A Way of Doing Things:

Exploring and Applying the Alexander Technique for Choral Conductors

Jeshua Switzer Franklin

A dissertation

submitted in partial fulfillment of the

requirements for the degree of

Doctor of Musical Arts

University of Washington

2016

Reading Committee:

Geoffrey Boers, chair

Thomas Harper

Giselle Wyers

Program Authorized to Offer Degree:

School of Music

University of Washington

Abstract

A Way of Doing Things:
Exploring and Applying the Alexander Technique for Choral Conductors

Jeshua Switzer Franklin

Chair of the Supervisory Committee:
Dr. Geoffrey Boers
Director of Choral Activities and Associate Professor of Music
School of Music

The human body is a machine of extraordinary design and intricacy, and musicians widely recognize the role the mind and body play in making music. Despite the problems that affect performing artists, there is a surprising lack of an empirically verified method of teaching unified *psychophysical* performance to musicians. For choral conductors, the problem is significant. Conductors rely heavily on non-verbal communication to convey their musical intent and understanding of a given work. However, few experiences in a conductor's traditional training take full account of learning the *psychophysical* unity of the body that allows for the greatest freedom of expression.

The purpose of this study is to introduce choral musicians to the Alexander Technique and its suggested applications within choral music making. The Alexander Technique is a *psychophysical* method of directed thinking activities and heightened kinesthetic awareness leading to the best possible use of the body, defined colloquially in this study as "a way of doing

things." As choral conductors improve their understanding of the history, study, and application of the Alexander Technique, they can begin to make better choices about incorporating the Alexander Technique into their conducting gesture, musical performance skills, choral pedagogy, other educational curricula, and even their everyday movement habits. In addition, in this study, choral conductors will gain a clearer picture of how to distinguish the Alexander Technique from other somatic methods popular in the performing arts. This study seeks to inspire choral conductors to pursue training in the Alexander Technique and illustrate the need for continued empirical research into the Alexander Technique.

Table of Contents

List of Figures

Acknowledgements

I would like to thank Dr. Cherrie Llewellyn for first interesting me in the Alexander Technique, as well as my Alexander teachers, Bruce Oliver and Cathy Madden. Thank you, also, to Dr. Geoffrey Boers, Dr. Giselle Wyers, and Dr. Steven Demorest, who most profoundly guided my choral experience at the University of Washington.

I am grateful for each member of my graduate choral conducting cohort at the University of Washington, but especially to my friends Wendy Moy, Bryan Nichols, and Jeremiah Selvey. Because of you, I am a better choral conductor, a better educator, a better colleague, and a better person.

Many teachers not already mentioned have helped shape my musical journey over the years and I am grateful for each one of them. They include Jerry DeYoung, Ella Webb, William Aprile, Elise Osner, Dr. Stephen Stroud, Anne Martin, Dr. Wishart Bell, Dr. Michael Kendall, and Dr. William Skoog.

I am thankful for my parents, Phil and Pam, who have been so loving to me and present with me throughout this project. Thanks also to Paula Wiseman, who spent selfless hours editing this document. To all the others who read, proofread, edited, and gave other feedback, I offer my thanks as well.

Words cannot begin to express my gratitude for my loving and devoted wife, Sara. She knows best the ups and downs, the elations and frustrations, and the laughter and tears that this entire journey has brought. Finally, I am in awe of the unfailing love of my Lord and Savior, Jesus Christ. Apart from Him, I can do nothing. *Soli Deo Gloria*.

Dedication

Dedicated in loving memory of Robert N. Ham,

who was the first to inspire me toward a deep love of choral music.

Chapter 1: Introduction

Statement of the Problem

I have very vivid memories from my time as a master's student of being a chorister at a dress rehearsal of Berlioz's *Te Deum* with a large university symphony chorus and professional orchestra and tenor soloist. As a tenor myself, I was enamored with this soloist's apparent ease with the demanding musical lines in a taxing tessitura. In the middle of one particularly dramatic phrase, the tenor's voice suddenly broke, emitting a warble of pubescent proportions. The soloist marked his part for the remainder of the rehearsal. While I felt bad for the soloist enduring such an embarrassing moment in front of literally several hundred other musicians, I also empathized with his experience. Why is it despite the best training and extensive study of technique that our bodies sometimes fail us when we need them most?

Musicians widely recognize the role the body plays in making music. Beyond the specific techniques of any given voice or instrument, one's poise, posture, and general physical health play a role in making excellent musical performances. Musicians are aware of the ways in which their bodies can betray them during a performance. Vocalists fear undue laryngeal tension or a lack of abdominal muscular support. A wind player fears a tendinitis flare up and conductors worry about lower back pain or the baton slipping through their fingers. For many musicians, the ideal situation is one in which the body does not malfunction, so that they are free to focus on the music itself and are not distracted by the body's failures. Clearly, concern over physical problems impeding performance is a serious matter for performing artists of all kinds.

Performers often gather and discuss physical issues that affect their ability to perform as desired. Whether the issue is back and joint pain, tendinitis and carpal tunnel, hoarseness and vocal fatigue, the ever-present repetitive strain injury, or overall general physical health, many

performers recognize the need for their bodies to be in good working order for them to execute their performances well. In a survey of 48 affiliate orchestras of the International Conference of Symphony and Opera Musicians (ICSOM), it was found that,

> 82% of ICSOM musicians reported experiencing a medical problem, and 76% listed at least one problem as severe in terms of its effect on their performance. . . . 14% of the musicians reported one severe problem, 14% indicated two, 12% listed three, and fully 36% reported four severe problems. (Fishbein & Middlestadt, 1987, p. 5)

While some of the medical problems faced by musicians fall in other categories than the maladies mentioned above, conversations and seminars frequently focus on the warning signs and treatment of physical problems. Poor postural habits are often described as the culprits that lead to preventable injuries.

Despite this emphasis on the physical problems that affect performing artists, there is a surprising lack of an empirically verified method of teaching healthy movement of the body in music making, especially at a young age. Even advanced musicians often find themselves undoing years of postural training that included only vague instructions such as “stand up tall” and “keep your chest out” that, while well-intentioned, reflect a serious deficiency in the understanding of human physiology. Bosanquet (1987) argues that the body itself is largely ignored in the music education of children, and that some children who may seem to be without talent are merely hampered by the misuse of their own body.

Movements and positions common to everyday life have also generally fostered use of the body that is contrary to natural physiology. Whether through military-style posture “at attention” or through the slumping and slouching that sitting encourages, many daily activities may quite unknowingly undermine the natural flexibilities and physiology of the human body. From a young age, a toddler being taught everyday activities such as sitting quietly in a chair or

using the toilet appropriately is forced into postural habits that are quite counter-productive to physiological well-being.

The issues are not merely physiological, however. Musicians often focus on the power of the mind in performance. Green & Gallwey's (1986) *The Inner Game of Music* is a popular example of literature that serves to help musicians know what to do with their mind and how to think. Some musicians complain they are always "in their head," inferring that they are lost in their thoughts and disconnected from the physical present. Still other musicians seek to bridge the mind-body connection. They understand that people's thoughts and feelings can have an effect on their physical selves.

For choral conductors, the problem is significant. Conductors rely heavily on non-verbal communication to convey their musical intent and understanding of a given work to the ensemble in front of which they stand, which demands full cooperation from both body and mind. When conductors do not have a good understanding of their own physiology, their inability to best utilize their bodies limits the quality of the non-verbal communication taking place. In addition, when cognitive clarity is lacking, this also limits the quality of the non-verbal communication. Leonard Bernstein reputedly said, "Technique is communication: the two words are synonymous in conductors" (Bauer, 2009, p. 54). If conductors' technique is limited by their own ability to think clearly and use their bodies well, then their communication is also limited.

The typical undergraduate conducting student takes two classes in conducting: one as an introductory course, and a second one with a focus on either instrumental or choral conducting. By and large, these courses focus on the basic techniques of conducting as students learn about beat patterns, the conducting plane, a variety of ictuses, cues, expressivity as well as some emphasis on score study and methods of teaching. More innovative teachers will spend time

going beyond the basic techniques by focusing on the emotions of conducting, understanding empathic responses to conducting gestures, or developing a more diverse toolbox of conducting gestures. For students who study conducting beyond their bachelor's degree, either through graduate studies or through masterclasses, workshops, and seminars, a greater emphasis is placed on nuanced representation of the score in the conducting gesture, as well as developing greater competence for complex meters and textures. Few of these experiences take full account of learning the physiology and movement of the body that allows for the greatest freedom of expression.

Singers within a choir also struggle with issues surrounding the body. Aside from professional choirs, most choirs are made up of a mixture of amateurs as well as more serious and studied musicians. Singers who have studied voice privately with a teacher may have the benefit of one-on-one coaching with issues such as posture and movement, but for many singers, the choral conductor may be their sole source of instruction on the topic. When singers are told to "stand up straight" or "squeeze a penny between their cheeks," presumptions are made about how the body functions in the context of music making. Choral conductors interested in a uniform appearance may inadvertently be causing harm to singers by not paying attention to healthy physiological practices. In addition, with priorities such as ensemble intonation, blend, and balance, choral directors may encourage less-than-healthy singing habits in their amateur singers when care is not taken to ensure healthy vocal production.

The Alexander Technique (henceforth referred to as "AT," "Alexander," or simply "the technique") is a *psychophysical* method of directed thinking activities and heightened kinesthetic awareness leading to the best possible use of the body. Frederick Mathias Alexander developed the technique during the late 19th century after he experienced chronic hoarseness, impeding his

career as a reciter. Alexander discovered that the relationship between head and spine particularly had a global effect on the tensions in the rest of the body (Alexander, 2005). Rather than a mere relaxation technique, the Alexander Technique is a method that "refines and heightens kinesthetic sensitivity, offering the performer a control which is fluid and lively rather than rigid" (Conable & Conable, 1995, p. 1). Additionally, the Alexander Technique is not a method of teaching correct posture for any particular activity, but rather incorporates an entirely new means of doing things in everyday life. Alexander (2005) himself said, "The aim of re-education on a general basis is to bring about at all times and for all purposes, not a series of correct positions or postures, but *a co-ordinated use of the mechanisms in general*" (p. 15, emphasis in original). The Alexander Technique gives its practitioners freedom of choice to accomplish what is desired by helping them not be bound merely to their habitual thinking and movement patterns. Surely such a technique would be useful in addressing the concerns of body use and movement experienced by performers.

It is my own personal experience of the Alexander Technique that has motivated me to write this dissertation and to describe applications of the technique within the realm of choral music making. The Alexander Technique benefits both conductor and singer by freeing them to gain higher levels of artistry and musical accomplishment than would have otherwise been achieved. When consistently applying the Alexander Technique, musical goals often seem more attainable, because the process frees the whole person to do all that they are capable of doing. Habits of undue tension, poor posture, stage fright, anxiety, or other insecurities will seem like less of a barrier than before. The Alexander Technique is a useful tool for performing artists that can be accessed and utilized in any circumstance. Not only is it helpful during solitary practice, but it also can be used in the context of teaching and performance. For example, the technique is

useful in the middle of a rehearsal when things are going poorly, when singing a solo on a Sunday morning and not feeling fully warmed up yet, in the middle of a class lecture while seeking to engage each and every student, while hunched over a table or piano as a score is being studied, or even in the middle of a performance when the mind suddenly goes blank about what comes next. Anytime that a difficulty is faced or goals are not being reached as efficiently as they could be, the Alexander Technique helps performers carry out their intentions and attain their desires.

Purpose of the Study

The human body is a machine of extraordinary design and intricacy. Performing artists consistently recognize their need for optimal use of their bodies in performance. Physiological deformities and maladies may be insurmountable obstacles to performing artists, but the same cannot be said for physiological problems that arise from misuse of oneself reinforced by bad habits. For performing artists such as conductors and choristers, misuse not only limits their own performance, but may also affect the performance of the ensemble of which they are a part.

The purpose of this study is to introduce choral conductors and educators to the Alexander Technique and its suggested applications within choral rehearsal and performance. Attention will be drawn both to understanding the study and function of the Alexander Technique as well as to exploring its application directly to conducting and choral pedagogy. Strategies will be given to choral conductors that they can utilize, regardless of whether they have personally studied the Alexander Technique or not. With an improved understanding of the history, study, and application of the Alexander Technique, choral educators can begin to make better choices about how to incorporate the Alexander Technique into their conducting gesture,

musical performance skills, choral pedagogy, other educational curricula, and even their everyday movement habits.

While the Alexander Technique has potentially broad implications across the spectrum of the performing arts, this study will take the existing knowledge about the Alexander Technique and draw its focus toward the choral conductor/educator. The literature available combined with my own experience help create a more multi-faceted understanding and application of the Alexander Technique than has previously existed among choral musicians.

By bringing both anecdotal and empirical evidence to light on this topic, this study will (a) provide concise and reliable data for students and teachers interested in the Alexander Technique, (b) create a greater awareness of the impact of somatic studies as part of the choral art, and (c) empower students and teachers to explore and advocate for study of the Alexander Technique.

Need for the Study

Despite the long history of the Alexander Technique, relatively little formal research has been conducted as to its usefulness in reducing unnecessary tension and producing healthy quality of movement within the performing arts. Many books—including Alexander's original writings—exist about the Alexander Technique (e.g. Alexander, 2005; Barlow, 1973; Brennan, 1998; Carrington, 1999; Conable & Conable, 1995; Dimon, 1999; & Heirich, 2011 to name a few). See many more in the bibliography of this dissertation, covering its history, applications, and pedagogy. Teachers of the Alexander Technique have written books and articles describing its usefulness. Barker (2002), Madden (2002), and Richmond (1996) all write persuasively about incorporating the Alexander Technique into both traditional and nontraditional acting programs. Music students who have experienced the benefits of studying the Alexander Technique for

themselves have also added to the literature documenting its value (e.g. Chien, 2007; Fedele, 2003; Weiss, 2005). In spite of the abundance of testimonies about the virtues of studying the Alexander Technique, surprisingly few proponents of it have ventured beyond anecdotal evidence and into the realm of scholarly research to study the technique's effects. Clearly, for a method given so high an emphasis in anecdotal literature, additional research is needed.

In their qualitative study, Fortin and Girard (2005) were the first to empirically study the Alexander Technique as it relates to dance in an effort to fill what they perceived as "a gap . . . in the available literature connecting [dance and the Alexander Technique]" (p. 125). Their study confirmed through verifiable means some of what had previously been anecdotally reported. Bosch (1997), Kwon (2012), and Lloyd (1988) all conducted case studies on music students, documenting their improvements as they began studying the Alexander Technique. Chou (2013) wrote an autoethnography of her own work as a bassist learning the Alexander Technique. However, with these qualitative approaches, many may wonder if the Alexander Technique is not simply useful for building bodily awareness and clarifying thought processes, while falling short of actually changing how a person functions physiologically.

Quantitative studies of the effect of the Alexander Technique in the performing arts seem to be virtually uncharted territory. Englehart (1989) sought to measure muscle use in the preparatory set of singers before and after studying the Alexander Technique. The study found no significant difference, but the researcher himself admits that a number of complicating factors make the data less than reliable. Lorenz (2002) investigated the use of the Alexander Technique as a method of reducing performance anxiety in the secondary choral classroom. While the study did not demonstrate reduced physiological anxiety, there were clear cognitive benefits.

Hohauser-Nizza (2013) and Mozeiko (2011) conducted mixed-methods studies, adding both qualitative and quantitative data to their discussions of the Alexander Technique. Mozeiko's quantitative data, in particular, is substantive evidence for the value of the Alexander Technique, but it still failed to support some of the outcomes that Alexander teachers and practitioners would espouse. Valentine, Fitzgerald, Gorton, Hudson, and Symonds's (1995) experimental study also provides quantitative data that supports the use of the technique, but as with most other quantitative studies on the Alexander Technique in music, the results were not as strong as what the anecdotal and qualitative data might imply. See more detailed descriptions of theses studies in chapter two.

The existing literature supports a number of good reasons to study the Alexander Technique, but the lack of extensive empirical research brings the technique into question as a reliable method for improving physical *coordination* and movement. However, recent studies in the medical field have brought to light the physical and psychological changes that occur from study of the Alexander Technique. Researchers have found that the Alexander Technique can help relieve chronic pain (Cacciatore et al., 2011; Lauche et al., 2014; Little et al., 2008; MacPherson et al., 2015; McClean, Brilleman, & Wye, 2015; Mnatzaganian, 2009), enhance self-efficacy (McClean, Brilleman, & Wye, 2015; Yardley et al., 2010), improve postural tone and biomechanics (Cacciatore, Gurfinkel, Horak, Cordo, & Ames, 2011; Cacciatore, Gurfinkel, Horak, Cordo, & Day, 2011; Cacciatore, Mian, Peters, & Day, 2014; Kutschke, 2010), reduce frequency of stuttering (Schulte & Walach, 2006), improve quality of life for the aging (Dennis, 1999; Gleeson, Sherrington, Lo, & Keay, 2015), focus both the body and the emotions during pregnancy and childbirth (Stallibrass & Hampson, 2001), and even reduce symptoms associated with Parkinson's disease (Stallibrass, Sissons, & Chalmers, 2002). Clearly, the medical field

continues to validate both the psychological and physiological benefits of studying the Alexander Technique. The challenge remains to consistently empirically demonstrate the psychological and physiological benefits of studying the Alexander Technique to performing artists.

