

Fall 2021

An Application of Natural Learning Processes in the Preparation of Edward Gregson's Trumpet Concerto

James Jenkins

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AN APPLICATION OF NATURAL LEARNING PROCESSES IN THE
PREPARATION OF EDWARD GREGSON'S TRUMPET CONCERTO

by

James Arnold Jenkins

A Doctoral Project
Submitted to the Graduate School,
the College of Arts and Sciences
and the School of Music
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Musical Arts

Approved by:

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December 2021

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2021

Published by the Graduate School



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ABSTRACT

Concerto for Trumpet and Strings by Edward Gregson is a substantial work of the late twentieth century underperformed among trumpet players. The primary reasons for its relative neglect are its technical challenges and the demands of endurance it places on the player. A well-designed approach to the preparation of this work will benefit students and professional players wishing to prepare for a performance of the work. This project will combine the knowledge of researchers and teachers in formulating specific practice approaches for the concerto's challenges.

The findings of neuroscientists and psychologists, gained through testing and measurement, will be consulted along with information gained from a survey of the pedagogy articles and columns of the *International Trumpet Guild Journal* between 1976 and 2020. The latter is helpful for its empirical knowledge gained from eminent trumpet pedagogues through years of practical experience teaching the trumpet. The nature of learning will be discussed as it applies to learning music, with attention being given to the process known as story memory. The project will be aimed at students who already possess a solid foundation in trumpet playing fundamentals.

The chief technical problems in the Gregson Concerto will be identified, and practice suggestions for overcoming these difficulties will be suggested. Specific passages will be addressed, and detailed solutions will be applied for their mastery. Musical examples will be included in the document, which indicate the technical challenges being discussed. The application of these suggestions, it is hoped, will lead to broader acceptance and performance of the work, particularly among ambitious college trumpet majors.

ACKNOWLEDGMENTS

Thanks to my advisor, Dr. Timothy J. Tesh, for his timely insights and support during this project. His assistance proved invaluable in formulating the plan for this document, and his suggestions during the writing of the paper were advantageous. Additionally, I express gratitude to my committee members, Dr. Richard H. Perry, Dr. Benjamin McIlwain, Dr. Joseph Brumeloe, and Dr. Edward Hafer, who provided further recommendations. I also want to thank the following elementary and high school teachers for their extraordinary contributions to my education: Ouida Mulholland, Beverly Warrington, Cherie Vickers, Judy Barham, Linda Killian, Rebecca Barnett, and James Davis. I especially want to acknowledge my piano teacher Susan Walker, guitar teacher Marion Nooe, my high school band director Ila Nicholson, and trumpet teachers Robert Cheesman, Allan Cox, and Timothy J. Tesh, for whose instruction I will be eternally grateful.

I owe a particular debt of gratitude to my family: to my parents Benny and Sara Jenkins, whose love and support have been enormous and who have supported me financially, emotionally, spiritually, academically, and musically since my birth. I am also profoundly grateful to my wife, Anita Jenkins, a full-time doctoral student who has worked full-time and supported me in every way while I obtained the Doctor of Musical Arts degree. Thanks to my children, Isaac, Isabella, Abigail, and Andrew, who have provided many much-needed diversions and encouragements during my time in school.

Finally, thanks to Hal Leonard Publications, the copyright owners of the Gregson Trumpet Concerto, for granting permission to reproduce the musical examples in this document.

DEDICATION

This document is humbly dedicated to the memory of my mother, Sara Halsell Jenkins, May 7, 1941 – August 7, 2021. Her tireless efforts as a mother, mentor, and champion of my well-being will never be forgotten.

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CHAPTER 1 - INTRODUCTION

Purpose of Study

The Gregson Trumpet Concerto is one of the significant works of the twentieth century, but it appears that it has been neglected because of the many challenges the piece presents. Selected technical challenges of the work will be identified, including tonguing, mixed articulations, complex fingerings, lip slurs, and endurance. This project will combine information about natural learning processes and trumpet teachers' relevant input on how to practice various technical challenges generally. Researchers' and teachers' knowledge will be used to formulate specific, efficient practice approaches for the Gregson Concerto's challenges.

Gregson's Concerto contains many of the compositional features of works written in the twentieth century. These include wide intervallic leaps, sweeping dynamic contrasts, utilization of the trumpet's full range, multiple tonguing, and passages containing disjunct figures. Additionally, the piece includes lip slurs in a rhythmic context. The number of challenges, combined with the endurance needed to perform the work successfully, make formidable demands on the player. Due to the difficulties, the work is usually heard in major competitions or featuring principal trumpeters or guest soloists with orchestras. It is more rarely played in undergraduate and graduate trumpet recitals.¹ This guide aims to present a disciplined approach for the efficient mastery of specific passages in the work. It is directed primarily toward advanced undergraduate or

1. Will Koehler, "X Marks the Spot: An Analysis of Edward Gregson's Trumpet Concerto," *International Trumpet Guild Journal* 40, no. 4 (June 2016): 25.

graduate students who desire to perform this concerto in hopes that the work will be programmed more often in undergraduate and graduate recitals.

Background

According to the composer's note preceding the published musical score, Edward Gregson's *Trumpet Concerto for Timpani and Strings* was commissioned by Howard Snell and the Wren Orchestra of London. The work's first performance was given in 1983 by trumpeter James Watson to whom the work is dedicated.

