydream and let mental images inspire the performance, the goal in this caprice is to not allow the mind to wander and become distracted. This discipline may be useful in many areas of one's career, as part of the job is to play with precision and expression even if one does not feel a strong personal connection to the particular piece or style being played.

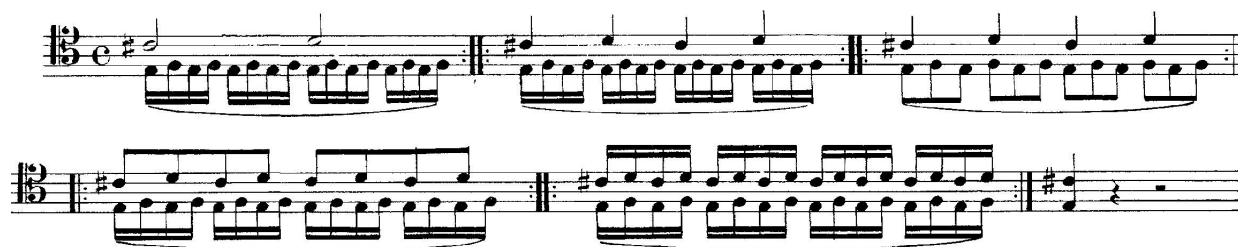
The unchanging repetition of the caprice can create a lull that makes it difficult for the performer to maintain concentration throughout. This can also occur in sports where the repeated task can continue for hours and cause the athlete to slip into sub-optimal performance. A marathon runner must keep a disciplined mind to focus on her cadence, keep track of her pace, and focus on hitting her goals for specific points during the race. If she does not, she may find herself farther behind the leaders than she originally planned, and unable to overtake them. For the amateur runner racing against a goal time or previous best, she could easily find herself too far behind her goals to make up the time by the finish. The same may be true for a runner who does not stay focused enough to hold back and conserve energy in the early stages of a race and crashes, falling short of the goal in the final miles. This same mental concentration must be maintained in long distance swimming and cycling. In a more extreme example, a Nascar race may continue for 500 laps, but just a momentary lapse in concentration can have deadly consequences. While repetition can allow for relaxation and a trance-like state, it can easily cause mental vacancy. This must be avoided. Concentration must be maintained to prevent against any disruption in the timing and consistency of articulation.

This caprice features a light, spiccato bow stroke that is unchanged throughout. Initially, this stroke will not be achievable until the left hand is familiar enough with the work to play quickly. The early stages of preparing this piece will be slower and with a short staccato bow stroke that is played on the string. Though keeping the hair on the string, the player should practice in the slower tempo with very short notes, allowing the stick of the bow to bounce and quiver. This will more naturally transition late into a spiccato stroke, off the string, than practicing legato or with a heavier staccato stroke, which allows the notes to be longer but still separated. Practicing with very short notes, but in a slow tempo, allows time in between notes to set the left hand while also starting to feel action in the stick of the bow. It will additionally



reinforce the need for the left hand to be completely set before the bow strikes the note. The left hand issues will need to be addressed during this stage of practice to build reliability and coordination with the bow. A sense that the left hand moves immediately after the note sounds and is slightly ahead of the bow is useful in order to ensure that each note is completely stopped before the bow strikes it. Special attention must be given to double stops. In particular, the player must be careful to tune fifths, which must be stopped with one finger across two strings. Throughout this caprice, many of these shifts occur on the fourth finger: along with the need to reach a whole step between the third and fourth fingers, strengthening the fourth finger is advisable. Additional daily exercises such as trills, double stop trills, and Cossmann are excellent ways to emphasize finger strength.

Cossmann double trills exercise.<sup>30</sup>



Cossmann finger strengthening exercise (to be performed on all strings, continuing down by half step until open C is reached):



<sup>30</sup> Also practiced with all other fingering combinations, switching the string to alternate the fingering on, and switching the note to start on (upper or lower of the two fingers on the same string). Feuillard has similar exercises in his *Daily Exercises*. It is also worth noting here that Piatti dedicated his *Caprices* to Cossmann.

## X. Get in the Zone

Allegro deciso

The musical score is written for a single instrument, likely a violin, in the key of D major (one sharp) and common time (C). It consists of two staves. The first staff is in bass clef and begins with a dynamic marking of *p* (piano). The music is characterized by a repetitive pattern of slurred eighth notes, moving up and down the scale. Fingerings are indicated by numbers 1, 2, 3, and 4 above the notes. The second staff is in treble clef and continues the melodic line, also featuring slurred eighth notes and fingerings. The tempo is marked 'Allegro deciso'.