The inspiration for this study comes from my own experience studying the Alexander Technique. As a flutist, singer, and conductor, I experienced a tremendous benefit from my study of the Alexander Technique, benefitting both my psychological thought process as well as my performing abilities. Discussions with peers and mentors have revealed similar experiences in others. This study adds to the body of literature that examines both the anecdotal and the empirical evidence for continued implementation of the Alexander Technique across a diversity of disciplines within the performing arts.

Definition of Terms

Many of the following terms are described in some detail through the course of this dissertation, but these definitions will serve as a reference point for the reader as they are encountered in the text.

Coordination. The actual act of the Alexander Technique that releases undue tension at the joint between head and spine, allowing the head to lead. The Alexander Technique teaches that movement at the atlanto-occipital joint is the primary movement necessary for coordinated movement throughout the body.

End Gaining. A term used in the Alexander Technique when the goal of an action has become the focus instead of the process through which that goal is achieved.

Means Whereby. This refers to the whole process of the Alexander Technique, including inhibition and simultaneous projection of the directions necessary for *coordination* to take place.

See chapter three for a more extensive discussion of *means whereby* as well as inhibition and the directions.

Monkey. Described by Alexander himself as the "position of mechanical advantage." It is a position designed to bend all the major joints of the body. Some Alexander teachers use *monkey* as a position from which to begin activity.

Non-doing. For Alexander practitioners, *non-doing* is a term used to describe the inhibition of habitual patterns of thought and movement.

Psychophysical. Refers to the union of mind and body, which are so commonly separated from each other in language used in the performing arts. The Alexander Technique teaches that people are whole beings, with psychological and physiological properties completely intertwined with each other. The mind and body cannot be separated from each other, but actually function as one harmonious unit.

Scope and Limitations of the Study

This dissertation is directed toward choral educators of all teaching levels and background education. Due to the limited empirical study on the Alexander Technique within the performing arts, this is a proposed application of the Alexander Technique for choral conductors within their own conducting applications and in the choral classroom in which there is, to date, no documented account of students achieving mastery. Readers should instead consider this dissertation a guide to exploring and deepening their understanding of *psychophysical* awareness and control through the use of the Alexander Technique. Utilizing the existing literature and with guidance from Alexander Technique experts, this author has created an exploratory guide to applying the Alexander Technique in the choral classroom. This dissertation explores elements of the Alexander Technique and should not be considered as a formal guide to learning the

Alexander Technique. Educators wishing to be formally trained in the Alexander Technique should consult a certified teacher, preferably one who is familiar with application of the technique in the performing arts. In addition, the strategies listed in this document have been explored in my own conducting study, and with my choirs, but they have not been subject to empirical study.

Organization of the Dissertation

Chapter one includes the statement of the problem, purpose of the study, need for the study, and the scope and limitations of the study. Chapter two investigates previous research into the Alexander Technique, including the vast amount of anecdotal literature as well as empirical research. Particular attention is also paid to the empirical research on the Alexander Technique emerging out of the medical community. Chapter three presents a brief biography of F. M. Alexander, an overview of the development and evolution of the Alexander Technique, an introduction to the basic principles of the technique, and a narrative of my own experience with the technique. Chapter four compares the Alexander Technique with, and contrasts it from, other somatic methods. Chapter 5 explores the applications of the technique within choral music making, describing its usefulness as well as prescribing methods for utilizing the technique in the rehearsal process. Chapter six concludes the study by describing the possibilities for personal study of the Alexander Technique as well as examining the implications for future research.

Chapter 2: Literature Review

Numerous books have been written about the Alexander Technique. These include Alexander's original writings on the topic (e.g. Alexander, 1995) as well as a variety of Alexander teachers' and practitioners' informative, instructive, and anecdotal presentations on the practice of the technique (e.g. Carrington, 1999; Conable & Conable, 1995; Heirich, 2005; and Madden, 2014). Such books are useful resources for those interested in the technique and they are filled with many illustrative experiences and helpful suggestions. The first portion of this chapter will be devoted to highlighting a few of the excellent books on the topic of the Alexander Technique.

The remainder of this review highlights literature from the academic field of the performing arts, including empirical studies, journal articles, and dissertations as well as interviews and commentaries from other periodicals. In addition, a survey of medical studies that have focused on the technique is included. This is the first study to present this wealth of information in one place and leverage it toward a more comprehensive understanding of the role the Alexander Technique can play in the life and musicianship of the choral artist.

Useful Books About the Alexander Technique

The "sacred canon" of literature on the Alexander Technique are Alexander's four books: *Man's Supreme Inheritance* (1910), *Constructive Conscious Control of the Individual* (1923), *The Use of the Self* (1932), and *The Universal Constant in Living* (1941). *The Alexander Technique: The Essential Writings of F. Mathias Alexander* (cited as Alexander, 1995) is a compilation book, edited by Edward Maisel, with selections from all four of Alexander's books. It proved an accessible point for me to get a sense of much of Alexander's writing. Alexander's original writings are held in very high regard by much of the AT community, but his writing

style can feel somewhat dense and technical. While not an exhaustive coverage of Alexander's writings, Alexander (1995) provides a good introduction to students and practitioners of the technique who want to become familiar with Alexander's own writings.

Barlow (1973) was one of Alexander's pupils, beginning in the late 1930s, and actually married Alexander's niece. His book, *The Alexander Technique*, is one of the first, after Alexander's own writings, to try to explain the history and practice of the technique. Barlow spends a great portion of the book discussing the principles of the technique, but he also includes a number of illustrations and photos that demonstrate diminished *coordination* contrasted with improved *coordination* in various parts of the body. Barlow's book feels more contemporary and a bit more personable than Alexander's writings, yet at the same time, it honors the language and terminology that Alexander himself used.

Carrington (1999) was a student of Alexander who took over much of Alexander's teacher training course when Alexander's health began to fail. He continued to train Alexander teachers for more than 50 years. Carrington is well known for his talks, which he gave daily at noon for many years. *The Act of Living* is the transcription of a variety of his talks on different elements of the Alexander Technique. For many of the talks, Carrington takes a familiar Alexander-based instruction or phrase of terminology and seeks to explain it in more detail or with greater clarification. Like Barlow (1973), Carrington's talks carry much of the traditional language, but Carrington's voice is distinctive, and the book is an accessible way to gain a different perspective on elements of the technique.

In *How to Learn the Alexander Technique: A Manual for Students*, Conable and Conable (1995) present one of the most useful written manuals of the technique. The book is packed with information about the principles of the technique, along with many useful diagrams. William and

Barbara Conable are the husband/wife founders of Body Mapping, a somatic method that, while part of the technique itself, has also been developed separately. Body Mapping (discussed more in depth in chapter four) is an immensely tangible and practical element of the technique, and that pragmatic element shows through in the Conables' writing throughout the book. William Conable is also music professor emeritus at The Ohio State University, so the Conables' work has a strong bias toward performers, making it an even more valuable resource.

Heirich's (2005) book, titled *Voice and the Alexander Technique: Active Explorations for Speaking and Singing* is a useful manual for serious students of singing and voice teachers. Heirich works to incorporate solid vocal pedagogy with application of the Alexander Technique. Heirich addresses the issue of habits in our *coordination* or lack thereof, and dedicates a chapter each to the foundations of the technique and to the basic elements of vocal production. Those wishing to have guided activities or wishing to use the book with voice students will find Heirich's emphasis on "active explorations" helpful.

One of the most substantive additions to the books concerning the Alexander Technique is Madden's (2014) *Integrative Alexander Technique Practice for Performing Artists: Onstage Synergy*. Cathy Madden teaches the Alexander Technique in the University of Washington's Professional Actor Training Program and is a well-established authority on the Alexander Technique. She has also been one of my Alexander Technique teachers, so I freely acknowledge my bias towards her work. Still, her book is unique in that it takes her expertise in both the Alexander Technique and as a drama coach, and synthesizes the two beautifully into a groundbreaking work for performing artists. As a protégé of Marjorie Barstow, who was the first graduate of Alexander's teacher's training course, Madden expounds the principles of the technique in contemporary and meaningful language and immediately brings the work into the

activities of a performer. Each chapter concludes with an "AT Rehearsal" and there are workbook sections as well, so the book is immensely practical for individual or classroom application.

The Alexander Technique in Music

Most existing research into the application of the technique among musicians is not empirical in nature. By and large, the research consists of masters and doctoral students' theses and dissertations as well as articles by Alexander Technique practitioners in periodicals of professional music organizations. Studies on the AT and music that are published in peer-reviewed journals are essentially non-existent. Nevertheless, the existing literature does offer specific insight into the application of the technique among musicians.

Writing in *The Tennessee Musician*, Deadman (2011) teaches the Alexander Technique to college students but actively encourages exploring the technique with younger students in the music classroom. Deadman specifically addresses the challenges of using the traditional hands-on method of teaching the technique to minors. To avoid the thorny issue of physical contact with minors, Deadman suggests focusing on Body Mapping, use of language, and modeling *coordination* as ways to help teach young students the principles of the Alexander Technique.

Hanko (2010) writes persuasively in *Classical Singer* of the Alexander Technique's benefits beyond posture correction. He notes that posture tends to be the first thing that musicians associate with the Alexander Technique, but he believes that better posture is merely the first and most visual benefit of studying the Alexander Technique. He describes three more holistic benefits of the technique that should motivate singers' study of AT. First is refinement of the kinesthetic sense, which, in his description, means being able to notice more refined movement within your body as well as potential for movement. Second, Hanko describes the

ability to allow *coordination* to emerge more reflexively. He notes that many of the muscles of singing are not accessible to conscious control. Creating habits that allow a singer's body to function as it should without adding undue tension means that muscles will naturally coordinate in the way needed for healthy singing. Lastly, Hanko describes becoming comfortable with the sensation of feeling wrong. Changes that occur as a singer's technique grows and matures can at first feel wrong, when in fact it is just that the experience is new and different. Hanko argues that embracing the principles of the Alexander Technique brings a greater level of comfort with the wrong feeling that can accompany a new use.

Other articles in music periodicals include Drake's (2006) article in *American Organist Magazine*. Drake briefly applies traditional Alexander Technique directions to specific technique challenges of organ playing. Stewart (2010) overviews the Alexander Technique for singers in *Classical Music*. Hembreiker (2010a & 2010b) describes in *The American Harp Journal* very practical and applicatory steps in using the technique during practice time as well as in teaching. In *Soundboard*, Kind (2008) writes a detailed analysis of how the Alexander Technique can impact guitar technique. Kind gives fairly detailed written instructions on technique and postural issues. Walker (2009) directly addresses the tension- and repetition-induced chronic pain that musicians face in her article in *International Musician*.

Sehic (2014) advocates for the importance of somatic education in training guitarists. As a trainee in Body Mapping, Sehic leverages the anatomical components of the Alexander Technique, perhaps to the diminishment of the technique's emphasis on mind-body wholeness. However, Sehic's writing provides a valuable introduction to somatic methods in general and is certainly not limited in its application to guitarists.

Chien (2007) and Fedele (2003, 2006, & 2007) explored the application of the Alexander Technique to the playing and teaching of their own instruments, viola and oboe, respectively. Chien sought to incorporate understanding of AT directly with the unique aspects of viola playing, especially as a way to avoid injury through abuse or overuse. Fedele worked similarly to study the use of the technique in avoiding injury while playing the oboe but also extended her research to survey teachers about their own physiological use or misuse while performing and teaching. Her goal was to incorporate the technique more directly into oboe instruction as a preventative measure to avoid injury.

Kleesattel (2012) overviews a variety of somatic methods and draws conclusions as to their applications to cellists. Likewise, Carpinteyro-Lara (2014) focused on developing the kinesthetic sense for conscious body awareness in relation to cello performance and pedagogy. His writing overviews somatic methods, including the Alexander Technique, in an effort to broaden a cellist's understanding of the diverse elements that comprise cello playing. Carpinteyro-Lara believes, "By applying body awareness and kinesthesia in cello playing, cellists can have freedom, balance, ease in their movements, and an intelligent way of playing and performing" (p. ii). Similarly, Copeland (2007) relates the Alexander Technique and, more specifically, Body Mapping to clarinetists and clarinet teaching. Copeland specifically surveys existing literature on clarinet pedagogy and issues correctives to incorrect anatomical descriptions and anatomically-misconstrued instructions. Yoo's (2015) study parallels Copeland's, but instead of clarinet playing, Yoo brings the Alexander Technique to bear on organ performance. Yoo writes easily about the principles of the technique and her experience with it and then deftly applies it to specific considerations of organ performance.

Bosch (1997) did a casual case study using the Alexander Technique to improve flute tone. Bosch's study focuses not only on the postural issues that may affect flute tone but also nervousness and anxiety that may cause a flutist's tone to become thinner. The Alexander Technique is observed to address both issues, postural and psychological, and flute students and teachers alike are encouraged to pursue study with an Alexander Technique teacher. Similarly, Kwon (2012) documents three different cello students and the effectiveness of the Alexander Technique on their playing over the course of five lessons. In Kwon's study, each of the three cellists demonstrated improvement in their problem areas.

In a mixed-methods study, Hohauser-Nizza (2013) researched the effectiveness of a variety of teaching methods for elements of flute technique that are internal to the body (e.g. tonguing, vibrato, etc.). Hohauser-Nizza surveyed flute teachers and students to investigate what teaching methods were most common and were perceived as being effective. She then selected a few subjects to interview and/or observe who had highlighted less traditional teaching methods. The Alexander Technique was mentioned a number of times in the surveys and interviews, and the subjects self-reported that the AT was effective in learning the studied flute techniques.

Focusing on self-reported performance anxiety in woodwind players, Hoberg (2008) designed an experimental-style study where, over the course of 18 months, the experimental group of students was exposed to principles of the Alexander Technique. Compared to the control group, the experimental group reported decreased performance anxiety and increased self-esteem and confidence. The control group reported very little change in anxiety levels from pre-test to post-test. While Hoberg's study was not subjected to rigorous empirical standards or statistical analysis, the anecdotal reports point toward the technique's effectiveness on a number of levels. Valentine, Fitzgerald, Gorton, Hudson, and Symonds (1995) conducted a more

rigorous study when they assigned 25 music performance students to either an Alexander Technique group or a control group to receive a number of pre- and post-test measures in low and high stress situations. The experimental group showed improved music and technical quality, heart rate variance, and self-rated anxiety and positive attitude relative to the control group, but primarily only in low stress situations.

Chou's (2013) autoethnography is a significant empirical study on the application of the Alexander Technique in the field of music. Her focus was on herself as a bassist, since as a petite woman, she had found herself with many poor postural habits as she wrestled to master such a large instrument. Her study is unique in the literature and will hopefully give inspiration for further similar kinds of studies.

Mozeiko's (2011) mixed-methods study on female violinists and violists is also an important contribution to the slowly growing body of empirical literature on the Alexander Technique and musicians. The quantitative portion of Mozeiko's study was an experimental study on the effect of the Alexander Technique on the subjects' pain, executive skill function, well-being, and awareness. Mozeiko assigned violinists and violists to either a control group or a treatment group that received a course of Alexander Technique lessons, and used pre-tests and post-tests to assess the subjects' experiences. Statistically significant changes were made in the areas of executive skill function and awareness. A handful of participants were than interviewed about their experience, and the qualitative interview data suggested improvement in all four areas.

Rather than focusing on the application of the technique on specific human subjects or teaching methods, Wu (2010) gave directives for applying the technique to specific pieces of music. Wu examines select etudes of Chopin as well as the preparatory exercises for that

repertoire provided in the Alfred Cortot edition of the etudes. Wu contends that application of the Alexander Technique will enhance the benefits of the preparatory exercises and thus the performance of the etudes themselves.

Pearson's (2009) master's thesis is one of the few documents directed specifically at choral directors. Unfortunately, the document, while providing a reasonable overview of the technique, focuses most of its application exclusively on Body Mapping (Body Mapping is discussed more thoroughly in chapter four). Other than drawing attention to the application of the Alexander Technique for choral conductors, the thesis adds very little to the existing literature.