The composer arranged the work for trumpet and piano shortly after that. The concerto consists of three movements, and its duration is about twenty-one minutes.² The work has been described as a "'virtuoso showpiece' that...continues to grow in popularity."³ The first movement is in sonata form, with variations of themes one and two included in the exposition.⁴ The second movement is in ternary form and includes a tone row.⁵ The second movement segues into the finale, a five-part rondo.⁶

2. Edward Gregson, *Trumpet Concerto* (London: Novello, 1984).

3. Koehler, 25.

4. Ibid., 25.

5. Ibid.

6. Ibid., 30.

Learning Complex Skills

Applied trumpet teaching is often rooted in the nineteenth-century practice of learning techniques in isolation and then applying specific techniques to the piece in question. Many of the cornet solos of Arban, typical of the musical idioms of the time, contain one primary difficulty, such as triple tonguing. In this case, the teacher gives the student triple-tonguing exercises and sends them to learn the solo. This works well where pieces contain only a few technical challenges. However, in a work like the Gregson Concerto, it is daunting for the student to begin practicing the work's plethora of challenges. It may be difficult for the teacher to understand how to direct the student in pursuing these challenges.

Story Memory

Humans learn complex tasks using a process called story memory.⁷ Story memory breaks learning into more straightforward, more manageable goals by finding patterns, and this process has been referred to as the natural learning process. Story memory connects facts, skills, previous ideas, and experiences with the learning process. In music, this process is applied when the student forms a mental target of the desired result, and the brain moves the body to action in achieving the desired result.⁸ The music student's brain figures out what to do much the same way a toddler's brain figures out how to walk after establishing a mental target, usually walking from one person to another. The task is

7. Ellen Criss, "The Natural Learning Process," *Music Educators Journal* 95, no. 2 (December 2008): 43.

8. *Ibid.*, 43.

one clear goal, but the process involves several challenges. Through trial and error, the toddler makes the changes necessary to achieve walking. The musician's trial and error is the practice applied toward the desired performance results. Learning happens as an efficient process in walking and playing music: the brain keeps what works and discards what does not work. Trial and error practice is relatively simple with a technically straightforward piece of music: one masters the technique and applies it to the music.⁹ With a more complicated work like the Gregson Concerto, there are many potential pitfalls. More specifically, targeted approaches are needed so that each challenge can be broken down into its constituent elements and learned using story memory.

Complex Music Benefits from a Systematic Practice Approach

Researcher Daniel Kohut believes that since music is a non-verbal art, there is a danger in overly analytical music teaching. He says, "Images are better than words, showing is better than telling, too much instruction is worse than none, and conscious trying often produces negative results."¹⁰ Kohut believes over-complicated music instruction hinders learning. The danger in this generalization becomes apparent, however, when applied to works like the Gregson Concerto. The performer needs the bigger mental picture of the work and the knowledge of how to execute each of the challenges efficiently. Once the mechanics of learning based on scientists' research are

9. Ibid., 43.

10. Daniel L. Kohut, *Musical Performance: Learning Theory and Pedagogy* (Englewood Cliffs, NJ: Prentice Hall, 1985), 14.

understood, a plan for the systematic and efficient preparation of the Gregson Concerto can be realized.

CHAPTER 2 - NATURAL LEARNING PROCESSES

Neuroscience and Music Practice

Neuroscientist Douglas Fields, chief of the Nervous System Development and Plasticity Section at the National Institute of Child Health and Human Development, has studied glial cells and myelin and observed that brains of developed musicians exhibit more significant development of white matter. Fields believes that an increase in white matter is related to practice begun at an early age and maintained into maturity and that the quantity of practice influences this development.¹¹ Fields explains that myelin coatings are established through repetitions, and they insulate the nerves and keep signals from leaking away from axons. More efficient coatings mean less leakage, which means less initial energy is needed to fire the myelinated neural circuit. With practice, better results are possible with less effort. Non-myelinated sheaths carry messages at about 2 miles per hour, while myelinated ones move around 200 miles per hour. Myelinated sheaths get the message to the destination at the correct time by regulating the speed of transmission. If the message arrives at the wrong time, the synapse will not fire, the message will be lost, and the desired action will fail.¹² Fields argues that practice produces an efficiency of technique.

Psychologists do not agree on how brain research should inform music teaching, nor do they agree on the inherent features of music practice. Psychologist Anders Ericsson found that only “deliberate practice” improves a skill. By deliberate practice, he means “a well-defined task, at an appropriate level of difficulty, accompanied by

11. Ibid.

12. Ibid., 50-51.

formative feedback, and also accompanied by opportunities to apply corrections and complete repetitions.”¹³ He believes at least 10,000 hours of this kind of practice must happen before mastery can be achieved in music. Ericsson emphasizes quantity over quality as he believes repetition is the primary key to learning.¹⁴ Ericsson’s opinion can be restated to say that efficient practice in the right amount is crucial for success.

Habib and Besson concur with both Ericsson’s and Fields’s findings. They say the brains of musicians and non-musicians differ. Musicians’ brains develop changes in the cortex because of practicing the motor skills necessary for performance and are better developed to discriminate between musical sounds. Most of these brain changes are directly related to hours of practice spent, and this is observed even in young children. “Repeated practice optimizes neuronal circuits by changing the number of neurons involved, the timing of synchronization, and the number and strength of excitatory and inhibitory synaptic connections.”¹⁵ In essence, the musician’s brain has become more efficient while benefitting from efficient practice.