Similar to *Caprice no. 9*, this caprice does not contain a high degree of variety. It is much longer and also more demanding for the left hand, though, as it travels up and down the fingerboard and requires large and fast shifts. Adopting a deliberate mindset of intense focus to combat the monotony, as in *No. 9*, may become taxing in this caprice. Instead, getting in "the zone" is a kind of extension of being more deliberately focused as in *No. 9*. In this caprice, the player will explore the ability to be completely focused and aware but in a way that does not require such intentional and tiring mental focus. This can best be described by paradoxes: it is relaxed but active and intense; carefree and egoless but completely involved and intentional; and full of intensity and desire to play well, but completely without stress or judgment. This mindset is commonly referred to in athletes as "being in the zone." The repetition of this caprice can allow the player to explore a near trance-like state by focusing on the consistency of the right arm and hanging out with the ideas of what "being in the zone" might mean and feel like.

This caprice maintains the bow stroke of two slurred/two up-bow staccato consistently throughout. It is similar to *No. 9* in its repetitive nature, but is longer and travels much higher into the upper registers. The added duration and difficulty compared to *No. 9* points to a different performance mindset to develop, then: rather than a more light-hearted "feign difficulty" approach, *No. 10* requires more deliberate concentration and a mental mode of committed delivery. Being "in the zone" points to a mindset in which the athlete or performer sees

everything in advance and remains calmly in control. The athlete is described as being *locked in*, *on fire*, or *out of his mind*. In music, it can be described as *getting lost in the music* and becomes visible by a noticeable gaze or look of concentration. It is difficult to describe, as it is full of effort yet relaxed, intentional yet by letting go, and self-aware yet egoless. As with many of the things discussed in this paper, this mindset cannot be simply switched on when the performer walks out on stage. Similarly, she cannot expect this state of mind to be present on a future date without cultivating it in her training. This kind of mental state is the goal in each of these caprices in one way or another: in some, it may be as a sort of meditation, but in *No. 10*, it is a more alert and deliberate mindset.

Developing the bow stroke will require careful consideration of how the different strings and registers of the cello respond. The differences in thickness of the string, dynamic played at, and register will require changes in bow pressure and feeling in the right hand. The stroke itself can be executed different ways, and each may be utilized during different passages. One approach is to play on the string and connect between the slurred down-bow through the bow change to the first staccato note on the up-bow. Another approach is to allow the first staccato note to lift the bow off the string and strike the next note from the air. Conversely, one may choose to keep the bow on the string. One can also play without drawing out the connection between down-bow and up-bow: either by simply letting the down-bow decay and keeping the bow on the string, or by lifting the bow and striking both up-bow staccato notes from the air. Developing each of these ways to execute the same stroke, and making them sound as similar as possible will go far to teach the player not only how to control them, but also how much variety of articulation she can create within the same stroke.

The left hand must be confident in the high register of the cello and very solid in shifting

with the thumb. Because the thumb mostly acts as an anchor for the hand and is firmly placed straight across two strings, it is less flexible to adjust intonation than other fingers are. For the most part, then, shifts and adjustments of intonation largely come from the elbow. Other shifts will be practiced in the same way, even if the shift goes to a finger other than the thumb: by shifting this way, the shift is for the entire thumb position, not simply for the note which follows the shift. To develop security in shifting, the player must carefully plan the height of the arm, the precise distance the hand will travel (focusing on the amount the elbow will open to achieve this), and the speed with which the hand must move. The shifting motion will occur rapidly and with all parts of the hand, fingers, and arm from the elbow down moving together as one unit. In the end, it will feel like a sudden click or ratchet snapping into place. Any feeling the player may use at times that is like leading or searching with the finger, or sliding into a note quietly to hear the approaching pitch will not apply to this kind of shift with the thumb: it must occur swiftly and with complete certainty.

Once the player begins to master sections of the caprice, she can begin practicing the performance mindset of being in the zone. The goal is to see the entire passage being practiced as a single unit, but also to be aware of each shift, difficulty, change in dynamic, bow articulation, and any other reminder or dangerous moment she has become aware of through her practicing. By seeing the general view and small details simultaneously, she will have a clear sense of inevitability that each event must fall into its place, while also maintaining a keen awareness of how to address pivotal moments where things may become derailed. As she successfully proves proficiency and builds confidence in smaller chunks, she will be able to put them together into larger chunks and eventually practice the caprice as a whole in this way. At first, this intense focus may be tiring, but by practicing in chunks and through repetition, the mental endurance will increase in the same way that physical stamina does.