Research subjects were described as having a better integration of their *psychophysical* selves in Santiago's (2004) research into the Alexander Technique and piano pedagogy. While Santiago's study focused on piano pupils and their reported and observed changes during their study of the Alexander Technique, Santiago redirected their noted improvements as an implication for piano teachers. While Santiago acknowledged that *psychophysical* issues might be outside of a piano teacher's skill set, he also called in to question the lack of focus on *psychophysical* unity in the training of piano teachers.

In her undergraduate honors thesis, Urbanski (2012) used herself as a subject, using electromyography to gauge performance anxiety under several different conditions, including a control performance, performance with Alexander Technique preparation, performance with Feldenkrais preparation, and a performance with Yoga preparation. The EMG results suggested the lowest levels of performance anxiety under the Alexander Technique and Feldenkrais preparations, and the Alexander Technique preparation yielded the participant's favorite musical and technical performance. Like other non-empirical studies, Urbanski's results provide a

suggestion of the technique's usefulness, but not reliable or valid data. However, the growing number of anecdotal studies that suggest the technique's positive effect on the *psychophysical* whole self in musicians gives evidence for the need of further empirical studies on the Alexander Technique in the field of music.

Lloyd (1988) actually conducted a case study of voice students who were also studying the Alexander Technique. He documents the variety of improvements observed in the voice students as they progressed in their vocal and AT studies. Unfortunately, as is the case with much of the literature surrounding the technique that is based on anecdotal observation, Lloyd couldn't determine which improvements could be attributed to study of the Alexander Technique and which were simply natural results of continued vocal study.

Like some of the other dissertations reviewed here, Neely (2012) applied a variety of somatic methods to the study and teaching of singing. She writes extensively about the anatomy and physiology of the body from the perspective of proper alignment. In addition, Neely is one of the few authors writing about musicians to introduce the body of medical literature on the Alexander Technique and other somatic methods.

Englehart (1989) sought to add empirical evidence to the body of literature surrounding the Alexander Technique. Using electromyography, Englehart attempted to measure changes in muscular tension during a singer's vocal onset over the course of studying the Alexander Technique. Englehart's study showed no significant change in muscular tensions, but he admits there were a number of complicating factors, including the duration of study of the technique as well as the selection of study participants. Notably, Englehart addresses the complications in creating an unbiased evaluation of the physical effects of the Alexander Technique. Studying the Alexander Technique in depth requires a significant investment of time, energy, and, often,

money on the part of the student. Participants given to such a level of investment are likely to be self-motivated and eager learners, which could possibly skew the results of Alexander study compared to a less determined student. Englehart notes,

> Any controlled study that uses Alexander training as one of a number of treatments must reckon with the fact that both the subjects and the training itself are going to be nontypical due to the nature of the subject selection process. (pp. 106-7)

The Alexander Technique in Other Performing Arts

The Alexander Technique has long been embraced across the spectrum of performing arts. For artists whose bodies play a significant role in their ability to perform well, the Alexander Technique is a method that has appealed to a wide variety of performing artists for many years. The following section examines the literature from the dancing and acting disciplines.

Weeks (2004) writes in *Dance Magazine* a very brief description and history of the technique as it applies to dance. Her article is actually typical of many periodical articles about the technique, as it seeks to pique the interest of its readership and is aimed at those who know virtually nothing about the technique. By bringing attention to the technique, Weeks's article serves an important function, but at the same time it adds little to the existing literature. In a similar but more unique fashion, Richmond (2007) describes the incorporation of the Alexander Technique in a week-long English country dance and music camp. Describing the experience in *Country Dance & Song Society News*, Richmond writes about the informal camp setting, the unlikely group of students, and the enjoyment of using the Alexander Technique in a dance and music camp setting.

Fortin and Girard (2005), on the other hand, present one of the most comprehensive empirical studies of the Alexander Technique in the performing arts literature. Their qualitative

study focused on professional dancers who were also studying the Alexander Technique with the goal of filling "a gap that the researchers perceived in the available literature connecting [dance and the Alexander Technique]" (p. 125). Their study thoroughly documents the experience of the dancers over the course of their Alexander study, including the frustration the dancers initially felt using sensory perception in ways to which they were not accustomed. By the end of the study, both dancers who participated spoke very highly of the Alexander Technique, expressing that they felt a significant change of focus in their dancing. Fortin and Girard's study is the first empirical study of its kind and paves the way for more empirical study of the technique within the performing arts.

Focusing on broad somatic concepts, not just the Alexander Technique, Isiguen (2015) developed a pedagogical framework for teaching ballet. She used four somatic concepts for her framework: breath, kinesthesia, connectivity, and intention and initiation. She then created a workshop for undergraduate students where she applied her new pedagogical framework.

Madden (2002) explores bringing the Alexander Technique into the study of the Suzuki method of acting. The Suzuki method itself seeks to make acting a whole-person experience, with activities that demand high levels of physical engagement while simultaneously involving high levels of imagination. Madden found that the Suzuki participants largely conducted their activities with what she terms "excessive work." She writes, "[The Alexander Technique] assumes that human beings are well made and that interference in our *coordination*, such as excessive work, causes us to function at less than our optimal ability" (p. 51) Madden focused on two main areas with her Suzuki students. First, she recognized a need for anatomical accuracy. Second, she noted unnecessary muscular action attached to thought processes. Bringing the Alexander Technique to bear allowed the Suzuki students to accomplish their goals in a more

coordinated way, freeing them to more fully experience the benefits of the Suzuki method they were studying.

While study of the Alexander Technique has become common among actors, Barker (2002) explores reasons for reported limited benefit of the technique on stage. Barker contends that while students report profound experiences of freedom of movement in the context of their Alexander study, this freedom of movement doesn't always easily translate into their acting practice. Barker works to incorporate the Alexander Technique specifically into the Stanislavski method of acting. She found that students who experienced freedom of movement in particular Alexander-oriented activities needed help to translate the Alexander process into their acting practice. She specifically led students into awareness of how the Alexander Technique could enhance the objectives they were striving to achieve in their study and application of the Stanislavski method.

Richmond (1996) also explores the Alexander Technique within the context of the Stanislavski acting method. Richmond particularly pays attention to the actors' emotional state, both in terms of the stresses actors experience in the context of their vocation as well as the emotions actors may try to represent in their dramatic presentations. Students under Richmond's guidance were able to utilize the Alexander Technique in a way that allowed them to be aware of their internal emotional state without creating excess muscular tension as a result. In addition, they learned more deeply how to represent emotions in their acting, while being aware of their internal emotional state, and, again, not developing excess tension in an effort to portray emotion on stage. All of this resonates with principles of the Stanislavski method, but the Alexander Technique became a tool to enable the student to reach Stanislavski's ideals.

Given that F. M. Alexander himself was an actor, it follows that the Alexander Technique is commonly utilized in a variety of theater disciplines. Various actor training programs across the nation and around the world utilize Alexander Technique training as part of their curriculum (Barker, 2002; Vasiliades, 2004).

The Alexander Technique as Pedagogy

Besides being used as a technique to enhance performance, there are many researchers who observe the Alexander Technique's influence on and potential to shape pedagogical methods themselves, both inside and outside of the performing arts field. In this vein, Cole (2006) calls the Alexander Technique a "pre-technique, which can be applied to any special skill or activity" (p. 9). This understanding of the technique as having a specific influence on pedagogy begins to shape the larger potentials the technique has in every day life, not just as a method for performing artists to study. A serious student of performing arts pedagogy might readily agree with Alexander's assertion that teaching the arts without attention to kinesiology is futile, as energy becomes directed to wrong use of the body, defended by proclamations of free expression (Alexander, 1995). However, others insist that focusing merely on the implications within the performing arts is not sufficient. John Dewey is famously reported as saying that the Alexander Technique "bears the same relationship to education as education itself bears to other activities" (Alexander, 1995, xxxviii). Alexander himself wrote, "Give a child conscious control and you give him poise, the essential starting point for all education" (Alexander, 1995, 104). Within any given educational framework, a teacher cannot totally control the environment of the student, but if you give them the appropriate *means whereby* (see chapter three for a full explanation of the Alexander Technique process known as the *means whereby*), they now have a

method for navigating any environment. The technique thus becomes not just helpful for performing, but a guide to *psychophysical* control in all parts of life.

The Alexander Technique as a pedagogy unto itself could also help frame a new approach to conducting pedagogy. Gerald Custer, in his forward to Jordan, Wyers, and Andrews (2011), claims that a consistent choral conducting pedagogy is sorely lacking, and defines pedagogy as "a comprehensive, coordinated, and systematic approach that enables teachers to reliably communicate knowledge (both content data and specific skills) in a replicable manner about a given subject area to those who are learning it" (pp. xxiii-xxiv). Balance, poise, and precision of movement are all ideals of the aspiring conductor, and the Alexander Technique as a pedagogical framework could greatly enhance these conducting goals. In bemoaning the lack of conducting pedagogy Custer also writes,

> The professional training of conductors resembles the guild approach of the Middle Ages more than anything else. The guild model is still how carpenters and electricians are trained today: through a sequential combination of hands-on experience, one-on-one coaching, modeling, and the transmission of lore anecdotally. As a result, many conductors conduct in a style that resembles the approach of those with whom they studied and—for better or for worse—teach conducting to others as they were taught it initially. (p. xxiii)

One of the major pedagogical implications of the technique is on a teacher's use of language. Well-intentioned choral teachers may use phrases such as "stand tall," "relax your shoulders," "keep the ribs out," "sing from the diaphragm," "imagine a nose at your waistline, inhaling into your stomach," "try not to sway so much," and any other number of physiologically misinformed phrases. A choral conductor's goal, of course, is to equip a student with the knowledge and skills to successfully perform the given repertoire. Students of the Alexander Technique recognize the physiological misdirection of certain commonly used instructions as well as the psychological implications of misdirected physical effort. Using words emphasizing

"tall" posture or "standing still" may actually cause a student to use undue effort to achieve what they understand to be the goal.

Hembreiker (2010b) specifically addressed the issue of language used while teaching in her own harp studio. She offers a number of suggestions toward more instructive word choice while teaching. While word choice alone does not constitute use of the Alexander Technique, it can help guide students into better self-use. In their book, *How to Learn the Alexander Technique* (1995), Conable and Conable create a lexicon of words to use in instruction that avoid the words "relax" and "posture." For example, the Conables emphasize the use of the words "grounded," balanced," "secure," "buoyancy," and "elegance" that may suggest less-tensioned effort to the student.

Weiss (2005) surveyed writings of vocal teachers to find principles of the technique already present in some vocal pedagogies. Her research demonstrated principles of the Alexander Technique that have long been part of traditional vocal pedagogy. She also explored misconceptions about breathing, posture, and the like that knowledge of the Alexander Technique can help correct.

Bosanquet (1987) argues that the body itself is largely ignored in the music education of children. She contends that music ability in children is hampered by a lack of proper *coordination*. Some students may seem musically "untalented," but proper *coordination* frees them to experience and make music in ways they could not before.

Madden's (2003) article in *Teaching Theatre* overviews the concept of mind-body connection as it is applied in the Alexander Technique. Her emphasis in teaching theater and in coaching Alexander students in other disciplines has been on wholeness of the mind and body. She describes the excellent mechanical design of the human body and that the Alexander

Technique is a way to help our bodies run as they should. Traditional pedagogies often attempt to separate the mind and body, particularly in the affective domain. For example, Madden illustrates with a student who actually tightens up when told to "feel light." Anatomically correct images engage the imagination while still recognizing the wholeness of the body and mind. Madden quotes Sir Charles Sherrington's 1932 Nobel Prize acceptance speech in which he praises the work of the Alexander Technique:

> Mr. Alexander has done a service to the subject by insistently treating each act as involving the whole integrated individual, the whole psycho-physical man. To take a step is an affair not of this or that limb solely but of the total neuromuscular activity of the moment—not least of the head and neck. (p. 22)

The Alexander Technique in the Medical Field

Including an overview of medical studies here serves two primary purposes. First, it is clear to me that misunderstanding of the nature of the Alexander Technique abounds among musicians. Based on my own informal conversations with both students and colleagues, some view the technique as merely a posture corrector, while others view it as exclusively a method for learning one's own physiology in a similar fashion to Body Mapping, which is also popular among musicians. James Jordan is a choral conductor who is a proponent of the Alexander Technique as well as Laban Movement Analysis and Body Mapping, yet in one of his books the scope of the Alexander Technique may seem limited when the text suggests that the technique primarily "readies the body for movement" (Jordan, Wyers, & Andrews, 2011, p. 281). While I believe that Jordan has a more robust understanding of the Alexander Technique then the quotation might imply, it may lead to confusion about understanding the practice of the technique in the action of movement.

Yet others view it as a "mind over matter" positive thinking method or a new-age meditational technique, divorcing the physiological considerations from the psychological aspect

of the technique. Since one purpose of this study is to broaden the understanding of the principles and applications of the Alexander Technique, including medical studies in the literature review becomes a potent way to demonstrate the efficacy of the technique itself. Whereas those in the performing arts have struggled to build solid quantitative studies surrounding the technique, the medical field is producing such studies in abundance. In addition, the medical studies add evidence of the technique's applications far beyond the realm of the performing arts and into everyday activity.

Despite a growing number of studies from within the medical profession, Tarr (2011) describes the relationship between the Alexander Technique and mainstream healthcare as "an ambivalent one" (p. 253). Tarr notes that the *British Medical Journal* (in which appears Little et al., 2008, discussed below) expressed interest in Alexander's methods as early as 1924. However, Tarr suggests, "The discursive strategies in which [the Alexander Technique] is framed, specifically its overreliance on its founder and on a particular view of nature and evolution, as well as its view of the self, make it unlikely to receive mainstream medical acceptance" (p. 253). Perhaps Fitzgerald's (2007) encouragement for the Alexander Technique community to welcome empirical research into its practices and applications would solidify a relationship between the Alexander Technique and the medical field, or at least embed the technique solidly in the realm of complementary and alternative medicine.

The most widely applied use of the Alexander Technique as a medical intervention is in addressing the broad spectrum of ailments falling under the category of chronic pain. McClean, Brilleman, and Wye (2015) found that not only was the Alexander Technique a worthwhile pursuit in pain management, but that study of the technique also resulted in greater self-efficacy, possibly leading to reduced health costs.

Little et al. (2008) developed a quantitative study measuring back pain in patients with chronic back pain under four different conditions: normal care, massage therapy, six Alexander technique lessons, and 24 Alexander technique lessons. In addition, half of the participants in each condition were prescribed an exercise routine. Subjects in the 24-Alexander-Technique-lessons group had the greatest and longest-term reduction in pain, compared with the normal care or massage therapy groups. Subjects in the six-Alexander-Technique-lessons group who also had the prescribed exercise routine achieved nearly as great a result as the 24-lesson group, suggesting that even short-term study of the Alexander Technique may have long-lasting effects.

In a follow-up to the Little et al. (2008) study, Yardley et al. (2010) sought to understand the patients' perspectives on their experience of the Alexander Technique or exercise prescriptions in the Little et al. study. While patients reported positive attitudes at the baseline of the study, at a three-month follow-up, the subjects from the Alexander group felt much more optimistic about their ability to manage their back pain. Yardley et al. speculated that patients might also have seen the Alexander Technique as a better fit for their lifestyle than exercise alone.

Kutschke (2010) studied the effect of the Alexander Technique on neck and shoulder biomechanics and posture in healthy subjects. Kutscke found that after 20 lessons of the Alexander Technique subjects demonstrated decreased thoracic kyphosis (exaggerated rounding of the back) as well as increased shoulder flexibility and stability. They concluded that the Alexander Technique might be beneficial as both a rehabilitation and preventative approach.

In their study, Cacciatore, Gurfinkel, Horak, Cordo, and Ames (2011) conducted a quantitative study measuring the long-term postural tone in Alexander Technique teachers as well as short-term postural tone improvement in patients with lower back pain who took a 10-

week training course in the technique. The study found that Alexander teachers had better overall postural tone than their matched control subjects, and that short-term Alexander training resulted in lower levels of stiffness for patients suffering from low back pain.

Anecdotally, Sarah Mnatzaganian's (2009) interview with cellist and Alexander teacher Angela East also illustrates use of the Alexander Technique to manage chronic pain. East had severe pain in her right shoulder that actually prevented her from performing for a time. While therapy and surgery were part of the solution to manage the pain that was caused by bony spurs around her shoulder joint, continued Alexander practice helped her reduce pain that continued to be chronic.

Lauche et al. (2014) focused on chronic non-specific neck pain in their randomized controlled trial. While a heat pack application appeared to offer as much pain relief as the course of Alexander Technique study, quality of life was most improved in the AT group. Lauche et al. concluded that further study was warranted. However, MacPherson et al. (2015) found the Alexander Technique to be highly effective in reducing neck pain compared with regular care. The sample size for MacPherson et al. was significantly larger than for Lauche et al., and the Lauche et al. participants only received five Alexander sessions whereas the MacPherson et al. participants received 20 Alexander sessions. Those differences suggest that benefits of the Alexander Technique may be greater over a longer period of time than over a short duration.