Quality of Practice Influences Results

Researchers are becoming aware that practicing engages more of the brain and builds more secure neuropathways than in persons who do not practice.¹⁶ It seems clear

13. Donald J. Walter and Jennifer S. Walter, “Skill Development: How Brain Research Can Inform Music Teaching,” *Music Educators Journal* 101, no. 4 (June 2015): 50.

14. *Ibid.*, 50.

15. Michel Habib and Mireille Besson, “What do Music Training and Musical Experience Teach Us About Brain Plasticity?” *Music Perception: An Interdisciplinary Journal* 26, no. 3 (February 2009): 281.

16. Habib and Besson, “What do Music Training and Musical Experience Teach Us About Brain Plasticity?” 208.

that practicing passages in multiple ways further enriches the learning process, and perhaps researchers will someday be able to measure this scientifically. Among the various ways sections can be practiced, the most effective appear to be slow repetitions, the elimination or addition of pitches, the changing of articulations, and the alteration of rhythms. At times, holding the instrument with the right hand and practicing a difficult fingering passage with the left hand yields more favorable results.¹⁷

Parallels Between Athletic Training and Music Practice

The organization inherent in specialized athletic training reveals parallels to the preparation of works like the Gregson Concerto. Hal Higdon says, “Becoming a faster runner takes hard work. It takes determination. It takes time; it takes not merely a few weeks or months to achieve a basic level of fitness, but several years. Perhaps most important, improvement needs a plan.”¹⁸ Runners looking to maximize their running potential do not just train by running. They also engage in different kinds of training, including endurance running and speedwork, strength training, flexibility training, and active and passive rest. Active rest includes cross-training athletic activities such as swimming or biking, which give cardiovascular benefits while giving running muscles a break. Passive rest, i.e., doing no exercise, is also incorporated into a well-conceived

17. James Zingara, “Creative Problem-Solving Techniques for the Trumpet Student,” *International Trumpet Guild Journal* 36, no. 3 (March 2012): 51.

18. Hal Higdon, *Run Fast: How to Beat Your Best Time Every Time* (New York: Rodale, 2016), 1.

training regimen. The sum of these efforts allows the runner to be more efficient in running.¹⁹

Caldwell agrees with the parallels between marathon training and trumpet performance training.²⁰ He says five things are essential for a high level of performance. These are proper form, proper breathing technique, relaxation, avoiding injury, and practicing slowly and meticulously. Good form in music means not only the correct execution of passages; it requires that performers maintain the proper mechanics of tone production. As with running, injuries are avoided with active rest periods in which techniques are isolated and practiced so that relaxation is maintained and passive rest periods in which one does not play.²¹ According to Caldwell, athletic cross-training music equivalents include listening to superb musicians, score studying, and exploring other musical facets that lead to high-performance levels.²²

Project Aimed at Students with Solid Musical Foundation

This project assumes that skilled and knowledgeable teachers have guided students desiring to perform the Gregson Concerto to a high competency level. It builds upon these foundations by offering specific guidance for the efficient preparation of the work and acknowledges that consistent, well-ordered, disciplined, efficient practice

19. Ibid., 3-5.

20. Michael Caldwell, "Applying Marathon Training Principles to Trumpet Practice and Performance," *International Trumpet Guild Journal* 30, no. 3, (March 2006): 58.

21. Ibid., 58.

22. Ibid.

produces the best results. It compiles information from various sources, primarily from the recommendations for practice gathered through a trumpet pedagogy literature survey.

CHAPTER 3 - NATURAL LEARNING PRACTICE SUGGESTIONS FOR THE
TECHNICAL CHALLENGES IN THE GREGSON TRUMPET CONCERTO

Stability and Variety in Practice are Both Beneficial

“Trumpeters have the strength to rule the world if they could concur on the ideal type of mouthpiece and the ideal horn. We won’t discuss embouchure or breathing here. If there were concurrence there, trumpeters could rule the universe as well.”²³ Chirico’s sage observations notwithstanding, trumpet teachers have long agreed that practicing techniques in different ways is beneficial for mastery of the materials being practiced. As stated in Chapter One, researchers have measured differences in the cortex of the brains of those who have engaged in practice versus those who have not. More research is needed to provide conclusive evidence for the efficiency of various practice techniques.

Why do multiple ways of practicing increase the efficiency of technique?

According to John Pursell, the brain needs both stability and variety to function at its peak.²⁴ In music practice terms, stability relates to practicing things the same, and variety refers to practicing in novel ways. The various forms of practice must be free from mistakes, though. Our brains naturally build electro-chemical connections when they perceive patterns. Playing patterns the same way creates more efficient connections and results in more robust learning of the action. Making a mistake is the result of inefficiency, however. When we make mistakes in practice, the wrong kinds of electro-chemical connections are built. This confuses the brain and increases the likelihood of

23. Roland A. Chirico, “Pursuing Guido’s Highest Note,” *International Trumpet Guild Newsletter* 6, no. 1 (October 1979): 7.

24. John Pursell, “Understanding Brain Function for More Efficient Practice Routes,” *International Trumpet Guild Journal* 41, no. 3 (March 2017): 46.

errors during performance under duress. Pursell relates the natural learning process of practicing something several times the same way to walking through snow. If we walk in the same path each time, a well-defined, efficient groove is worn into the snow. We confuse the natural learning process by striking out in new directions each time (the musical equivalent of missing pitches, rhythms, and articulations).