## XI. Make it Fun (daydream)

The image shows a musical score for a piece titled "XI. Make it Fun (daydream)". The score is written in bass clef with a key signature of one sharp (F#) and a common time signature (C). It is divided into two parts. The first part is marked "Adagio" and begins with a forte dynamic (f). It features a series of chords and a melodic line with a trill. The second part is marked "Allegro" and begins with a piano dynamic (p). It consists of a rhythmic pattern of eighth notes with a trill, followed by a section marked "rall." (rallentando) with a piano dynamic (p). The score includes various musical notations such as slurs, accents, and fingering numbers (1, 2, 3, 4).

The goals of relaxing and getting lost in the expression of the music, rather than the technical difficulties are themes that continually reemerge in the discussion of how to develop a strong mind-body connection in musical training. These goals can fall into place naturally when one is having fun and is in a state of play. This caprice easily evokes pleasing images of a carefree stroll or boat ride, and imitates the sounds of an accordion. It would be easy enough, and quite appropriate, to daydream while playing this caprice. Taken a step further, it may be helpful to even fake or put on a facade of happiness, even if partially distracted by the technical execution of the piece. Studies have shown that the act of smiling actually makes a person feel happier.<sup>31</sup> In the same way, rather than waiting for the time when hearing the caprice by one's own playing is enjoyable for the cellist, she should practice adopting a *this IS fun* attitude and even smiling while she plays. This may feel silly or uncomfortable at first, but is an important practice to not only develop such sincere involvement and connection with the piece, but also to become comfortable and deliberate in one's physical demeanor during performance. It would be unwise to plan to look pleasant and cheerful to give the impression of having fun later when on stage for the performance without having ever practiced for oneself what that actually feels like.

<sup>31</sup> Melinda Wenner, "Smile! It Could Make You Happier: Making an Emotion Face--or Suppressing one--Influences Your Feelings." *Scientific American* Aug. 1, 2009, accessed April 28, 2014, <http://www.scientificamerican.com/article/smile-it-could-make-you-happier>.

There are many examples from sports that reinforce the idea that the players who have fun perform better, but also that their displays of skill are more enjoyable for the viewer. The great tennis player Pete Sampras, though the most dominant player in his era, was continually criticized for being boring to watch.<sup>32</sup> If 14 Grand Slam titles and almost unrivaled dominance for many years was not enough for tennis fans, how much more important is it for music audiences to see performers enjoying their craft? In the NBA, teams that high-five and express their exuberance and excitement through physical touch are more successful (and some of the best individual players are the most "touchy").<sup>33</sup> Though it would be unusual for musicians to touch one another on stage in most circumstances, it is clear that athletes' expressions of having fun, excitement, and camaraderie positively impact their performance. Further, the training process itself will be undertaken with more intensity and persistence if it is seen as being fun.

Another element of allowing oneself to daydream or conjure inspiring images while practicing is the intentional use of distraction. This is permissible and actually helpful, as long as it does not lead to a complete loss of focus and control. A leading cellist and teacher, Thomas Demenga, suggests getting used to performing other simple but unrelated tasks while playing, in order to remain relaxed in the moments leading up to difficult passages. He suggests moving the head:

"in doing this you are forced to concentrate on the circle your head is drawing instead of worrying about the passage you are about to play...The next step is to succeed in the same way on stage...There I suggest you do the same – but this time make it look natural and beautiful and with an inner smile!"<sup>34</sup>

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<sup>32</sup> His serve and volley style of play meant that most points were short, but he also showed little emotion or excitement on the court.

<sup>33</sup> Benedict Carey, "Evidence That Little Touches Do Mean So Much," *The New York Times*, February 22, 2010, <http://www.nytimes.com/2010/02/23/health/23mind.html>.

<sup>34</sup> Thomas Demenga, "The Art of Distraction is More Effective Than Repetitive Practice," *The Strad*, February 14, 2014, <http://www.thestrad.com/latest/blogs/the-art-of-distraction-is-more-effective-than-repetitive-practice>.

This kind of distraction and return to a focus on the ease and enjoyment of playing is precisely what is so useful in practicing this caprice. It should be easy to become lost in a daydream, since it is such a charming work!