While chronic pain is the most common medical issue where the Alexander Technique has been applied and studied, it might be easy to expect that better posture, increased poise and balance, and healthier physiological practice would ease chronic pain. Cacciatore, Gurfinkel, Horak, and Day (2011) sought to investigate more thoroughly the mechanisms underlying the technique. They used a simple sit-to-stand exercise, a classic experience in an Alexander

Technique lesson. While the authors acknowledge the already empirically verified benefits of the Alexander Technique for a variety of ailments, they sought to better understand the physiological changes that result from study of the technique. They write, "In particular, AT aims to reduce unnecessary tension and maintain elongation along the spine, referred to as the head-neck-back relationship. Proponents consider this relationship fundamental to any clinical or performance benefit from AT" (p. 496). In the sit-to-stand exercise, they found that control subjects had two distinct movements: first bringing the trunk of their bodies forward and then shifting weight to their feet. Alexander practitioners on the other hand, "Simultaneously generate anti-gravity leg-extensor moments while solving the balance problem—bringing the center-of-mass forward over the feet" (p. 499). AT teachers would likely ascribe this difference to the Alexander act of *coordination*.

In addition, Cacciatore, Mian, Peters, and Day (2014) hypothesized that healthy untrained adults could not replicate Alexander Technique practitioners' action of gradually shifting weight forward as they stand because of different levels of reported postural stiffness between the two groups. Their results suggested that the postural tone developed through practice of the Alexander Technique allows for freer movement *coordination* throughout the body.

Building off of the literature surrounding postural tone, Thapen and Forrstrom (2011) advocate for the teaching of the Alexander Technique in corporate settings for employees. They contend that AT would reduce issues related to repetitive strain as well as increase mindfulness and overall productivity. Both authors are Alexander teachers and have been actively involved in taking the technique into the workplace.

Despite the medical literature's broad focus on the Alexander Technique's benefits for chronic pain, the medical and therapeutic implications of the Alexander Technique are much

more far reaching. For example, Stallibrass, Sissons, and Chalmers (2002) developed a quantitative study that indicated that lessons in the Alexander Technique are likely to lead to sustained health benefit for people with Parkinson's disease. In the study, those subjects receiving Alexander lessons improved significantly more than a comparable control group or a group receiving massage therapy. In addition, the improvement was maintained six months later, relieving some concerns that the Alexander Technique may be just a temporary fix, or that it is only effective while taking lessons. An unexpected benefit was that those in the Alexander Technique group were less depressed following the course of lessons, and at six months, their self-efficacy had significantly improved.

The technique has even been demonstrated to lessen the symptoms of stuttering. Schulte & Walach (2006) created a fairly small, introductory study on the effect of the Alexander Technique on stuttering. While only two subjects were involved, results were generally positive, showing that lessons in the technique "led to a further improvement both in symptoms and in self-perceived coping and self-efficacy" (p. 191). Alexander (1995) himself recounts giving lessons to a student struggling with stuttering who reportedly showed marked improvement by the end of the course of study. Alexander described that the greatest hurdle for the student to gain more freedom in speech was being able to inhibit his habitual response and refuse his impulse to accomplish the task at hand, so that he could project new directions to himself that allowed a new *means whereby* to function (see chapter three for definitions of these terms and processes). Alexander writes,

> After my pupil had shewn [*sic*] me the exercises he had been told to do [by doctors seeking to cure his stutter], I explained to him that in practicing them he had been indulging in his old wrong habits of general use of himself, and thereby actually *cultivating* the wrong habits of use of his tongue and lips which had made him stutter. I impressed upon him once more that if he wished ever to be confident of saying T and D and words in which these consonants occur without

> stuttering, *he must refuse to respond to any stimulus either from within or without to say T or D;* in other words, whenever the idea of saying T or D came to him, he must inhibit his desire to try and say it correctly, until he had learned what use of this tongue and lips was required in his case for saying T or D without stuttering, and until he could put into practice the necessary directions for this new use of his tongue and lips *whilst continuing to give the directions for the primary control of the new an improved use of himself generally.* (pp. 33-34, emphasis in original)

Dennis and Cates (2010) reviewed the existing literature on including Alexander Technique lessons in the treatment of asthma. They found that there are some indications of the Alexander Technique being useful in the treatment of asthma, though the results are not definitive. They concluded that more empirical study is needed. According to Moore (n.d.), Alexander himself found that the asthma he had struggled with since childhood disappeared as he applied his technique.

Dennis (1999) demonstrated preliminary positive results of Alexander Technique instruction improving the quality of life in the aging population. The quantitative results of the study leave some room for further discussion and imply the need for continued investigation. However, the qualitative results show a very positive perceived effect on ease of movement and quality of life from the subjects themselves. In addition, Gleeson, Sherrington, Lo, and Keay (2015) explored whether the Alexander Technique could improve balance and mobility for older adults with visual impairments. While their experimental investigation did not demonstrate improvement in the treatment group on their defined primary outcomes, the data suggested improved balance and trends toward fewer falls for subjects who had previously experienced multiple falls.

Stallibrass and Hampson (2001) went so far as to study the application of the Alexander Technique to midwifery. They describe the usefulness of the technique for women during both pregnancy and labor, as well as when taking care of a newborn. During the labor process in

particular, the natural bodily processes are generally impeded by muscular tension in places other than the uterus. The Alexander Technique helps to give women a method for managing bodily tension during labor. In keeping with the psychological aspects of the Alexander Technique, they found that the technique not only improved postural and muscular tone but can also help in the processing of emotions.

Summary

The purpose of this literature review is to give an overview of the pertinent literature that exists about the Alexander Technique. A brief overview of selected books available on the topic highlights writings on the subject in general, as well as authors who specialize within the performing arts. Articles, studies, and dissertations about the application of the Alexander Technique within the performing arts gives a focused view towards the technique's potential usefulness to performers. This body of scholarly work clearly paves the way for continued specific applications of the technique to other disciplines within the performing arts, such as choral conducting, which is considered in this study. Finally, an overview of medical studies, mostly quantitative, lends a greater empirical credence to the use of the technique. While empirical evidence within the performing arts has proven difficult to quantify, medical studies demonstrate quantitative and qualitative evidence of the physiological and psychological (literally, the whole, *psychophysical* person) effects of studying the Alexander Technique. Such a body of evidence should strongly motivate performers of all stripes to better understand the technique. This document seeks to bring this body of evidence to bear on practices and pedagogies of the choral conductor.

Chapter 3: An Introduction to the Alexander Technique

What is the Alexander Technique?

> The Alexander Technique is a simple and practical method for improving ease and freedom of movement, balance, support, flexibility, and coordination. It enhances performance and is therefore a valued tool for actors, dancers, and musicians. Practice of the Technique refines and heightens kinesthetic sensitivity, offering the performer a control which is fluid and lively rather than rigid. It provides a means whereby the use of a part—a voice or an arm or a leg—is improved by improving the use of the whole body. (Conable & Conable, 1995, p. 1)

> The Alexander Technique is constructive, conscious kindness to ourselves, cooperating with our design and supporting our desires and our dreams. (Madden, 2014, p. 7)

These two quotations begin to illustrate both the complexity and simplicity of defining the Alexander Technique. Taken separately, a person might not have any idea that these two definitions were describing the same thing. If a variety of Alexander Technique practitioners were asked for a definition of the technique, they would likely give a variety of answers. Many Alexander students, myself included, have commented how difficult it can be to give a concise definition of the technique. I believe this stems not from a sense of ambiguity about the technique, but rather its broad effect on the entire self. This chapter does not attempt to give an ultimate definition to the technique, but rather introduces the reader to the fullness of what the technique offers.

In my own words, I would say that the Alexander Technique is a way of doing things. The fact that it is "a way" suggests that there is a path, journey, or process to the Alexander Technique. That it is a way of "doing things" suggests that there is action involved and that goals are being accomplished. For the purpose of this study, the "things" that are "being done" involve the making of choral music, primarily focused on the role the conductor plays and the communication taking place between conductor and ensemble. However, it is important to note

that the implications of the Alexander Technique pervade every area of life, from the simplest of daily tasks, to the actions used in work and play, to the most personal areas of life such as spirituality and sexuality. As Alexander (2005) surmised, the goal of the technique is not to do a particular activity with a better posture or *coordination* but to take a whole new means of doing into every activity of life. The technique is "a way of doing things" no matter what those things happen to be.

Many are motivated to study the Alexander Technique because of some discomfort or pain. Nevertheless, the Alexander Technique is not a medical treatment. Alexander teachers do not treat specific symptoms but rather "establish positive conditions for health" (Alexander, 1995, p. xxix). Nor is the Alexander Technique merely a relaxation method, as that suggests a state of inactivity, rather than activity. Edward Maisel states in the introduction to Alexander's (1995) writings that, "The purpose of the technique, as [Alexander] saw it, was not to get rid of tensions, but reorganize them into a source of energy and satisfaction" (p. xxviii). Conable and Conable (1995) describe that reorganization as taking "optimal advantage of the bony structure (mechanical advantage in Alexander's words) and of involuntary muscle support for voluntary movement" (p. 7).

Coordination, Kinesthesia, Awareness, and *Psychophysical* History

Understanding how performers and conductors themselves interfere with achieving the musical results desired is essential to embracing the usefulness of the Alexander Technique. As described in chapter one of this dissertation, topics of undue tension, repetitive strain, and lack of mental and cognitive clarity are often discussed among musicians as they seek to improve their craft. Frequently, the root cause of these problems is what Alexander would term poor "use of the self." For the purposes of this document, I'll refer to use of the self as *coordination*.

Coordination is the conscious moving act of the Alexander Technique and is described further on in this chapter, but suffice it to say that poor *coordination* creates undue tension throughout the body, which can lead to other physical and mental problems. While others and I may use qualitative phrases like improved *coordination* or diminished *coordination*, it is important to emphasize that these terms are not intended to have a value judgment of good and bad. Marjorie Barstow addressed this when she said,

> There isn't anything either right or wrong when dealing with co-ordination. There are degrees of movement. Life is really moving from one position to another. We never stop and say, "This is right—this is my posture, this is the way I ought to be". If we do that, we're stiff trying to hold that posture. It isn't natural for our bodies to be held in positions. (Brenner, 1987)

Utilizing sensory inputs from the kinesthetic sense is an important component of learning the Alexander Technique. Zion describes kinesthesia itself as that sense that allows a person to be aware of the parts of their body "in space, time and how they are moving in relation to each other and the environment" (as cited in Carpinteyro-Lara, 2014, pp. 5-6). Carpinteyro-Lara (2014) goes on to say, "The kinesthetic sense alerts one to muscular effort, tension, relaxation, balance, spatial orientation, distance, and proportion. So it tells when muscles and joints are tense, in pain, relaxed if movement is slow or fast movement, etc." (p. 6). Alexander (1995) believed that kinesthesia should be listed as one of the physical senses, and, indeed, kinesthesia (sometimes called proprioception), is now commonly listed as an addition to the traditional five senses of touching, tasting, seeing, hearing, and smelling (Cathy Madden, communication, May 8, 2012). Durie (2005) goes so far as to dispel entirely the Aristotelian notion of five senses and suggests there are at least 21. Notably, he lists kinesthesia and proprioception separately, as technically kinesthesia has to do with body movement and proprioception has to do with the position of the body, a distinction that is frequently ignored in the literature. Throughout this

document, and in conformity with a majority of the relevant literature, I've chosen to use the term kinesthesia to refer to a person's awareness of the body in and through space.

Much of the literature refers to the Alexander Technique having the effect of heightening awareness of the body, building greater kinesthetic awareness, or refining the kinesthetic sense (e.g. Armitage, 2009; Hanko, 2010; Sehic, 2014; and Walker, 2009, to name a few). There tends to be some confusion over exactly what is happening with the kinesthetic sense when studying the Alexander Technique. Cathy Madden argues that the term "heightened awareness" is misleading. Awareness, referring to the kinesthetic sense, is not actually changing. Madden goes on, "I would say that our ability to use the sensory input is what is getting better—the sensory systems don't change how they work—we learn how to use the information more accurately" (Cathy Madden, personal communication, April 28, 2016). Throughout this paper, then, the term "awareness" will function operationally as meaning an improvement in the use of existing sensory inputs. As a student's kinesthetic awareness broadens, they begin to discover the joys and pleasures of this enhanced sensory experience (Conable & Conable, 1995).

In any case, enhanced awareness is a *result* of using the Alexander Technique, not a *means* of using it. One of Alexander's key discoveries as he developed the technique is that kinesthetic sensory inputs are not reliable. Madden (2014) describes kinesthesia—and, by extension, all of our senses—as reports of the immediate past, relative and capricious in nature. For example, due to poor *coordination* and postural habits, many new students of the technique report a sensation of leaning forward when, in fact, they are standing straighter and in better *coordination* than before. However, if they were merely to try to repeat their *sensation* of leaning forward, they would entirely miss the point, and, as improved *coordination* becomes more

habitual, they would likely find themselves actually leaning forward if all they are pursuing is the sensation they initially felt.

This is why merely issuing corrective exercises to a specific symptom (e.g. slouched posture, inconsistent ictus, chronic pain, or lack of emotional control) falls short of developing habitual and intentional good *coordination*, since no matter how poorly a particular exercise is done, it generally *feels* right because it is habitually familiar (Alexander, 1995). As one of my Alexander Technique teachers put it, "What you feel and what is real are not necessarily the same thing" (Bruce Oliver, personal communication, 2007). Madden (2014) says it even more assertively: "The unwillingness to accept that what we feel is not a reliable guide to what we are actually doing is one of the biggest reasons performers get 'stuck' at a level of performance" (p. 84).

The Alexander Technique emphasizes wholeness of mind and body—referred to as *psychophysical* unity—and the cooperation of all our parts toward whatever thing that is to be accomplished. This sense of going toward a goal is captured in Alexander's (1995) own words: "There is no such thing as a right position, but there is such a thing as a right direction" (p. 4). The Alexander Technique is not a guarantee of success in any given action, but it does offer freedom so that acquired skills and knowledge may be free to offer their maximum benefit. Cole (2006) captures this beautifully as she expresses how much easier she could apply her vocal technique after learning the Alexander Technique:

> Instead of blaming myself for being slow or untalented, I now know that technical instructions only work when I am in coordination. Paradoxically, when I am in coordination, I do not have to think in such technical detail, as my coordinated system knows what to do. Indeed, I am too busy singing. (p. 12)

If the Alexander Technique purports the *psychophysical* unity of being human, and that a change in one part of the body affects the rest of the body (ATI Professional Development

Committee, 2007), then *psychophysical history* refers to "a pattern of coordinating yourself in a particular way that becomes deeply associated with a particular activity" (Madden, 2014, p. 97). Madden goes on to say, "An activity's psychophysical definition includes all the thoughts, movements and behaviors we associate with the activity" (p. 101). Alexander (1995) illustrated this when working with a student struggling with stuttering. No matter how hard the student willed himself to speak without stuttering, it availed him nothing. Alexander explained to him,

> The reason for this . . . was that he did not start to speak until he had brought about the amount of tension which was associated with his habitual use and which caused him to *feel that he could speak*; i.e., he would decide that the moment had come for him to speak only when his *feeling* told him that he was using his mechanisms to the best advantage, and this moment, in the last analysis, was when his sensory appreciation (the only guide he had as to the amount of muscle tension necessary) registered to him as "right" the amount of tension which he habitually employed in speaking and which was therefore familiar to him. (p. 28, emphasis in original)

The student's *psychophysical* history indicated a certain amount of undue tension was associated with the act of speaking. Over the course of time, as the student learned the Alexander Technique act of *means whereby* (described later in this chapter), he was able to create a new *psychophysical* history, reduce the undue muscular tension, and speak freely without stuttering.

The remainder of this chapter surveys the Alexander Technique, first by presenting a brief biography of F. M. Alexander himself, followed by describing the primary principles in the technique, then accounting for my own knowledge of the Alexander Technique, and, finally, concluding with an overview of how the technique has evolved since F. M. Alexander died.

F. M. Alexander

The life of Frederick Mathias Alexander (1869-1955) has been recounted many times (e.g. Chien, 2007; Fedele, 2003; Jones, 1979; and Madden, 2014, to name a few). This brief biography is not meant as a substantive account of Alexander's life, but rather serves as an

introduction to Alexander himself, for the purpose of understanding the origins of the technique. This account is summarized primarily from Alexander's own writings (Alexander, 1995).