Habituation in Practice Produces Stagnation

Pursell continues by stating a seeming contradiction - stability produces habituation, not efficiency.²⁵ Habituation refers to becoming accustomed to an activity to the point of engaging less brainpower to carry it out. Pursell compares this to a drive home in which the driver arrives home without remembering how he got there because he was not using his total brain capacity to carry out the task of driving home. Besides the obvious dangers of driving under the influence of habituation, practicing music like this results in inefficiency and stagnation. Variety keeps the brain focused. Pursell recommends practicing various literature in rapid succession to accommodate the need for both stability and variety in practice.

The principle of variety applies well in other circumstances. For example, instrumentalists have long known that singing a passage facilitates playing it. Even though instrumentalists are not singing while they play, the brain operates as if they were. To prove this, Flinchbaugh suggests the following experiment: Using a pen, sign your name on a piece of paper. Ask yourself how difficult that was. Then take the pen and trace over your signature, taking care to match the original exactly, making no double

25. Ibid., 47.

lines or favoring any lines above another. Then note the difficulty involved, which is more significant for most people. Then play a problematic musical passage, and then sing the passage and play it again. It will be easier after this. Singing frees the signature, and it is this level of freedom without thinking about the sea of technical details that enables less tense, more efficient playing.²⁶

Summary of Practice Techniques

Below is a summary of observations and ideas for efficient practice, mainly from the International Trumpet Guild Journal pedagogy articles between 1976 and 2020 relevant to this project's specified technical challenges. Many of these reports cite scientific studies to back up their claims; others rely upon observations from years of teaching experience. In some cases, science has caught up to the suggestions by proving them to be true. In other cases, more research will need to be done to assess the claims more thoroughly. The following paragraphs will generally address the challenges for all trumpet players found in the Gregson Concerto. Specific passages in the Gregson Concerto will be identified, and practice solutions to these problems will be applied in the following chapters.

Enhancing Multiple Tonguing

Multiple tonguing was used extensively in the nineteenth-century cornet solo literature, where rapid articulation was required. Any player trained in the methods of the

26. Brent Flinchbaugh, "Applying the Principles of Arnold Jacobs to Trumpet Playing," *International Trumpet Guild Journal* 42, no. 2 (January 2018): 25.

time would have adequately dealt with this challenge before approaching the literature. The technique declined in solo trumpet literature early in the twentieth century as composers wrote stylistically diverse music. Still, composers continued to write passages that could only be performed by using double and triple tonguing.²⁷ Special attention must thus be given to the mastery of this technique since its usage today is occasional. “There is nothing like tonguing to screw up good trumpet playing!” said Ray Sasaki.²⁸ While humorous, this statement underscores the truth that tonguing frequently interferes with the efficiency of the airstream. Several of the passages in the Gregson Concerto require multiple tonguing combined with more than one challenge simultaneously.

Passages requiring multiple articulations on non-repeated pitches are more challenging than those where pitches are repeated. The Gregson Concerto contains numerous runs where it becomes necessary to double or triple tongue successive varying pitches. Of course, the passages in question should be practiced repeatedly using the final articulation patterns, but practicing passages using alternate articulation patterns yields more efficient results.²⁹ Alternate articulation patterns include putting “T” and “K” in positions they would not usually occur in, altering articulations by shortening and lengthening them from their stylistic context, using combinations of tonguing and slurring in various ways to address particular challenges of the passage in question, articulating without using the trumpet to bridge the gap between speaking and execution,

27. Gary Barrow, “Thoughts on Multiple Tonguing,” *International Trumpet Guild Journal* 21, no. 3 (February 1997): 72.

28. Alan Hood, “College Trumpet Instruction Around the United States - A Survey,” *International Trumpet Guild Journal* 34, no. 2 (January 2010): 59.

29. Barrow, “Thoughts on Multiple Tonguing,” 72.

and treating passages as simple melodies.³⁰ Regarding the latter, Barrow expresses that such treatment builds confidence in the newly acquired skills and eases anxiety in the player. Baldwin suggests reversing the “T” and “K” syllables for a time to make the “K” attack clean and equal to the “T” attack and to practice both syllables staccatissimo.³¹

Practicing Passages Below Tempo

Another well-known technique for mastering difficult passages is the execution of passages under performance tempo speeds. Slow practice is essential because it develops nerve memory more efficiently than rapid practice.³² When slow practice is engaged, it refines the sound/instrument/body relationship and allows for a spontaneous reaction. The designation “slow practice” itself is nebulous: a speed too fast for efficiency depends on the player. Nerve memory is sometimes incorrectly referred to as muscle memory, but nerve memory is a product of the brain and nervous system, not the muscles. According to Daniel, just imagining a better sound increases efficiency because performance is an action of the nervous system.³³

30. Ibid., 72.

31. David Baldwin, “The Golden Rules of Music-Making,” *International Trumpet Guild Journal* 28, no. 2 (January 2004): 47.

32. Dave Ballou, “An Introduction to Instrumental Ear Training,” *International Trumpet Guild Journal* 27, no. 4 (June 2003): 61.

33. John Daniel, “Building a Better Trumpet Player,” *International Trumpet Guild Journal* 21, no. 1 (September 1996): 52.