*Caprice No. XI* evokes the sounds of an accordion through its alternating Alberti bass style of repetition. The light re-articulations caused by the lifting and depressing of the left hand through the continuing line, and the bow leaving and resuming the other strings all add to the rustic quality. The initial concern to address in this caprice is the intonation of the double stops. The fingers must be firm to depress the string simultaneously in order to play legato. This must also be timed with the bow's alternation of playing and abandoning the top string. The left hand, then, must be secure and decisive for there to be both pure intonation and clear rhythm. To practice this, the cellist will want to tune the double stops without the alternating note. She must be aware, however, that holding these notes can cause the muscles to become tired: practicing held notes is unlike what the actual performance of this caprice will be. Instead, she will need to instill a feeling of fluidity, moving from position to position smoothly. Then, she will also need to practice lifting the finger of the alternating string and feeling the shift in only one of the fingers. Proper intonation will come when she can correctly feel the proper distance from that anchored finger when she replaces the other. As in other caprices, finger strength is important, so daily practice of exercises like Cossmann and Feuillard are helpful in this area.

This discussion of finger strength and shifting also points to the need for the hand to maintain a round shape with curved fingers. If a finger accidentally touches another string, it can cause a squeak. This can occur not only while the finger is down, but also when lifting the finger. Careful consideration of the arm shape and elbow height will help to support the hand in a way that allows the fingers to curve and also lift and shift with ease and clearance of the string above.

Open strings also present difficulty for the bow. When alternating between stopped notes and the open string, the difference in height of the string causes it to jerk up against the bow when lifting the finger. This causes a disruption in the legato line. Similarly, the open strings respond differently to the bow than stopped notes do. The difference in string height is fairly significant, as the string length goes from nearly half to full length. The player must learn how to lift the finger and cushion the bow in a way that prevents any jarring, popping sounds.

While these elements are being addressed, the player must keep in mind that the technical considerations are in service of musical expression. In this caprice, the goal is a charming street song. Keeping this in mind can be an encouragement while battling squeaks and difficult double stops. The performance practice in the later stages of this work is to allow the mind to daydream, and to use those images to inspire real and personal interaction and involvement with the piece. After the technical struggle is over, the player deserves to feel rewarded by her personal connection to and enjoyment of the musical expression. In her practice, then, she can allow herself to let her imagination run and experience thinking less deliberately about the music and technical solutions and more about the images she hopes to convey to her listener. This exploration will help to show her how much she can let go and at what point her daydream can cause her to lose control of the technical details. In the end, she will find a balance where she can enjoy the performance and daydream, but still remain cognizant of the challenging moments she must remain alert for.



## XII. Trust the Computer

Allegretto capriccioso

The image shows two systems of musical notation for the piece 'Trust the Computer' by Paganini. The first system is in bass clef, 6/8 time, and begins with a double bar line and repeat sign. It contains two measures of music, each with a dynamic marking of *f* followed by *mf*. The second system is also in bass clef, 6/8 time, and contains two measures of music, each with a dynamic marking of *f* followed by *mf*. The notation includes various rhythmic values, slurs, and accents.

This is an extension of the mindset practiced in *Caprice no. 5*, which is the other caprice that relies heavily on the up-bow staccato stroke. After developing the bow stroke and correct relationship between mind and body (in which the mind sends clear signals to the muscles and remains in a relaxed, observational mode), it is important to maintain trust in the preparation. In order to stay relaxed and avoid sending confusing instructions to the muscles, the mind must trust the body to execute the instructions it is given. This trust can be quickly undermined by the slightest doubt, memory of failure, current mistake, insecurity, or judgment. Maintaining mental focus and discipline to remain in a relaxed, observant, and non-judgmental mindset is actually a learned discipline. This caprice can be used to practice all of the elements described in connection to the fifth caprice, but taken a step further: after "programming the computer," it is important to let it run its course without interference. Even in moments when a note may speak differently than expected or slightly out of coordination with the left hand, the player must learn to avoid going into panic mode and allow the muscles to correct the bow stroke immediately.

This ability to trust the muscles to execute the tasks that they have been so deliberately programmed to do comes as a result of good training. Athletes in some sports may have a regular off-season that extends through roughly half of the year. During this time they may rehabilitate injuries, build strength, lose weight, increase speed, and learn new plays and tactics for the

following season. In the NFL, teams play only one game each week, and thus spend much of their time preparing for the next opponent. They study their opponents on film to learn their tendencies as proven by their performance against other teams. Known for his work ethic, including hours of film study of other teams as well as his own performance, 2014 Super Bowl winning quarterback Russell Wilson frequently shares his motto: "the separation is in the preparation."<sup>35</sup> This allows him to quickly and calmly adjust to the rapidly changing variables that occur in his sport, and to make the correct decisions without deliberation, nearly like a reflex.