Born in Tasmania in 1869, Alexander got involved in drama and acting in his later teen years. Reciting was a popular form of dramatic presentation at the time, and by his early 20s, Alexander had begun to build a reputation as a reciter. It was during this time that he started to struggle with chronic hoarseness, a condition that threatened to ruin his fledgling career. He believed his problem was rooted in his throat, or with his throat and vocal folds. Friends told him that his breathing was audible, and that it sounded like he was gasping for air.

Alexander sought medical advice and remedies to help his hoarseness. Before an important performance, a doctor prescribed two full weeks of complete vocal rest, assuring Alexander that this would give his voice strength for the performance. However, within an hour of the start of the performance, the hoarseness returned, despite the extended vocal rest.

Alexander then challenged his doctor, insisting that there must be something he was doing as he recited that was causing the problem. The doctor agreed with Alexander's assessment but offered no specific suggestions for a solution. Alexander thus began a near decade-long experiment of observing himself as he tried to discern the specific cause of the problem.

Using mirrors to observe himself, Alexander first noticed three things he was doing while reciting which were possible causes of his hoarseness: he pulled his head back, depressed his larynx, and sucked in his breath. Dispensing with the mirrors, Alexander knew that he simply needed to remember to bring his head forward and up to resolve the issue. However, despite his best intentions, the problems remained.

Upon returning to use of the mirrors, Alexander discovered that he was still maintaining his old habits, even though he felt that he had been bringing his head forward while reciting. Here is where he first learned that his kinesthetic sensory information was failing to give him an accurate picture of his behavior. He writes:

> The belief is very generally held that if only we are told what to do in order to correct a wrong way of doing something, we can do it, and that if we *feel* we are doing it, all is well. All my experience, however, goes to shew [*sic*] that this belief is a delusion. (Alexander, 1995, p. 148, emphasis in original)

Alexander knew that if sensory perception was not sufficient for making changes in physiological behavior, a new process must be developed. He recognized that the old habits he had formed were reactions to the particular use of his voice employed while reciting. His explorations on this topic were critical to the formation of the Alexander Technique. As he writes, "In short, I concluded that if I were ever able to react satisfactorily to the stimulus to use my voice, I must replace my old instinctive (unreasoned) direction of myself by a new conscious (reasoned) direction" (Alexander, 1995, p. 153).

After this discovery, Alexander began to employ new methods of accomplishing the physiological behaviors he desired. These discoveries and methods are what have come to be known as the Alexander Technique. The next section details the principles that Alexander discovered.

Principles of the Alexander Technique

Downward pull. Alexander's observation of wanting to pull his head down and back was a symptom of what he began to call "downward pull." The relationship between the head and spine is the central of point of origination for this downward pull. Conable & Conable (1995) describe the two ways in which downward pull has a global effect on the body:

> 1. Tensing in the neck distorts the rest relationship of bone to bone in the skeletal system, impairing the skeleton's ability to deliver weight efficiently. 2. Tensing in the neck interferes with involuntary muscular support for voluntary movement. (p. 4)

To make sense of these two aspects of bodily impact of downward pull, Conable & Conable go on to describe the effect much more vividly:

> [Downward pull] is the pattern of tension in the whole body that originates with habituated tension in the neck. The eyes accommodate the chronic backward drag of the head by shifting in the orbit and they are chronically partially lidded. The jaw loses mobility and juts forward in opening. The tongue bunches and the throat tightens. The vertebrae of the neck are jammed together, putting pressure on nerves and blood vessels, creating a susceptibility to tension headaches. Breathing is impaired, vital capacity decreased, rib mobility decreased; the movement of breathing becomes disorganized. The spine loses range as well as its ability to lengthen and sequence in movement. Pressure is put on internal organs. The arm structure is distorted. The shoulder blades are pulled together as the back narrows and there is also a caving-in of the chest, dragging the collarbones down and in; in other words, we narrow front and back. The upper arm is torqued outward, rotation is compromised at the elbow, there is retraction across the wrist, and the hands tense. Meanwhile the whole back shortens and narrows. The lumbar area is shortened and forced forward, or back. The gluteals shorten, forcing the hip joints forward in space. The pelvic floor is tightened uncomfortably upward. The thighs torque outward, putting pressure on the knees and causing the muscles of the lower leg to tighten, hardening the area between the tibia and the fibula. The lower leg is pulled off the perpendicular at the arch, forcing weight onto the heel, or, in extreme cases, onto the ball of the foot. The foot torques, the heel pulling to the inside and the front of the foot twisting outward, often sufficiently so that the reflexes that give us a sense of a spring in the step are lost. Toes lose mobility." (p. 13)

Because of the effect of downward pull and since, as Alexander discovered, kinesthetic sensory inputs can be misleading, Alexander teachers often use their hands as a guide for students who are learning to counteract downward pull. The use of the hands provides new sensory inputs, and, combined with the student projecting directions (see description below), a new *psychophysical* definition begins to form (Alexander, 1995). This re-education involved in the Alexander Technique should not be confused as simply about a new position of the head to

avoid downward pull but, rather, about a completely new way of doing things. Alexander (1995) described it:

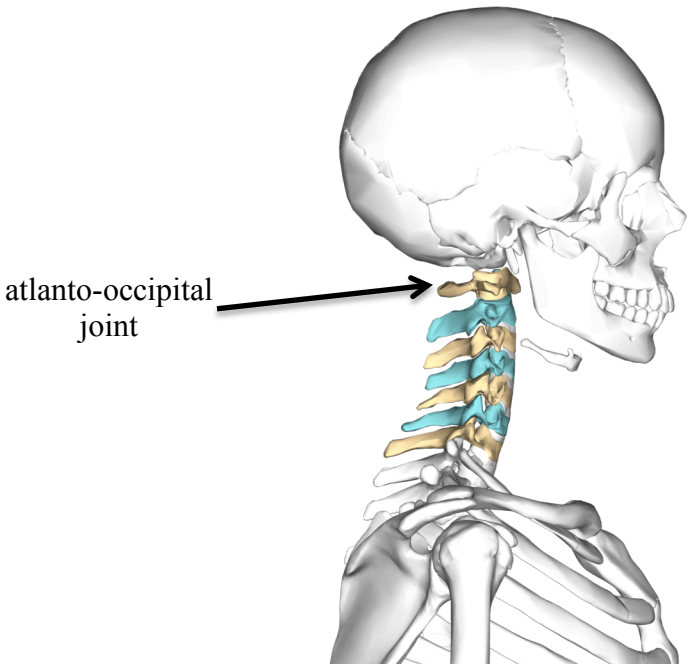
> The aim of re-education on a general basis is to bring about at all times and for all purposes, not a series of correct positions or postures, but a *co-ordinated use of the mechanisms in general*. (p. 15, emphasis in original)

Alexander indicated two main steps for correcting the problem of downward pull and developing improved *coordination*: the inhibition of wrong habitual use and new directions for employing primary control (Alexander, 1995).

Primary control. Primary control (also described as the head leading) refers to the coordinated tension and release of the muscles controlling the relationship between head and spine. Alexander (1995) observed that this *coordination* is present in all vertebrate animals. Finger (2001) elaborates how the head leading in humans is similar, yet different, than in four-legged vertebrates:

> In four legged animals [the head leading and body following is] pretty obvious, because the head is at the front and the spine trails behind. A cat's head not only gets there first, but it also leads the spine to move and balance. Four-legged creatures organize internally—through the length of the spine—in the same direction that they move through space. Two-legged creatures balance by lengthening through the spine and outwards through the top of the head, but move forward in space perpendicularly to the spine. In other words, to walk we lengthen upwards but move forwards. (p. 9)

Finger (2001) also explains illustratively the importance of the head/spine relationship. The connection of the head and spine at the atlanto-occipital joint (see Figure 1) is the primary reflex point in the human body. The most obvious illustration of this is in the fight/flight response or startle pattern. That reflexive tightening begins at the head/spine connection and radiates throughout the entire body.



Cervical vertebrae, BodyParts3D, © The Database Center for Life Science.
Licensed under CC Attribution-Share Alike 2.1 Japan.
Retrieved from https://commons.wikimedia.org/wiki/File:Cervical_vertebrae_lateral3.png

Figure 1 – Lateral view of cervical vertebrae, including atlanto-occipital joint.

> Conable and Conable (1995) codify primary control into two Laws of Human Movement:
>
> I. Habituated tensing of the muscles of the neck results in a predictable and inevitable tensing of the whole body. Release out of the tensing in the whole must begin with release in the muscles in the neck. II. In movement, when it's free, the head leads and the body follows. More particularly, the head leads and the spine follows in sequence. (p. 2)

While the primary movement of the body itself can lead from anywhere, this idea of "head leading" refers specifically to the coordinating movement that is primary control (Cathy Madden, personal communication, May 8, 2012). Because downward pull results in undue tension in the relationship between head and spine, movement is not evenly distributed along the spine, ultimately manifesting itself in pain. Primary control establishes even movement along the spine (Conable & Conable, 1995).

Inhibition. In describing the principles he developed, Alexander (1995; 2012) argued that much of our physical response to any given stimuli is habitual or instinctual rather than reasoned or intuitive, and that habitual, instinctual, subconscious direction dominates reasoned, intuitive, conscious direction. Instinct, he defined not as an inborn response, but, rather, as "the result of the accumulated *subconscious* psycho-physical experience of man at all stages of his development" (Alexander, 2012, p. 47, emphasis in original). Terms like habitual response, instinctual response, or unconscious direction, then, are making reference to a person's *psychophysical* history (discussed earlier in this chapter).

Alexander coined the act of preventing the habitual response as "inhibition" (ATI Professional Development Committee, 2007), not to be confused with the Freudian use of the word. Preventing the subconscious response from happening involves refusing to act (sometimes referred to as *non-doing* by Alexander teachers) and simultaneously projecting new directions (see below). Alexander (1995) described it as not trying to do nothing, but rather refusing to do anything, described here:

> [Alexander] tells the pupil that, on receiving the directions or guiding orders, he must not attempt to carry them out; that, on the contrary, *he must inhibit the desire to do so in the case of each and every order which is given to him.* (p. 14, emphasis in original)

This necessary act of inhibition is, as much as anything else, what makes the Alexander Technique unique among other somatic or *psychophysical* methods. Inhibition, according to Marjory Barlow, "is the keystone of the whole technique" (Schirle, 1986). Inhibition acknowledges the *psychophysical* unity of a person and helps lead that person into *coordination* in a way that isolated knowledge of physiology could not. Alexander (1995) described it thus:

> You come to learn to inhibit and to direct your activity. You learn, first, to inhibit the habitual reaction to certain classes of stimuli, and second, to direct yourself consciously in such a way as to affect certain muscular pulls, which processes

> bring about a new reaction to these stimuli. Boiled down, it all comes to inhibiting a particular reaction to a given stimulus. But no one will see it that way. They will all see it as getting in and out of a chair the right way. It is nothing of the kind. It is that a pupil decides what he will or will not consent to do. They may teach you anatomy and physiology till they are black in the face—you will still have this to face, sticking to a decision against your habit of life. (p. 9)

Carrington (1999) said, "The essential thing about inhibition is the realization that you have the time, you have the possibility, to choose and decide" (p. 1).

Directions. Inhibition is only the first step in achieving use of the Alexander Technique. Not only must an old habit be refused, but new habits of improved *coordination* must also be established. The Alexander Technique is sometimes referred to as an indirect procedure, because the focus is on a process within an action, not the goal of the action itself. The directions serve as a guide for this process.

There are three traditional steps to the directions: (a) let the neck be free; (b) let the head go forward and up; (c) let the torso lengthen and widen. Again, the key to success in these directions is that they are applied simultaneously with acts of inhibition. In a sense, the directions are a way of keeping mental track of the inhibition process. As Edward Maisel described it, "Awareness and the power to inhibit increase side by side" (Alexander, 1995, p. xxxv).

Alexander (1995) said that John Dewey referred to this process as "thinking in activity," meaning that the Alexander student had to continually maintain one direction as further directions are projected. As Cathy Madden describes it, "The only way that the old habit ceases is if the new 'yes' replaces it" (Cathy Madden, personal communication, March 26, 2016). The importance of saying no to the old, unconscious directions and yes to the new, reasoned directions is illustrated when Alexander (1995) wrote,

> Everything a person has done in the past has been in accordance with the mental direction to which he is accustomed, and it is his faith in this that makes him unwilling to exchange it for the new direction one is trying to give him. (p. 4)

It is important to note that though the three steps listed above are the most traditional for the directions and are still espoused by many teachers of the technique, Alexander himself used a variety of instructions as method of direction. Towards the end of his life he said, "You want to just be quiet throughout so that the right thing can happen" (Cathy Madden, personal communication, May 8, 2012).

Madden, in particular, espouses a different set of words for the directions. While understanding the physiological principle at work is important, many words have preconceived meanings. Even the traditional step "let the head go forward and up" has been confusing to many students in my experience. Madden encourages the use of a more generic verb, such as "to coordinate," or actually inventing a verb that has no prior connotation or experience attached to it (Madden, 2014).

The directions help give an anchor of conscious thought regardless of what a person's sensory perceptions are indicating. The directions are important in guiding a person toward better use, even when that use does not yet feel correct. Given the unreliable sensory information given by our kinesthetic sense, acting purely on habit, or what feels right, will lead a person into diminished *coordination*. As Alexander (1995) said, "'To thine own self be true,' is an inspiring incentive when the human creature's co-ordinated psycho-physical development has reached a point where that self cannot be duped by its sensations" (p. 17).

Means whereby. The *means whereby* is perhaps best understood as a single term that incorporates both the principles of inhibition and the steps of the directions. The *means whereby* means both inhibiting and projecting new directions constantly and consistently. Cathy Madden's description of the Alexander Technique, found at the beginning of this chapter, describes the technique as "conscious kindness" and "cooperating with our design" (Madden,

2014). These perhaps encapsulate the idea of the *means whereby* in more holistic terms. Alexander (1995) used the term when he said, "The problem before us is to find a *means whereby* a reliable sensory appreciation can be developed and maintained throughout the organism" (Alexander, 1995, p. 13, emphasis in original). The *means whereby* is something to be employed in every activity of life, not relying on subconscious, habitual reactions, but with "*conscious, reasoning* guiding and control" (Alexander, 1995, p. 13, emphasis in original).

Utilizing the *means whereby* means stopping at the moment that unconscious control takes over and then choosing a different end while still directing the new use. Either you will operate by the old, habitual means, which may feel right, or you will use an improved use that may actually feel wrong (Alexander, 1995). Madden articulates the *means whereby* process in this way:

> I ask myself to coordinate
> so that
> My head can move
> so that
> All of me can follow
> so that
> I can do what I am doing. (Madden, 2014, p. 29)

End Gaining. *End gaining* is a term used with a negative connotation. Because the focus of the Alexander Technique is on the *means whereby*, Alexander insisted that the goal a person is trying to achieve must become secondary to the *means whereby*. If people head specifically for a goal, they will try to get there in the way in which they are most confident and comfortable. The task before them can no longer be the goal. The process of the *means whereby* is the new direction, rather than the goal itself (Alexander, 1995).

For example, in the context of sports, a golfer simply being told to fix a particular (and real) problem doesn't necessarily help because all of that player's lack of *coordination* is being

brought into solving that problem. For another example, after sustaining an injury, a person may be focused most on learning to walk correctly, or how they perceive to be walking correctly. If the injury or defect comes from a faulty sensation, then trying to walk correctly will also be done through this faulty sensation. Focus needs to rather be on the process of improved *coordination* that will ultimately aid in fixing the particular problem (Alexander, 1995).

Corrective exercises, such as ones that might be prescribed for the examples in the previous paragraph, that fail to address a person's overall *coordination* become a means for cultivating the destructive habits already in place. Alexander (1995) described this issue in the context of breathing exercises:

> Any effort to remedy these incorrect uses by means of such processes as 'deep-breathing' or 'lessons in breathing' is merely an attempt to correct a *general* defective condition of psycho-mechanics by a *specific* remedial process. (p. 43, emphasis in original)

Alexander's point is that the "specific remedial process" will be severely limited by the "general defective condition." Proponents of exercises often only pay attention to the ends they are trying to achieve without concern for the *means whereby*. This is the epitome of *end gaining*. This application holds true whether in physical therapy exercise, physical exercise, or musical exercises.

Alexander (1995) argued that *end gaining* reduces when you habitualize improved *coordination*, because the end you have desired is associated with the wrong use. Discerning whether one is focused on the desired goal or on the Alexander Technique process can be difficult, and Conable & Conable (1995) issue the reminder that pitfalls are common. If one is feeling overly bound or tight, which can be an indicator of *end gaining*, one is not succeeding. They encourage students to take frequent breaks and then approach the process again.