The Benefits of Mnemonic Devices

The use of mnemonics can help the student to recall information more efficiently. While the student may struggle to remember what practice techniques to use, Bowman recommends devising mnemonic devices such as four Ss (sing, slur, soft, and slow) to remember to apply those techniques to passages. This helps retrieve information that the brain has already filed away quickly.³⁴

Practicing Passages Backward and Using the Left Hand on the Valves

Zingara's suggestions for practicing difficult passages efficiently, including practicing passages backward and using the left hand, are relevant to this study. He says that practicing backward helps negate the fear of what is coming next and helps one "stay in the moment." Using the left hand to play passages at a slower tempo helps stimulate the "opposite" side of the brain, Zingara maintains.³⁵ Various other alterations, such as using dotted rhythms and their inversions for difficult fingering passages, underscores the truth stated earlier that variety in practice is also beneficial.

Suggestions for Mastering Lip Slurs

Lip slurs are another challenge in the Gregson Concerto. The term "lip slur" is a misnomer: tongue movement, not the lips, actuate the slur. Arban and others were

34. Joseph Bowman, "Mnemonics – Keeping it Simple," *International Trumpet Guild Journal* 44, no. 1 (October 2019): 68.

35. James Zingara, "Creative Problem-Solving Techniques for the Trumpet Student," 51.

incorrect in calling these trills lip slurs, but unfortunately, the designation stuck.³⁶ Lip slurs are occasionally employed in trumpet literature at the performer's discretion to facilitate trills. Still, they are usually found only in large quantities in method books as technical exercises for building strength and control of the embouchure. Rarely are they intimately integrated into the musical context like they are in the Gregson Concerto's final movement. The player must play lip trills with accuracy and rhythmic precision at a rapid tempo in this movement. Since many students are accustomed to treating lip slurs like a technical exercise, performing them in a musical context may seem unusual. Millsap prefers the term "air slur" to lip slur and says that students' number one problem when performing this kind of slur is lack of adequate airflow. Lip slurs can be executed more efficiently, suggests Millsap, by emulating what the airstream does when one whistles as this changes the focus from technique to music. Millsap further suggests emphasizing the lower note of a lip slur and imagining that it is a springboard to the upper note to maintain airflow consistency.³⁷

Building Endurance

A final problem with performing the Gregson Concerto, endurance, is not an intrinsically technical problem. Endurance is an inherent problem in brass playing generally. Herbert L. Clarke said, "Endurance is ninety percent of trumpet playing."³⁸ A

36. Jean-Baptiste Arban, *Complete Conservatory Method for Trumpet* (New York: Carl Fischer, 1982), 37.

37. Kyle Millsap, "Lip Slurs are not About the Lips," *International Trumpet Guild Journal* 40, no. 2 (January 2016): 49.

38. Eric Bolvin, "Chop Management," *International Trumpet Guild Journal* 41, no. 3 (March 2018): 57.

great deal of endurance is required to execute the entire Gregson Concerto. Acquisition of high levels of endurance may be obtained by pursuing technical means. While endurance can be enhanced in several ways, a structured approach that builds endurance efficiently serves the Gregson Concerto's preparation well.

The most obvious way to gain greater endurance is by doing more daily playing. The question becomes how much more and what kind of playing. The law of diminishing returns dictates a fine line between enough and too much practice where injury can occur. College players generally have too many playing obligations already, so putting more demands on them is not the best approach. Even for the professional player, playing more is not the most efficient use of time to build endurance.

Lip slurs enhance endurance more effectively than putting the trumpet to the face more, but too much work on lip slurs, especially within a narrow pitch range, can inhibit flexibility. Range and endurance go hand in hand, and both can be developed by playing higher and longer. Playing high exacts a high cost of recovery time, however, so this method can be described as inefficient as well.

So, is there an efficient, risk-free solution for increasing endurance? "The more you search for solutions, the more likely you are to find them."³⁹ Campos believes that one must become "solution-oriented" rather than "problem-oriented" and cites Maurice André's opinion that practicing in short, intense sessions is the best way to increase endurance. One stops playing when tired, rests, then plays again until tired. The process

39. Frank Campos, "Practice Enhancers," *International Trumpet Guild Journal* 41, no. 4 (June 2017): 46.

is repeated several times. This is less likely to result in injury than the methods previously mentioned. Practice sessions should be limited to twenty minutes, agrees Burgess.⁴⁰

The Anderson Approach to Building Endurance

William Alonzo “Cat” Anderson, 1916-1981, a trumpeter known for his tenure in Duke Ellington’s orchestra, had one of the best commands of the upper register of any trumpeter in history. As previously alluded to, the ability to play high means the ability to play long. Virtually every modern high-note specialist cites Anderson as an influence. Anderson put together the material for a book, the *Cat Anderson Trumpet Method*, and then went on tour with the US State Department. The publisher had to sort through the material and put it together without further input from Anderson. Anderson was unhappy with the results, but the book was never re-published.⁴¹ It is not always the best approach to proceed linearly through method books. Indeed, some are set up for “stagnation.”⁴² It would be foolish to proceed without guidance with the Anderson book as some exercises border the absurd. Still, some of the book’s ideas incorporate well into an overall practice regimen designed for efficient preparation for the endurance required in the Gregson Concerto.