Utilizing this same mindset, the musician can have complete confidence on stage, because she knows her extensive preparation will allow her to execute with calm precision. Similar to *No. 5*, the main mindset to develop in this caprice is a reliance on muscle memory and clear communication between the mind and the muscles. There are many technical challenges to overcome in each hand through slow practice and consistent work on this caprice. The up-bow staccato stroke runs consistently throughout, but must be treated differently in different registers, with string crossings and shifts, coordinating with false harmonics, and general musical expression. The bow distribution of this stroke must be carefully developed. The chord on the downbeat must use a majority of the bow with a swift horizontal motion, which creates a vibrant chord. The player must practice bringing the bow to rest cleanly on the string with the contact needed to start the up-bow staccato stroke with clean articulation and an active stick of the bow from the very first note. She must plan carefully how much bow to use on the sixteenth-notes and single eighth-notes on beats four and five in order to have enough bow remaining for the accented eighth-note chord on beat six. This entire up-bow figure should be played with a

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<sup>35</sup> Chris Cluff, "Wilson, Seahawks Prove it: 'The Separation is in the Preparation,'" *examiner.com*, December 4, 2013, accessed April 24, 2014, <http://www.examiner.com/article/wilson-seahawks-prove-it-the-separation-is-the-preparation>.

forward direction and slight crescendo, so the amount of bow used on the individual notes will increase throughout the stroke. All of these details are programmed in the hours of practicing, which allows the performer to trust and let go during performance.

## CHAPTER FOUR: CONCLUSION

This paper has explored similarities in the experiences of both athletes and musicians to draw out the important concepts that govern the mental and physical preparation needed for successful performance. In particular, marathon training provided a model to show how musicians may learn from a runner's reliance on long term goals, detailed scheduling of training, variety in workouts, the taper period, and race planning that controls as many variables as possible. These and other aspects of the runner's experience are similar to the musician's because they require the discipline to train in solitude for the delayed gratification of reaching a goal that is many months in the future.

The *Piatti Caprices* were used to discuss possible ways to frame musical training in a way that builds the performance mindset and fosters a trust between the mind and body. This more focused discussion of practical applications supports the earlier presentation of ideas linking marathon training to musical practice.

Also key in this exploration is the role of the teacher. The teacher plays a crucial role in acting as an advisor not only in the mechanics of playing the instrument, but also in planning, setting and adjusting goals, and establishing a sound mental approach. She must motivate at times with encouragement and at other times by challenging the student. Trust between teacher and student, and an understanding of each other, is important for this kind of relationship to benefit both individuals. It is also wise to acknowledge that if it takes 10 years or 10,000 hours of focused study for the student to reach mastery, the teacher may only influence the student for a small period of time in her overall development. In a literal sense, the direct interactions during the lesson times will only account for a tiny fraction of the student's total time spent on the instrument. In a more general way, the teacher may only influence the student for a few years:

just a small snapshot in comparison to her many years as a student and long career with continued growth. Thus, the great responsibility for the teacher is two-fold: the moments of the lesson times are precious and she must make the greatest impact possible in a small amount of time; but also, she must keep the student's overall trajectory in mind to understand how to build on her previously learned knowledge and point her toward further exploration with other teachers and on her own.

Finally, this document points to many possibilities for ongoing growth in how teachers, students, parents, and professionals approach musical training. Sports hold a central part in modern culture and many young people have experiences in them that should be applied to music. Athletes benefit from access to a wide number of coaches and advisors, technology, and biomechanical research to aid them in their training and performance. Though music is inherently different in the sense that it cannot be quantified into minutes, miles, goals, or points, it may benefit from correlations to sports. Further study to inform how to balance musical training and create the best mix of developing and maintaining physical fitness, learning new skills or works, and practicing the performance mindset is needed. Musical quality and expression may never be quantified, but a clear set of practicing guidelines or ratios for how to specifically manage practice time, supported by scientific research, would be largely beneficial. Additionally, while the master-student model holds an important place in musical study, an opening of music schools to include other specialists like career advisors, visualization and mental strength coaches, and nutritionists seems appropriate. Further research into how to understand the process of practicing--so that musicians understand how their own bodies and minds work together most efficiently and how to create the optimal conditions when they practice--would be of great benefit to musicians and individuals within a wide range of disciplines.

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