My Journey with the Alexander Technique

To begin to make sense of the aforementioned principles of the Alexander Technique, it seems worthwhile to describe my own experience with the technique. After all, experiencing the technique first-hand is what has brought me to the point of writing on this topic. It is difficult to fully grasp the technique purely by reading about it, but hopefully my experience will help readers imagine the kind of journey they might have with the technique.

While I do recall a few references to the Alexander Technique earlier in my academic life, I first directly encountered the technique in 2007-2008, while serving as an adjunct music instructor at Modesto Junior College. The full-time voice instructor had chosen to study the Alexander Technique as part of her sabbatical, and so Bruce Oliver of the Pacific Center for Alexander Technique began making weekly visits to the college to work with students as well as faculty (visit http://www.pacificcenterforalexandertechnique.com to learn more about Bruce and his work). One-on-one sessions were available, but Bruce also offered small group sessions to help reduce the individual expense for students.

The first half of my lessons with Bruce usually involved a great deal of time practicing "constructive rest" on a cushioned table in a semi-supine position, moving to a standing position from a seated position, and exploring *monkey*. All of these are traditional Alexander Technique exercises that help students become aware of their own lack of *coordination* and begin to utilize the technique's directions. The latter half of the lesson would focus around bringing the Alexander Technique into more common activities such as walking as well as musical activities like singing, playing my flute, and conducting.

From Bruce, I learned the basic tenets of the Alexander Technique and began to apply them regularly in a variety of activities. Bruce was always open to my questions, and as we often

worked in small groups, I was able not only to develop my own practice of the Alexander Technique, but to observe the practice of the technique in others, both faculty peers and students.

Aside from incorporating the technique into my everyday habits, the experience I had with Bruce's teaching significantly shaped the daily verbiage I would use while rehearsing an ensemble or in the studio teaching private voice lessons. Bruce used words like "pause" to capture a moment in time where I could then make a conscious choice about how to proceed. I could choose to inhibit my old habits and make a new decision to follow a different set of directions. In my own teaching, I sought to help students make similar conscious choices. Many students try very hard to reach the ends that their teachers push them towards, but I found the benefit of focusing more on the process that students needed to go through to be able to successfully reach the ends they sought.

After starting doctoral studies at the University of Washington in 2009, I soon became acquainted with Cathy Madden, Principal Lecturer in the Professional Actor Training Program housed in the School of Drama at the University of Washington (visit http://www.cathymadden.net to learn more about Cathy and her work). While I didn't have the opportunity for weekly lessons as I had with Bruce, I worked periodically with Cathy to continue my Alexander Technique training over my two-and-a-half years in residency at the University of Washington.

Studying the technique with Cathy was altogether different from studying with Bruce. The traditional technique exercises of constructive rest, moving from sitting to standing, and *monkey* were completely dispensed with. Rather, Cathy focused on bringing the Alexander Technique into any and all daily activities. In lessons with Cathy, I sang, walked, climbed stairs, conducted, and held my children, among other things. While practicing everyday activities in the

context of an Alexander Technique lesson was not new for me, focusing exclusively on these activities was. In addition, Cathy was less "hands-on" than Bruce had been. Teachers guiding students with their hands has been a hallmark of the technique from its early years, so while Cathy seemed non-traditional in the sense that she spent less hands-on time, I also found that what physical contact she did use seemed all the more profound. Her touch also never seemed coercive in any way, only guiding and encouraging, never really demanding or correcting.

It is from Cathy that I learned more extensively about the concept of the *means whereby*. Previously, I had practiced the idea of pausing and then consciously choosing a new direction. With Cathy's guidance, I felt that those things happened more simultaneously. No longer did I have to stop what I was doing to choose something different. I could actually choose a new direction in the midst of action.

Cathy also is not afraid to choose different terms than Alexander himself did when conveying instructions to students. "Let the neck be free" and the subsequent directions traditional to the technique focus on the idea of *non-doing*. It is our "over-effort" that can often cause unnecessary tensions in the body, and so *non-doing* helps practitioners of the technique focus on only using as much effort as necessary. However, Cathy chooses more active and verbal language, like her invitation to coordinate, described earlier in this chapter. The language still captures much of the essence of *non-doing*, but it also seems to me to capture the activity that is being done while practicing the technique.

Finally, Cathy also continued to shape my use of verbiage as a teacher. Cathy's background as a drama director certainly influences her coaching of the Alexander Technique, but Cathy is also a master at helping students modify their choices and behavior in a completely non-threatening way. She exudes a *non-doing* atmosphere while at the same time actually

"doing" quite a lot. This gift of hers inspires my own work as conductor, as I seek to sustain an atmosphere where students find it safe to invite themselves into *coordination*.

Evolution of the Technique Since F. M. Alexander

In any method, technique, or belief system, some aspects tend to change or evolve over the course of time. The same is true for the Alexander Technique. The information presented here is not intended as a nuanced history or description of the practice and teaching of the Alexander Technique in the more than 60 years since Alexander's death. However, several schools of teaching the technique have evolved. While the descriptions given here are likely to be an oversimplification, it is important to note at least a few differences in teaching traditions both to inform the reader what to expect as well as to express my own bias. Cole (2006) describes a spectrum with conservative teachers, wishing to preserve the technique just as Alexander himself taught it, on one end, and progressives, who wanted to disregard any rules for teaching the technique, on the other end. In addition, some Alexander teachers have polarized around the teaching styles and methods of various first-generation Alexander Technique teachers. As a caveat, teachers of these different approaches of course disagree on what exactly Alexander himself did or did not do and did or did not say when teaching students and training teachers.

Representing the more conservative end of the spectrum, what I will refer to as the "traditional approach," are teachers who believe they are preserving similar teaching methods and styles as Alexander himself used. Students studying with a teacher of the traditional approach are likely to have one-on-one lessons and spend a good deal of time doing table work or "constructive rest," performing sit-to-stand exercises, and practicing *monkey*. These traditional methods are intended to help a student master the core Alexander Technique principles of

inhibition and the directions. In a lesson with a traditional approach, students will be asked to refuse to act on any instructions given, as they must first "pause" and then mentally proceed with the "directions" so as to achieve a new *means whereby*. Depending on the teacher, this may be the extent of activity in an Alexander lesson for some time. While I have never personally interacted with a traditional approach teacher of that extreme, colleagues have told me stories of students who studied the Alexander Technique for a year or more before ever performing any other activities in a lesson beyond the ones mentioned above.

On the more progressive end of the spectrum are teachers who represent what Cole (2006) says is commonly called the "application approach." Students of Marjorie Barstow, the first graduate of Alexander's teacher training course, are the primary promoters of the application approach. According to Cole (2006),

> Marjorie Barstow made many changes to the way she taught the Alexander Technique. She changed the language, the teaching environment and teaching philosophy. . . . This meant that she stopped teaching many of the procedures traditionally associated with the Alexander Technique and focussed [*sic*] instead on the activities her students wished to do better or more easily. (p. 17)

Students studying the technique with a teacher of the application approach are more likely to study in groups in addition to one-on-one instruction and are less likely to be involved with the traditional experiences of constructive rest and *monkey*. Instead students will be invited to enter into whatever activity it is they are seeking to improve. This could center around performance-related activities for performing artists, but it can also include actions as simple as turning a door knob, walking around the room, getting in and out of a car, or squatting to talk to a toddler. Application approach teachers are also less likely to stick to the vocabulary and precise instructions of the directions as represented in F. M. Alexander's writings. Rather, they may seek

to change the language for the sake of clarity and ease or to reflect current *psychophysical* research and knowledge.

My own experiences with the technique fall predominantly within the application approach, though my first Alexander teacher always began lessons with traditional Alexander experiences. Given my experience, I openly admit my own bias toward the application approach, but I do value the traditional experiences I had. Bruce, my first Alexander Technique teacher, was a master at table work (or "constructive rest"). While I never fully understood the direct application of my time spent on his table, I did learn to better understand my kinesthetic sense, and I always felt incredibly poised and, for lack of a better term, relaxed, after I got off the table. However, that poise accomplished while Bruce worked on me on the table was never something I was able to recapture on my own. Also, though Bruce spent plenty of time on traditional methods, there was never any doubt that the goal was to take what was being learned while on the table or doing *monkey* into everyday activities.

Studying with Cathy provided a full-immersion into the application approach. While Cathy was always willing to clarify or translate for me the experiences and knowledge I had from a more traditional approach, her own methods always focused directly on activity. What I appreciate most from the application approach is the focus on movement. While I always understood that the technique was about movement (not posture), in the more traditional approach with the two-step process of inhibition and then projecting new directions, I often felt caught up in a particular position. With my experience in the application approach, I understand that if I start to feel tight, coordinated movement is the solution, and I can move directly into that without having to stop any previous activity.

On a related note, Fitzgerald (2007) explores Alexander Technique teacher education, which for the most part continues essentially as it was established by Alexander himself. Fitzgerald insists that current practices of Alexander teacher education are essentially untested from an empirical point of view. Many teacher training programs for the Alexander Technique have focused on quantitative protocols, such as the amount of time invested into the training. Fitzgerald argues for better qualitative protocols for evaluating Alexander Technique teachers. Fitzgerald also challenges the Alexander Technique practitioners to engage in more scholarly research. Fitzgerald writes, "Until the AT profession commits to a program of authentic scholarly research, AT teacher education will either continue as a set of habits from the past or drift directionless into the future, buffeted by ideology, anecdote and administrative convenience" (p. 194). Fitzgerald also notes that Alexander Technique International, the only teacher-accrediting body not affiliated with The International Affiliated Societies of Teachers of the Alexander Technique, has the most flexible and qualitative set of criteria for certifying teachers. Alexander Technique International, of which Cathy Madden is a founding member, also openly welcomes empirical research.

Chapter 4: Comparison to Other Somatic Methods

Study of the Alexander Technique is foundational to a comprehensive understanding of the body in motion. The purpose of this chapter is to provide a better understanding of the Alexander Technique in the context of other somatic methods. The focus of this chapter is on three somatic methods beyond the Alexander Technique: Laban Movement Analysis, Body Mapping, and the Feldenkrais Method. The choice of these particular methods is biased by my own experiences, and represent what some might consider as alternatives to the Alexander Technique. While there are arguably other methods that could have been included here (yoga or the Lovetri Method, for example, or even, arguably, Dalcroze Eurhythmics or Orff Schulwerk), these three represent methods more widely known and popular among choral conductors and utilized particularly in the context of conducting gestures and the choral rehearsal. In addition, the Alexander Technique enhances the benefits of further somatic study, as it becomes a portal through which to explore Laban, Body Mapping, Feldenkrais, or any other somatic method. This chapter will help choral conductors understand the application and usefulness of the Alexander Technique as distinct from, and in support of, these three methods.

Laban Movement Analysis

Laban Movement Analysis began as a way to notate dance and other movement patterns. Rudolf Laban devised this notational language (known as kinetography) in an effort to add specificity to dance movements rather than relying on memory or verbal descriptions. In his own words, Laban (1975) writes,

> Movement notation is a guide to the performance of definite movements depicted in a series of graphic symbols. . . . Movement notation gives therefore more than a description in words could offer. Verbal explanation is bound to be much too long-winded for the stimulation of immediate performance. (p. 15)

Through his kinetography, Laban sought to allow specific movements to be preserved, much like scores of famous composers have been preserved over the centuries. A unified notational language for dance would also allow for the evolution of dance-composers, who wrote dances from a more objective and abstract perspective and then allowed other choreographers and dancers to interpret their works that were set down on paper. Laban (1975) again writes,

> The necessity for an adequate script is more urgent now even than it was because movement study has come to be recognized as a most important feature in industry, education and therapy. In all three fields a rich tradition of movement knowledge is running to waste, since many bodily actions and exercises cannot be preserved. We cannot rely solely on people's memory of movements; nor can the choreographer rely upon his memory, for he might have excellent ideas which he cannot use at the moment, and when the opportunity eventually comes when he can use them, he may find that the ideas have entirely escaped his mind. (p. 5)

Laban's kinetography analyzed human movement and categorized it into four components: Body, Effort, Shape, and Space (Gambetta, 2005). Analysis can focus on a single one of these components or the interaction of all four. Gambetta (2005) describes it this way:

> Just as the lines of a musical score emerge, rise, fall, and retreat independently or simultaneously during the ebb and flow of a musical composition, these four components of human movement constantly change, shift, and proceed through time to create the totality of movement experience. An observer of movement trained in the techniques of LMA can choose to follow all four components or select one or more for scrutiny. (pp. 30-31)

The component of Body focuses on the way in which the body is used, and where in the body that use originates and is sequenced. The Space component refers to the architecture of movement through specific planes within the reach of the physical body, known as the kinesphere. Movement within Space creates a "movement signature." The component of Effort describes the quality, intent, and purpose of specific movements. The Shape component focuses on the constant changes in form and how the body interacts with its surrounding environment (Billingham, 2009; Gambetta, 2005; Giselle Wyers, personal communication, June 7, 2016).

Lisa Billingham of George Mason University, James Jordan of Westminster Choir College, and Giselle Wyers of the University of Washington are among the nation's leaders in the transference of Laban's principles to choral conducting. Much of the work transferring Laban to conducting has focused primarily on the component of Effort. Gambetta (2005) explains in detail the conducting focus on Effort:

> Body, Space and Shape, though not necessarily easy to master, are relatively simple concepts to grasp because they describe what seem to be familiar constructs. . . . Effort can be the most difficult to grasp, and it is arguably the most important component for conductors to comprehend because it is through Effort that the interior life of the mover—his attitudes, emotions, feelings and, for the purposes of the present study, his musicianship and artistry—are revealed. (pp. 40-41)

The Effort component itself is broken down into four elements, each of which exists on a continuum represented by endpoints. The four elements (with their continuum extremes listed in parentheses) are Weight (strong or light), Time (quick or sustained), Space (direct or indirect), and Flow (bound or free). The Effort element of Space should not be confused with the larger component of Space. These Effort elements are often referred to as inner attitudes, so while the component of Space refers to physical space, the Effort element of Space has more to do with internal motivation for a movement (Gambetta, 2005; Jordan, Wyers, & Andrews, 2011).

In describing and analyzing movements, any combination of the Effort elements can be used. Paired elements are called Effort States, while three elements combined are called Effort Drives. The rather rare occurrence of engaging all four elements is called a Full Effort Action (Gambetta, 2005; Jordan, Wyers, & Andrews, 2011).

Laban Movement Analysis can be used as a pedagogical tool in conductor training. James Jordan refers to Laban not as a method, but rather as a morphology when he writes,

> If conducting gesture is to have any honesty and any ability to express anything, then conductors must understand how sound is bound, like blood to bone, with

> movement. Laban provides such a morphological viewpoint. It provides the perfect gesture that is both honest and expressive, and never contrived. (Jordan, Wyers, & Andrews, 2011, p. 10)

Laban can also be used as the basis for kinesthetic exercises for singers within a choir. Singers can be taught basic Effort Actions (particular movements utilizing Effort Drives that exclude the element of Flow), which form the basis for modeling sound after the quality of the movement. For conductors who practice Laban principles in their conducting gestures, this has the added benefit of helping singers connect particular gestures to a specific quality of sound, because they themselves have practiced making the gesture that represents the particular sound.

Among the somatic methods discussed here, Laban provides a unique framework of application for choral conductors. As such, it holds enormous potential benefit, both for conductors and for the choirs they direct. There is a growing body of literature on the topic of Laban and its use within choral music making. However, while it would be easy to see the work as complementary to study of the Alexander Technique, Laban in no way becomes a substitute for the technique. If anything, study of Laban Movement Analysis should be preceded by, or augmented by, study of the Alexander Technique, as poor *coordination* will lead to limited usefulness of Laban's principles.

Body Mapping

Body Mapping is a somatic method developed by Barbara Conable, herself an Alexander Technique teacher. According to Andover Educators (2013), Conable wished to enhance her effectiveness with more people and has used Body Mapping and its proliferation through Andover Educators as her method of doing so. Body Mapping as a general concept is built on the idea that how people visualize their own bodies affects how they try to move. Sehic (2014) notes that the term "body map" is a literal term, not a metaphor. More technically, Harscher (2010)

describes body maps as "the internal representation on the cortical surface of our brains that govern all movement" (p. 30). Buchanan and Hays (2014) go further by saying,

> Body maps are neural networks that represent the anatomy of the body and are located ubiquitously in the brain. . . . The underlying premise of [Body Mapping] is the importance of understanding the neurophysiological connections in the human body that lead to freedom of movement. In addition to cultivating accurate and adequate body maps, the integration of kinesthesia into sensory awareness, and the development of inclusive awareness provide musicians with the skills for embodied performing. (p. 3)

Body Mapping has perhaps become the most ubiquitous somatic method among choral music educators and conductors. James Jordan of Westminster Choir College and Heather Buchanan of Montclair State University have led the way in bringing Body Mapping into the world of choral conducting and performance. Jordan and Buchanan (2002) have a DVD specifically geared to Body Mapping as it pertains to conductors, Jordan and Conable (2000) developed a handbook concerning the body map for breathing that is intended to be distributed to choir members, and references to Body Mapping can be found in Jordan's popular *Evoking Sound* series of books and videos as well as in his public speaking (e.g. Jordan, 1996; Jordan, 2005; Jordan, 2015; Jordan & Buchanan, 2002).