A guide for the Gregson Concerto’s efficient preparation will be formulated using ideas from the authors and resources above. The difficulties of the piece will be

40. Jon Burgess, “Practice ‘Fundamentals,’” *International Trumpet Guild Journal* 34, no. 1 (October 2009): 62.

41. Geoff Winstead, “The Real Way to Play the Cat Anderson Trumpet Method,” Accessed 1/12/2021, <https://therealcatandersonmethod.com/>

42. Pursell, “Understanding Brain Function for More Efficient Practice Routes,” 46.

identified. Various suggestions for how to practice different techniques and exercises will be outlined. Researchers' findings, including psychologists, neuroscientists, and respected trumpet teachers, will be applied to developing the preparation plan for performing the Gregson Concerto.

CHAPTER 4 - A DESCRIPTION OF THE CONCERTO AND ITS CHALLENGES

Characteristics of the Work

The work is aesthetically Romantic. The first movement is in sonata form with two contrasting themes; “the first is strident, angular and highly rhythmic; the second is more lyrical and pensive.”⁴³ The second movement (*In Memoriam-Dimitri Shostakovich*) features contrasting elements with quasi-cadenzas and a flowing middle section, which leads to a powerful climax. The final movement is a rondo with the A theme being “exuberant, [with] upward running scales abounding” and with episodes containing a “broad sweeping tune above a syncopated rhythmic pulse which leads into a hectic string fugato, and a scherzando-like dance,” followed by a coda.⁴⁴

The technical difficulties in the work, and its length at six hundred eighty-five measures, have perhaps kept it from being programmed as often as other twentieth-century trumpet concerti. Nonetheless, the piece is a well-constructed work with many “characters and colors” in which the composer maintains “flow and connection.” The technical challenges should be viewed as opportunities to continue building advanced techniques in undergraduate and graduate students.⁴⁵ The technical challenges will be addressed in the order they are listed in Chapter 2.

43. Gregson, *Trumpet Concerto*.

44. Ibid.

45. Koehler, “X Marks the Spot: An Analysis of Edward Gregson’s Trumpet Concerto,” 30.

Tonguing, Fingering, Lip Slur, and Tempo Challenges

The first instance of multiple tonguing occurs in measures 177-78. The passage is based on an ascending arpeggio and contains triplets, which must be triple-tongued. Similar figures appear again in bars 197, 201, 204, and 206. The primary difficulties here are rapid tempo, intricate fingering, and non-repeated pitches. The fact that these challenges occur in combination makes the passages much more complicated. An optional, more manageable alternative is provided in place of the run at measures 177-78.



Musical Example 1 measures 177-78, triple-tonguing

The second instance requiring multiple tonguing occurs near the end of the cadenza in the second movement and leads to the finale. Beginning at measure 449 and continuing until measure 481, double-tonguing is mandatory. The main difficulties, here again, are the rapid tempo and lack of repeated pitches. This time, however, the melodic line is repeatedly interrupted by rests making the line seem disjunct. As in the first case of multiple tonguing, the challenges combine to make the passages more complex than simply double-tonguing repeated pitches in a conjunct musical line. Musical material like this returns in measure 551 and continues to 579, then returns in measure 611 to the end.



Musical Example 2 measure 449, double-tonguing

Fingering in trumpet technique is primarily made difficult where the third finger is required at rapid tempi. Passages that do not use the third valve, and consequently, the third finger, can usually be played with little difficulty, at least from the fingering standpoint. The following passages contain rapid figures using the third finger: measures 39, 41, 154-55, 158-59, 177, 179, 188, and 201. Many of these passages are partly chromatic, with changes of direction and varied articulations, which makes them more awkward than simple chromatic runs.



Musical Example 3 measure 39, rapid tempo, complex finger pattern

Lip slurs occur in the third movement beginning at measure 588. The use of lip slurs in quick tempo continues mostly unabated until bar 598 and recurs in 608 and 610. These slurs' placement preceded and followed by mixed articulations in a fast tempo, integrated rhythmically into the melodic line, distinguishes them from simple lip slur exercises.



Musical Example 4 measure 610, lip slurs mixed with regular slurs in fast tempo

CHAPTER 5 - PRACTICE SUGGESTIONS FOR SPECIFIC PASSAGES

Measures 177, 178, 197, 201, 204, and 206

Practice Under Tempo

The first suggestion for practicing these measures is to approach them well under tempo. The focus initially should be the aural or melodic aspect of these runs, without regard to speed. Practicing slowly gives the player a chance for the nervous system to adapt to what needs to be done to produce the pitches accurately.⁴⁶ Accuracy is essential for the reasons mentioned earlier: the brain builds connections for everything it does. The more the brain learns to do something wrong (wrong in this case because it is not what the composer desires), the more likely it is to revert to the mistake in performance. Initially, the adherence to a steady tempo does not matter if the fundamental rhythmic integrity is maintained; the ear and embouchure are trained for pitch accuracy by slow practice. However, as soon as practical, a metronome should be utilized to practice the passages at a steady, slow tempo. Practicing passages in ways other than written for too long might build the wrong kinds of electro-chemical connections.⁴⁷ To satisfy the brain's need for variety in learning, one should practice the passages with a metronome at various tempi under performance speed.⁴⁸ A good rule of thumb for difficult passages is to find seventy-five percent of performance tempo and start there. If seventy-five percent tempo is too fast, then any slower tempo will do as a starting point. The critical thing to remember is to be accurate, keep track of the speeds, and gradually increase after

46. Ballou, "An Introduction to Instrumental Ear Training," 56.

47. Pursell, "Understanding Brain Function for More Efficient Practice Routes," 46.

48. Ibid.

multiple repetitions. This kind of practice allows the various challenges (triple tonguing, pitch accuracy, and fingering) to be mastered simultaneously and efficiently.

Practice Altering Rhythms

The second suggestion for this passage is to rhythmically alter it from eighth note triplets to a new rhythm. There are several viable alternatives, such as eighth followed by two sixteenths or using dotted eights followed by sixteenth notes in various figurations. Doing so helps further with finger and tongue coordination.

Practice Using Various Articulations

The third suggestion for this passage is to use a variety of articulations, including a very short single tongue, legato single tongue, slurring the whole passage, using all “K” syllables, and reversing the positions of the “T” and “K” syllables. The combined effect of the suggestions for varying the articulations will produce clarity and evenness in the final product.⁴⁹ This approach simultaneously satisfies the need for stability and variety in training.⁵⁰ It also builds strength in the tongue so that the execution of the passage as written becomes more efficient.

Practice to Strengthen the Third Finger

The fourth suggestion, in this case, revolves around the use of the third finger. One should use the technique suggested by Zingara of switching hands to actuate the

49. Baldwin, “The Golden Rules of Music-Making,” 47.

50. Pursell, “Understanding Brain Function for More Efficient Practice Routes,” 46.

valves.⁵¹ Using the third finger in Herbert Clarke's Second Study, number 36, where valve combination 1-2 would otherwise be used, is a good exercise for strengthening the third finger.⁵² Additionally, the Charlier study number 14 could be employed for this purpose as well.⁵³ Doing these things will generally make the third finger more efficient, which will translate into better performance. This is the equivalence of specialized training in athletics, such as strength training, which, while not used in performance, strengthens the player's coordination and reflexes for optimal, efficient conditioning.

Movement III, Isolated, Double-Tongued Motives

Near the end of Movement II, there is a cadenza that leads into Movement III. In measure 449, the tempo designation "fast, quarter note equals 144" appears. The figures which occur after this and continue into the last movement must utilize double tonguing. In measure 449, the patterns consist of repeated pitches, which are relatively easy to execute with clarity. In bar 450, the pattern changes to different pitches built on scale-like motives in isolation broken by rests in the trumpet's low range.



Musical Example 5 measures 450-51, double-tongued motives

51. Zingara, "Creative Problem-Solving Techniques for the Trumpet Student," 50.

52. Herbert L. Clarke, *Technical Studies for the Cornet* (New York: Carl Fischer, 1984), 8.

53. Theo Charlier, *Trente-Six Études Transcendantes pour Trompette* (Paris: Alphonse Leduc, 1926), 27.

The patterns, their isolation, and the low range combine to make this a difficult passage to play cleanly up to tempo. Many of the practice techniques already mentioned regarding tonguing could be applied to this passage. However, the most efficient way of working through this passage is to reverse the positions of the “T” and “K” syllables as directed by Baldwin.⁵⁴ Practicing a very short single tongue, as Baldwin suggests, helps strengthen the tongue as well. Still, the player should be aware that airflow is of paramount importance for a resonant tone. Slurring the passages, which facilitates airflow, is beneficial as well and adheres to the principle of “playing with the phrasing intact,” according to Vizzutti, rather than approaching the material purely as a technical challenge to be overcome. This way, the brain proceeds to master the fundamental challenge more efficiently as a more evident mental target is formed.⁵⁵ Since this is a spot where the player can become too rigidly focused on getting the right notes and making them sound even, another suggestion, singing the passage, helps “free the signature,” as Flinchbaugh mentioned earlier.⁵⁶ Where this material recurs, in measures 551-75, the material is a little easier to play, but the same techniques could be applied here. In measures 611-12, the student should begin practicing in 611 to keep the mouthpiece positioned the way it will have to be in performance. The extensive pitch range here requires good flexibility.

54. Baldwin, “The Golden Rules of Music-Making,” 47.

55. Hood, “College Trumpet Instruction Around the United States - A Survey,” 59.

56. Flinchbaugh, “Applying the Principles of Arnold Jacobs to Trumpet Playing,” 25.



Musical Example 6 measures 611-12, double-tonguing, wide range, and fast tempo

The third interval study in the Arban book could serve as additional beneficial practice for the interval in measure 612.⁵⁷

Movement I, Fingering

There are eighth note triplet runs in measures 39 and 41, then again at 154, 158, and 188. These runs are mostly chromatic; they change directions, and using the third finger makes them particularly problematic. As preparation for these passages, third finger strengthening should be accomplished using Clarke's Technical Second Study.⁵⁸ It is expected that advanced students would have already been familiar with Clarke's Second Study, but it is unlikely that they would have practiced it in a manner for complete mastery. Careful attention should be paid to studies 33, 38, 40-44, and 36. In 36, the third finger should be substituted for fingers 1-2. Three or four exercises from this group should be practiced eleven ways for several days, rotating with the other exercises every other day. They should be executed the following ways: slurred, tongued, K tongued, double-tongued, staccatissimo single tongued, two slurred/two tongued, the middle two of each four-note group slurred, one tongued/three slurred, using dotted

57. Arban, *Complete Conservatory Method for Trumpet*, 127.

58. Clarke, *Technical Studies*, 8-9.

eighth sixteenth patterns, played slowly and deliberately with the left hand, and finally from memory up to the marked tempo. Practicing the Clarke Second Studies in this manner thoroughly prepares the student for the challenges of the runs in the Gregson Concerto by giving the player efficient mastery of material requiring the third finger's use. The runs themselves should be practiced in the same way. By working on the passage in this manner, the main challenge of fingering is addressed sufficiently. A nice bonus is that tone quality usually improves, probably because of the confidence in mastering the technique, allowing freedom to focus on the music's melodic aspects.