Simple corrections to anatomical misunderstanding are common when learning Body Mapping. For example, Conable and Conable (1995) describe the misconception of how the jaw functions. Physiologically, the jaw is an extra limb. Just as the arm is not actually part of the rib cage, despite being attached to it, neither is the jaw part of the skull. There is no upper or lower jaw, and to correctly utilize the jaw as needed in singing and speaking, it is important to visualize the jaw as separate from the skull, which is, in fact, the truth. Incorrect visualization of the mapping of the jaw, such as thinking of an upper jaw where the top teeth are connected and a lower jaw where the bottom teeth lie, leads to poor use of that limb. As Conable and Conable

note, “In any case the person will *always* try to move according to how he thinks he is structured” (p. 32, emphasis in original). Thus, Body Mapping serves as a cognitive tool for independent learning, so that with correct understanding of anatomy and physiology, students can better improve their performance.

Because an Alexander Technique teacher began Body Mapping, confusion can exist about the differences between the two methods. However, Conable and Conable (1995) themselves say that Body Mapping is not a substitute for Alexander Technique work. Rather, they see it as something that can enhance and quicken the work. In many ways, understanding Body Mapping is a significant, and even crucial, piece of studying the Alexander Technique, but it removes the principles of the Alexander Technique such as inhibition, primary control, and *means whereby*. Body Mapping suggests that correct knowledge and understanding lead to correct use. However, Alexander’s own experience suggests otherwise, as he was unable to correct his poor use simply with the knowledge or awareness of its existence. Body Mapping is a very useful tool for conductors and singers, and Andover Educators has worked hard for its proliferation, making it accessible to many without the more disciplined study of the Alexander Technique.

While the knowledge imparted from the study of Body Mapping cannot be disputed, the emphasis on Body Mapping among choral musicians has actually obfuscated the more complete benefits of studying the Alexander Technique. For example, James Jordan (1996) gave a cursory summary of the Alexander Technique and its importance to conductors. He explained that conductors need the freedom of movement that the Alexander Technique brings to free their breathing and effectively communicate gesturally to the choir, as well as to help the choir in the sense that they will mirror the body attitudes of the conductor. In addition, Meade Andrews, an

Alexander Technique teacher that has worked close with James Jordan, writes of the importance of the Alexander Technique, describing Alexander as one of the "unique contributors to the exploration of the field of the mind-body connection: engaging the power of thought to influence and direct movement, and vice-versa" (Jordan, Wyers, & Andrews, 2011, p.278). However, the same text also goes on to describe the Alexander Technique as a method that "readies the body for movement" (p. 281), which seems to confuse the understanding that the Alexander Technique is not merely a preparatory thought but is actually a process used before, during, and after movement. While Jordan's writing and other's similar work has helped bring Alexander Technique into the awareness of the conducting discipline, they have primarily relied on the principles of Body Mapping and Laban Movement Analysis to explain the benefits of the Alexander Technique. In so doing, they have, perhaps unintentionally, minimized the importance of Alexander's more unified and comprehensive somatic study.

Feldenkrais Method

According to the Feldenkrais Educational Foundation of North America (2015), the Feldenkrais Method is "a form of somatic education that uses gentle movement and directed attention to improve movement and enhance human functioning" (What is the Feldenkrais Method section, para. 1). Weiss (1990) described the Feldenkrais Method as aiming "to teach a person how to liberate oneself from a restricted and narrow range of stereotypical movement patterns" (p. 36), and Peterson (2008) describes it as a technique "that uses movement and attention to enhance the natural growth of humans throughout their lives" (p. 69).

The Feldenkrais Method is named after its founder, Moshe Feldenkrais, a Ukranian-born Jewish physicist who spent time living in France and England before settling in Israel for the last 30 years of his life. Feldenkrais experienced a knee injury during a soccer game as a young man,

and this injury led him to an interest in developing ease of movement of the body. The Feldenkrais Method seeks to reduce undue effort associated with movement of the body (Feldenkrais, 2015; Peterson, 2008).

Feldenkrais students will find themselves following instructions using simple motions, from turning of the head and basic reaching to rolling over or getting up from the floor. Many of these prescribed motions are taken from the basic motions a baby might make as they gain mobility and learn to explore their physical world. These motions are generally done slowly, with a variety of instructions to help the student gain a greater awareness of how their body is moving (Feldenkrais, 2015).

The Feldenkrais Method also focuses on building kinesthetic imagination, with the intention of visualizing how your body works. This visualization of the body helps students of this method use their bodies in ways that conform better to the body's intended design and function. While it is possible to find Feldenkrais certified instructors and classes, there are also a number of self-help aids available to anyone to learn the Feldenkrais Method on their own.

The Alexander Technique is similar, in many respects, to the Feldenkrais Method, at least at first glance. Both work to teach accurate physiological knowledge and reduce undue tensions in various places throughout the body. In addition, both methods value heightened awareness and clearly see kinesthetic perception as vital to healthy use of the body. Englehart (1989) also examined the similarities between the Alexander Technique and the Feldenkrais Method and acknowledged that Feldenkrais includes many of the inhibitive notions of the Alexander Technique. However, the overall coordinating movement of primary control, which is absolutely central to the Alexander Technique, is absent from Feldenkrais.

One of Alexander's discoveries in his development of the technique was that his own sensory awareness could be completely faulty. Good intentions of movement may not actually result in good movement. While the Feldenkrais Method does give its students a much greater knowledge and awareness of their own bodies, it provides no central component to recognize habitual poor movement and correct it in day-to-day activities.

The Alexander Technique as *Psychophysical* Re-education

The Alexander Technique's place among other somatic methods is best established by understanding the technique as a *psychophysical* re-education process. Other somatic methods have much to offer for those who seek to understand them. However, those somatic methods rely primarily on a person's existing kinesthetic perceptions to guide them in the learning of those methods. The Alexander Technique contends that a person's ability to use sensory perceptions needs to be re-educated. Understanding the usefulness and limitations of sensory input combined with what Cathy Madden terms "practical intelligence" allows a person the most leverage over *psychophysical* actions (Cathy Madden, personal communication, March 26, 2016). Alexander (1995) believed that humans become accustomed to whatever conditions they are in, good or bad, which can be good or bad in result for them. Since kinesthesia is unreliable, relying solely on that sense for understanding movement actions is a disservice to the body in the long run. Alexander (1995) went on to write, "The majority of people do not realize that human beings are still propelling an already maladjusted and damaged mechanism along the difficult road of modern life, whilst relying for guidance upon an imperfect and sometimes delusive sensory appreciation" (p. 111).

The technique portends that we are a *psychophysical* being. "The self" as Alexander (1995) puts it, is not a combination of a psychological being and a physical being, but rather both

at the same time. We are always "in use," either "functioning" or "reacting." This view of the integrated mind and body is part of what made the technique revolutionary in the first place, as it was not a popular understanding of humans in Alexander's lifetime (Alexander, 1995). Even so, I have personally experienced class sessions and seminars on "the mind-body connection." The Alexander Technique would reject such labeling as overly divisive of what is already a unified *psychophysical* being. Cathy Madden (2014) puts it much more emphatically:

> 'That is so nineteenth century!' I recently had the opportunity to take an excellent acting class from a very good teacher. Yet I left amazed and somewhat dismayed because the language of the teacher and my mostly younger fellow participants perpetuated a way of talking that has been proven false for over a century. It is neither true nor possible to 'get out of your head' or only 'get in your body.' We are whole. We are whole. WE ARE WHOLE! (p. 3)

Because of this understanding of the whole, *psychophysical* self, Alexander believed that *psychophysical* re-education was much more complex than merely adopting a new habit or quitting a bad one. Alexander (1995) suggested that quitting smoking is a habit much easier to kick on your own than correcting coordination. He argued that a habit, even an addictive one such as smoking, is an acquired habit to satisfy a particular desire. Poor coordination isn't simply something acquired through the pursuit of an object of desire but is something employed in every facet of life.

Summary

The Alexander Technique's understanding of the whole, *psychophysical* being in addition to its approach on re-educating sensory perceptions makes it stand out in the field of somatic studies. My intention is not to diminish the worth of the other somatic methods described in this chapter, but rather to attempt to differentiate them from the Alexander Technique. As Madden (2014) states, "I know of no other technique that gives you an *in-the-moment* means to access constructive *psychophysical* responses" (p. 145, emphasis in original). In my experience, the

current ubiquity of Body Mapping as well as a growing understanding and application of Laban Movement Analysis has caused some choral conductors to be confused about the uniqueness of the Alexander Technique and to question its efficacy as an integral part of conductor training and choral music making. However, if the principles of the Alexander Technique are true, then the study of the other somatic methods described in this chapter will actually become a richer and more fulfilling experience because students of those methods will now bring a more coordinated use of themselves to their study.

Chapter 5: Choral Applications

This chapter explores specific applications of the Alexander Technique to choral conductors. The applications, ideas, and suggestions contained in this chapter stem from my own experiences with the technique and have not been empirically tested. This chapter serves to give choral conductors a guide for understanding how the technique impacts their conducting gesture and choral teaching. This document is not intended as a substitute for personal study of the Alexander Technique with a qualified teacher. Instead, the information presented here will inspire choral educators to pursue serious study of the technique. This chapter also serves as a useful resource to those conductors searching for a basic understanding of the technique or how they might approach using the Alexander Technique in their choral profession.

The Alexander Technique offers an opportunity to transform the choral experience, both for the conductor as well as for the singers. Because the Alexander Technique is a process, I believe it also allows for a conductor or a choir to become more process-oriented rather than outcome-oriented. The outcome still matters. I want my choirs to perform to the highest levels of excellence of which they are capable. However, that outcome (or the outcome of a "perfect" conducting gesture, or the pre-performance outcome of score memorization, or any other relevant outcome) is no longer what drives me as a conductor. When I use the Alexander Technique, I have the freedom to pursue those outcomes or goals without becoming a slave to them. I exercise "constructive, conscious kindness to [myself], cooperating with [my] design and supporting [my] desires and [my] dreams" (Madden, 2014, p. 7).

The title of this dissertation and my own definition of the technique given in chapter three calls the Alexander Technique a "way of doing things." Yet the title seems antithetical to the technique, in one sense, as the idea of *non-doing* is a concept common to practitioners of the

Alexander Technique. The technique's principle of inhibition focuses on refusing to act as one has habituated to do. Thus the Alexander Technique has, at its core, this paradox: to do things, people must refuse to do them as they have known how to in the past.

This paradox is what gives the Alexander Technique its greatest possible application and its largest hurdle in the field of choral conducting. Numerous resources exist to guide choral conductors in developing precision and expressivity in their conducting gesture, choosing quality repertoire, shaping vowels, eliciting free breathing, coaching diction, teaching movement and choreography, solidifying intonation, creating effective warm-ups, using healthy vocal technique, and the list could go on indefinitely. These are all things that choral conductors and/or their students should be able to do. Conductors should conduct precisely and expressively, they should choose quality repertoire, and they should know how to teach basic movement and choreography. Choral singers should breathe freely, they should use healthy vocal technique, and they should sing in tune. I think it would be difficult to find anyone who disagrees with these desired outcomes for conductors and the students they teach. This document is not intended to answer all of the how-to questions that apply to the desired outcomes in choral music, but it is intended to view all of those outcomes and the methods that have been developed to support those outcomes through the lens of the Alexander Technique. I suggest that to actually be able to do all those things, conductors must first refuse to do them as they have known how. If all of the listed outcomes (and the countless more that could be added) are not being reached efficiently and effectively, the Alexander Technique teaches its practitioners to refuse to do the very things believed to be necessary to achieve the desired outcome. In that refusal there is then opportunity to practice a new way of doing things.

This chapter highlights what that process might look like across a variety of topics in the field of choral conducting. The current educational system is quite focused on the idea of outcomes. However, the Alexander Technique is not an outcome-based method. Regarding outcome-based education, Spady (1994) writes, "Outcome-based education means clearly focusing and organizing everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experiences" (PDF p. 1). The Alexander Technique focuses instead on the process that brings *psychophysical coordination* to the whole person, better enabling them to achieve the desired outcomes. The focus, however, is not on the outcomes themselves. So here, also, the focus while discussing each of these topics related to choral conducting will not be on the outcome. Instead the focus will be on the *means whereby*, looking at the process of how the outcome can be achieved rather than the outcome itself. This is nuanced thinking, but it is a fundamental pedagogical shift from much of the current teaching and methodology that exists.

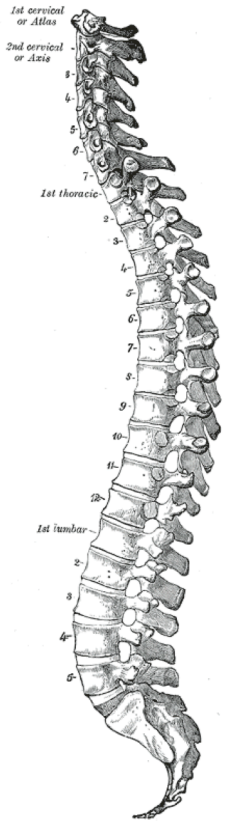
Posture & Movement

Addressing postural issues among choirs is a complex issue. Various studies and resources exist to help music educators better understand how to teach students to utilize the most helpful and healthy posture in their practice and performance (e.g. Conable & Jordan, 2002; Corbin, 1986; Garreston, 1990; Hudnall, 2012; Lennon, 1985; Mabry, 1992). From my experience, different teachers use a wide variety of instructions to improve posture among their students. Some simple instructions common to teachers often are the most ambiguous (e.g. stand up straight, don't slump your shoulders). Yet other teachers employ affective terminology to help students find good posture (e.g. imagine yourself as a tree, feel heavy in your hips but not your chest, bring a feeling of lightness into your neck). Some teachers become very hands-on in

attempting to correct a student's posture, moving various parts of the student's body until satisfied with a particular position. Many teachers also attempt to teach physiological understanding to their students, so that the students themselves are empowered to move their bodies into the best postural position.

For practitioners of the Alexander Technique, all of these approaches fall short in understanding how the body works. Primarily, most attempts at teaching posture seem to operate on the basis that there is a specific position that one should assume and hold while performing particular musical actions. However, the Alexander Technique teaches how to achieve the best quality of movement, not how to achieve a particular position. Even when attempting to be still, the muscles of the human body are contracting and relaxing to hold us in position, so they themselves are in a dynamic state. Because of this, and the connotations that the word "posture" tends to evoke, Alexander practitioners tend to avoid the word posture altogether, favoring words like balance and poise, words that are more indicative of a dynamic state rather than a static one.

Words carry all kinds of *psychophysical* meanings beyond the literal meanings of the words themselves. Practitioners of the Alexander Technique will let the principles of the technique inform their verbal communications with singers and students under their direction. Cole (2015) developed an Alexander Technique-focused "philosophical and pedagogical constellation" to guide the use of language in performance coaching that considers the work, writings, and teaching of Alexander himself, Marjorie Barstow (first graduate of Alexander's first teacher training course), John Dewey (philosopher and educational reformer who studied with Alexander), and Cathy Madden (studied with Marjorie Barstow). Cole identifies four areas of language use where the Alexander Technique can offer guidance: Body Mapping and reframing, adjectives and feelings, clichés, and challenging students' use of language. Cole's



Henry Gray (1918) Anatomy of the Human Body. *Public Domain. Retrieved from https://commons.wikimedia.org/wiki/File:GA111.gif*

Figure 2 – Lateral view of the spine, showing natural curvature.

work in applying knowledge of the Alexander Technique to the use of instructional language is exemplary, and I highly recommend the reader of this work to explore her writing more thoroughly.

As a practical example of Body Mapping, when asked where the spine connects with the head, many singers will point to the back of their neck, in that area between the hairline and shirt collar. These singers tend to visualize the spine as a straight rod running the length of the back and up into the neck. They don't realize that, first of all, the spine is curved, and, secondly, that the connection of the spine to the head is much higher than their shirt collar (about the level of a

person's earlobes) and located in the center of the neck, not along it's backside (see Figure 1 and Figure 2). This misconstruction of a singer's body map can have a profound effect on singers' ability to consistently find poise and balance in their posture. Even an Alexander-friendly phrase such as "let the neck be free" may do little good when singers visualize an anatomically incorrect map of how their neck is constructed.