Movement III, Lip Slurs

As mentioned previously, lip slurs are usually only practiced as exercises for building strength and flexibility. Little thought is generally given to playing them in strict rhythm. In measure 588 in the Gregson Concerto, lip slurs are integrated into the piece's musical structure. The slurs must be rhythmically even, and this is a challenge. The task is made more difficult when slurs are preceded or followed by rests. The tempo is very rapid here, which necessitates the execution of quick but clean lip slurs.



Musical Example 7 measure 588, lip slurs

Several practice suggestions apply here. Millsap's earlier tips in executing lip slurs have been mentioned.⁵⁹ Charles Colin suggests placing the accent on the upper note of lip slurs

59. Millsap, "Lip Slurs are not About the Lips," 49.

during practice to gain flexibility.⁶⁰ Both of these suggestions are good for developing the technique and should be practiced. However, another direction, to play the line in a modified manner in practice, is beneficial. The lines should be played with a dotted quarter note on the lip slur's upper note substituted for the slur itself. Since the slurs are always descending, which is unusual, making a musical line from the patterns as if the slurs do not exist focuses the attention on the melody and makes the task easier. It will also help to turn the slurs around and begin on the lower notes in practice. This way, the student will have made the approach and resolution to the slurs more efficient.

The Work as a Whole: Endurance

The Gregson Concerto is a taxing work, even for the advanced player. The usual suggestions of being in top shape and managing one's practice and performance schedule efficiently leading up to a performance of the work are valid. Indeed, one should approach any performance well-prepared and well-rested. Of all the aspects of this project, endurance is the least addressed in a specific manner by trumpet pedagogy literature, which is puzzling. A review of the literature turned up the suggestions by Maurice André, the statement by Herbert L. Clarke, and a few other similar tips about practicing intricate pieces in short, intense sessions and then adding more measures to the work each day or every few days. These suggestions are good, but they are very general.

As mentioned earlier, range and endurance go hand in hand. Playing long and high in developing range and endurance does work, but it drains the player's endurance

60. Charles Colin, *Advanced Lip Flexibilities* (New York: Charles Colin, 1980): 49.

and could lead to injury. Playing long and high at the same time increases the burden further. If a player can play for long periods, the chances are good that that player has a good range. If a player has an excellent high range, the player usually has good endurance as well. A solid high range and adequate endurance are subjective points of contention. In this project's context, sufficient endurance will mean that the player can finish the Gregson Concerto with some endurance to spare.

This project assumes that a college player working on the concerto will also be assigned other material in lessons and will be responsible for the playing load of ensembles such as band, orchestra, or jazz band, or occasionally all three at once. Consequently, the player is already doing a lot of playing. If practiced according to the prescriptions in this project, the player will be spending a significant amount of time practicing the Gregson Concerto. Playing for extended periods is perhaps the most common way to increase endurance. There is a danger, however, in this case, of tacking more playing onto the already overloaded student: too much practice may result in nerve damage or other injuries to the embouchure. What is needed is an efficient, quick way of increasing endurance without the risk of strain or injury.

The Cat Anderson method mentioned earlier is undoubtedly one of the most demanding practice routines. On page one, the "whisper" notes call for three twenty-minute practice sessions of sustained pitches where the player does not remove the mouthpiece from the lips! There is no doubt that Anderson was a phenomenal player. However, the amount of fatigue induced by the whisper tone routine would overtax the average trumpeter and lead to overtraining problems.

A sensible alternative to playing this as prescribed in the Anderson book is the suggestion to play much shorter whisper tones. The tones should be sustained long enough to produce moderate fatigue, and the dynamic level should be so soft that the tones are barely audible. Playing extremely softly mimics the demands placed on the lips by long, high playing and keeps the aperture focused and small while eliminating the risk of injury. Since this is a static exercise, it should not be overdone as this may lead to inflexibility the next day. This exercise could be followed by some soft scales or pedal tones to loosen the embouchure afterward. It probably is not wise to execute this every day. Three days a week is probably enough for the burdened player.

CHAPTER 6 - CONCLUSION

Specific practice approaches for learning the Gregson Concerto have been derived from researchers' and teachers' knowledge and ideas. The primary challenges of the work include multiple tonguing, mixed articulations, complex fingerings, and lip slurs. While it has been generalized that learning should not be over-complicated, humans learn by complex processes. These work in a natural fashion where the brain links old and new experiences. The Gregson Concerto is an exciting twentieth-century work for trumpet featuring many compositional attributes typical of the era. Unfortunately, it is not performed as often as other twentieth-century works, mainly due to its combined difficulties. If approached in the traditional manner of learning technical challenges in isolation and then learning the piece, the concerto can be daunting, even for advanced college trumpet students. Students and their teachers should systematically approach the work based on research and experience so that each challenge might be broken down into its constituent elements and the piece could be learned more efficiently. Such a deliberate and systematic approach would likely yield more performances.

Story memory has been applied to breaking down the concerto into specific elements to be practiced to form clear mental goals. While trumpet pedagogues generally agree on which practice techniques work best, applied teaching is rooted in learning techniques in isolation. Continued research may suggest more efficient preparation approaches for pieces like the Gregson Concerto in the future as the brain becomes more fully understood.

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