As another example, when choral conductors are working on breathing exercises, particularly with young singers, they often ask singers to restrict upward motion of their shoulders, inviting the singer to focus more on abdominal and thoracic breathing rather than clavicular breathing. This is a good desire and is generally considered a component of bel canto singing technique. However, in my experience, if you ask most young singers where their topmost rib is located, they will often point about mid-sternum, as they are completely ignorant that the thoracic cage goes all the way up underneath their clavicle to the base of the neck. In an effort to "keep their shoulders down," these singers may be inadvertently restricting the necessary movement of ribs they didn't even know they had.

Another important component to strengthening the posture of singers is to teach them the directions of *coordination* that are the hallmark of the Alexander Technique. Madden's (2014) approach to this is one that is both articulate and simple and may be helpful, particularly to younger singers:

> I ask myself to coordinate
> so that
> My head can move
> so that
> All of me can follow
> so that
> I can do what I am doing. (p. 29)

The invitation to *coordination* and the *means whereby* is a useful process for helping singers find their balance and poise, reminding them that they are not seeking a specific position but that they are always directing themselves in movements. These directions are something they can use continuously (and not just regarding posture, as will be described later in the chapter), and they can even use them during performance when struggling to find the best position. This "thinking in activity," as John Dewey (Alexander, 1995) reportedly put it, empowers the singer to not just do a certain thing as they have been taught, but to continually seek a renewing process through which they can achieve the best poise and balance for any musical need and in any situation.

Anatomic accuracy is important in verbal instructions, but even a student's anatomically correct body map can be laden with preconceived ideas about physiological function. For example, consider the traditional Alexander Technique direction of "Let the neck be free." Where, exactly, is the neck? What are its boundaries? Does one visualize the neck based on its bony structure or on the muscles that surround those bones? In the context of the Alexander Technique, the direction "Let the neck be free" refers specifically to movement at the joint between the spine and head, known as the atlanto-occipital joint. So if a teacher's concern is with the joint between head and spine, why not use that specific of language rather than the much more ambiguous term of "neck?"

Cole (2015) highlights Cathy Madden's use of language in regards to anatomic accuracy and body mapping:

> One way [Cathy] makes [the Alexander Technique] more accessible is by speaking with anatomic accuracy and body mapping. She goes one step further than just mapping, and even renames body parts for increased clarity. She no longer uses the terms hip, waist, shoulder or neck as these are more appropriate to dressmaking than refined movement. She asks people for movement at the joint between leg and pelvis, instead of calling it the hip joint. She shows that this is the

> fulcrum for efficient torso movement, rather than the mythical waist joint. She talks about arms instead of shoulders, and the joint between head and spine, rather than neck. (p. 7)

Understanding and communicating accurate anatomy and physiology is only one part of this equation. In communicating information about anatomy, it's important to also apply the Alexander Technique in the very act of verbally communicating. Identifying the location of the sternoclavicular joint or the underarm location of the somewhat mythical shoulder joint does very little good if in communicating this information I display a lack of *coordination*. Practitioners of the Alexander Technique understand that primary control has a global effect throughout the body. So before communicating to choir members about their anatomy, I must first refuse the impulse to tell them about their anatomy. The goal of illustrating a clear body map must be inhibited, so that I can "Ask myself to coordinate, so that my head can move, so that all of me can follow, so that I can [talk about Body Mapping]" (Madden, 2014, p. 29).

Recognizing that bodies are in motion, even when attempting to be still, can also reframe how choral directors approach the topic of posture with their students. If bodies are always in motion, a choral conductor needs to consider what instructions to give students when seeking to improve their posture. Commands like "stand up straight" not only leave physiological function up to the imagination, but they also indicate a static state of being. In addition, a command like "stand up straight" requires that posture become a student's habituated response to a specific instruction given to them rather than a process that they themselves can engage in. It also requires that the students stand in a position they perceive as correct, which, depending on their *psychophysical* history around the act of standing up straight, may guide them into very poor posture, despite appearing to be standing straighter. Again, even when giving instructions to correct posture, invite the students into *coordination* using Madden's (2014) directions. This

should also invite them to be willing to explore a posture that they may or may not "feel" is correct. Let Bruce Oliver's mantra become the mantra of choral directors: "What you feel and what is real are not always the same" (Bruce Oliver, personal communication, 2007).

Since the body is naturally in motion, using movement exercises is a great way to enhance understanding of posture and finding other ways to engage the whole body in singing. For many choral conductors, these kinesthetically-oriented exercises of one kind or another are a core component of the rehearsal process. Guidelines for their use and justifications for their inclusion in the rehearsal process are widely documented (e.g. Apfelstadt, 1985; Briggs, 2011; Green, 1984; Jost, 2011). The study of Laban Movement Analysis (LMA) is a primary example of how close attention to movement is continuing to shape the pedagogy for both conductors and the choirs they lead. As described in the previous chapter, LMA helps conductors and singers quantify the kind of movements they are making. This variety of movement can translate musically, as singers seek to make their vocal abilities as qualitatively diverse as their movements. I have personally found benefit in the study of LMA and believe that it is a great tool for diversifying the ways in which movement activities can be incorporated into the choral rehearsal.

Given the usefulness and prevalence of movement exercises in the choral rehearsal, it is surprising that so little attention has been paid to the quality of coordinated execution of the movement performed by choir members. One of the tenets of the Alexander Technique's focus on the relationship between head and spine is that a poor head/spine relationship has a global effect on tensions throughout the body. To illustrate this point, perform the following exercise:

1. From a standing position, throw a pen or other small object on to the floor.

2. Retrieve the object from the floor, simply seeking to be aware of the tensions in your body. Don't seek to do anything different than you ordinarily would.
3. Repeat instruction #1.
4. Again retrieve the object from the floor, but this time consciously tighten the muscles in your neck. Seek to be aware of the tensions throughout your body.

Often when performing the above exercise, subjects report a much greater feeling of tension throughout their body during instruction #4. Despite having only intentionally tightened the muscles of the neck, subjects tend to be aware of stiffness in their shoulders, arms, torso, and even legs. The reason for this is that the "scrunching" of the cervical vertebrae and the nerve endings located there has a global effect on the whole body. Tension at the top of the spine translates to tension in the rest of the body.

If any physical action is impeded by unnecessary tensions in the relationship between head and spine, it follows that movement exercises prescribed by a choral director to their singers will also suffer due a lack of *coordination* between head and spine. There are several simple ways that a choral conductor may bring a singer's attention to the *coordination* of their movement exercise:

- Give singers *coordination* instructions prior to and during the kinesthetic activity: "I ask myself to coordinate, so that my head can move, so that all of me can follow, so that I can [perform the movement activity]" (Madden, 2014, p. 29). Remember the focus cannot be solely on the desired activity, but attention must be given to the coordinating movement of the head.

- Practice Body Mapping exercises during movement activities. Remind singers of the location where their spine meets their head as well as other key locations for their body map.
- Use student models. A singer who naturally demonstrates excellent *coordination* or one who is easily coachable becomes a model for the entire classroom. Ask singers to visually observe differences as the model integrates the *coordination* directions or maps their body correctly.

With some practice and keen observation, choral conductors can find ways to strengthen the awareness and *coordination* of their singers while involved in kinesthetically-oriented activities. Particularly for young singers, movement exercises tend to help them develop a stronger understanding of the *psychophysical* action of singing. Choral conductors now have the opportunity to instill in young singers an awareness of the importance of *coordination* of head and spine in any of their movements, leading them to freedom of physical action and ultimately freedom in their singing voice.

Conducting Gesture

My own undergraduate conducting courses were focused on the basic techniques of conducting: patterns for a variety of meters, effective prep and cut-off gestures, differently sized gestures based on dynamics, independent left-hand use for cueing and other musical indications, and specific gestures for tempo shifts and fermatas. Conducting instruction during my master's degree focused on greater precision and dexterity to help the gesture reflect the composer's perceived intent in the musical score as well as technical practice with a wider variety of repertoire including works with mixed meter and large works that featured orchestra, soloists, and chorus. A single class period was spent discussing "the mind-body connection" and various

techniques and literature on this topic including the Alexander Technique. In my doctoral program, specific conducting technique gave way to a focus on how gesture evoked response from an ensemble. Students were no longer as concerned about following textbook definitions of "correct" gesture as they were in developing gesture that resulted in a desired performance from the ensemble in front of them. In addition, students invested time developing a wider gestural vocabulary, both through the use of empathic gestures as well as study of Laban Movement Analysis, and a very brief unit on the Alexander Technique as well. At all these levels of instruction, some time was devoted to the frame of mind needed for effective conducting, good and bad postural habits, and occasional other body-related issues that might help or hinder gestural communication. While conducting study can be widely varied, particularly at the graduate level, many choral conductors would likely resonate with my experience of conductor's training.

All of the training described above has created a specific *psychophysical* history around the act of conducting. Previous experiences all serve to inform habitual bodily responses when preparing to raise the arms in gesture. For example, when conducting, there are three modes commonly experienced regarding the gesture being used:

1. Conductor Focused – Attention is on the fundamental and musical aspects of gesture. What is the meter pattern, which voice parts need cues, what dynamic is being represented, and is the conducting gesture clear to the singers? Is the musical intent and vision of the piece clearly demonstrated?
2. Ensemble Focused – Is the gesture evoking the desired response from the ensemble? Does the gesture demonstrate how best to sing the piece? What more can be shown to help the singers sing better and accomplish musical goals?

3. Rehearsal Focused – The gesture itself takes a background role, as the conductor is involved in a specific rehearsal technique where the hands and body demonstrate visual impetus for other musical needs. Whether it is rhythm, sound, movement, shape, or any other element, the conducting gesture itself is not a primary concern as the singers work to learn something specific without relying on gesture.

Most conductors have experienced these three modes or variations of them. A mode may be chosen for a particular purpose, but sometimes they are subconsciously floated between or even merged together. None of these modes is necessarily better than the others, and all three serve specific purposes in the context of rehearsal and performance.

Each of these three modes has particular goals in mind. Applying the Alexander Technique to a conductor's use of gesture, then, means refusing to focus exclusively on the goal. No matter which of the modes are being utilized, focusing only on the goal means that a conductor's *psychophysical* history decides how the body is used, rather than the conductor's conscious, reasoned choice. Instead of proceeding as usual, offer an invitation into a different mindset where the focus is on a new process altogether. Deciding which mode to choose and seeking to clarify gesture are worthy goals, but they will be achieved more easily by applying the Alexander Technique. Refuse to be focused on the specific goal and instead, as Madden (2014) puts it, "Ask myself to coordinate, so that my head can move, so that all of me can follow, so that I can [conduct]" (p. 29). It is not that the previously chosen conducting mode or goal is necessarily bad, but if consistently operating only by habit, purely out of *psychophysical* history, *coordination* will be lacking.

It is important to note that this conscious, reasoned choice to coordinate can be taken at any point while conducting. At any moment, when becoming aware of operating by

psychophysical history rather than by conscious choice, offer the invitation into *coordination*. This is incredibly useful in the heat of the moment during a rehearsal that is not going according to plan. It is easy to become so focused on a particular goal that conductors are not even aware of their own poor coordination. They become narrow in their vision, even as they believe they are working hard toward a particular goal. Bringing the Alexander Technique into those rehearsals, at that precise moment, means a certain sense of giving up on the goal, choosing to focus on the process that is needed to achieve the goal instead. A personal anecdote illustrates this in-the-moment application of the technique:

> It was one of those rehearsals that was not exceptionally bad, but rather just kind of ok. I felt that the singers were not performing to the best of their abilities, and I struggled to find the right rehearsal technique or gesture to help them improve. In the middle of conducting through a section of music, I consciously made the choice to coordinate, as I realized that I had been focused on the frustrations I was experiencing and not on my own *psychophysical* process. It sounds almost magical, but instantaneously I felt a change in my entire body as I improved my coordination. My gesture suddenly seemed more buoyant and reflective of my musical intent, and, best of all, I heard a distinct improvement in the ensemble sound of my singers. None of that was the result of my musical efforts or rehearsal techniques. Instead the improvement came through my conscious choice to make my coordination a priority over the goals I felt were not being reached. As a result, my goals were actually met much more quickly.

One of the many benefits to conducting gesture of studying the Alexander Technique is building an improved body map. Like the Body Mapping method that has spun off from the Alexander Technique, part of learning the technique is building a better understanding of the basic physiology of the body. James Jordan (2015) recently illustrated this in a clinic when he modeled how awareness of the number of joints in the arm affects a conductor's gesture. Based on an informal survey of the attendees at the clinic, most of those conductors believed there are three major joints in the arm at the wrist, elbow and shoulder. Jordan deftly demonstrated the change in gesture when taking into account the sternoclavicular joint (where the sternum and

clavicle meet) as part of the movement of the arm. Not only did Jordan's gestural quality change but the choral sound evoked from the clinic attendees also shifted. Jordan's improved self-use through kinesthetic awareness of one joint's physiological function had a demonstrative effect on the gathered "choir." Body mapping in and of itself excludes the psychological aspects of the Alexander Technique and ignores the important primary coordinating movement of the head and spine, but correct physiological knowledge is a piece of what is gained from practice of the Alexander Technique.

To put it in a different perspective, I often serve as a voice teacher for high school and college-aged students who have very limited vocal experience and training. Many voice teachers may describe the feeling of effortlessness in the jaw, tongue, or face once the correct tensions are engaged in the mechanisms of breath support. However, many young singers have poor kinesthetic sense of their breathing muscles and, feeling a need to exert themselves, they contort their necks, jaws, tongues, and faces in an effort to produce the desired sound. Effortlessness is difficult to achieve, and clear directions are needed to guide a singer into the appropriately balanced tensions and relaxations needed to produce a healthy voice. Hanko (2010) expounds on this idea in relation to vocal production:

> Singing, like any other skilled activity, works best when you can get out of your own way and allow your body to coordinate reflexively. Singing is accomplished almost entirely through the action of muscles which are not accessible via conscious control. When we ignore this reality—when we resort to manipulating muscles we can control instead of finding an indirect means of activating a reflexive response of our autonomic laryngeal muscles—we risk throwing off the delicate balance of the system and creating unwanted tension. (PDF p. 2)

Likewise, many conductors may find themselves putting forth great effort in their arms, shoulders, backs, and necks to produce a sensation of appropriate physical action to achieve their

gestures. Yet other conductors seek to exert as little effort as possible with minimal excess movement and in so doing may actually restrict the movements of the thoracic cage.

The releasing of unnecessary tensions in the relationship between head and spine is referred to in Alexander language as "primary control." While that verbiage may sound like a tension-inducing phrase, the end result is actually a sense of freedom in movement. It is "primary" is because it comes first in all coordinated movement. The idea of the "head leading" when a conductor is raising an arm may seem counterintuitive, but the intention is that the coordinated relationship between head and spine frees the arms to do the conductor's bidding. This, then, requires a reorientation in thinking for the conductor. Much time is given in conducting study to refining clarity and nuance of gesture, but if all of this effort is expended without proper attention to *coordination* of head and spine, not only is additional muscular tension induced to overcome the lack of *coordination* but the very clarity and nuance being sought after may be inhibited. Studying and practicing the Alexander Technique brings freedom of intent and gesture to the choral conductor.

The implications for the teaching of conducting are clear, whether informally in choir or sight-singing classes, formal undergraduate conducting classes, or in advanced graduate level training. For beginning conductors, so much time is traditionally spent on learning the variety of meter patterns. What if the Alexander Technique were applied in an introductory conducting class, first by refusing to teach the class as it has been habitually and instinctively done in the past. Remember that habits and instinct are a result of *psychophysical* history.

What would a beginning conducting class be like if for the first few weeks, the focus were entirely on freedom of bodily movement via conscious, reasoned, intuitive primary control? This could easily be done with musical sounds as the backdrop, creating a *psychophysical* history

associating movement and music with the invitation to coordinate. Body Mapping could be incorporated as students are instructed into coordinated movement from specific joints or parts of the body.

If inviting a certified Alexander Technique teacher into the conducting classroom to teach the basics of the technique is not an option, even amateur Alexander practitioners can draw students' focus toward the act of *coordination*. Much like learning a language through immersion, the Alexander Technique is first experienced. As ability begins to grow, other aspects and details of the technique become more understandable and communicable. Only much later do full teaching qualifications develop. However, even a conductor who is only beginning to experience the Alexander Technique can help their students utilize the technique. Much of this is accomplished through modeling, which allows students to observe the implementation of *coordination* in their teacher's conducting gesture, so that they may be able to imitate it. Modeling also allows the amateur practitioner to gain confidence in the application of the technique in teaching without as high a risk of misapplication by the students. Movement is always preferable to stiffness or tightness, so even when conductors are uncertain how best to teach students about *coordination*, they may invite students to move from the joint between their spine and head, asking them to let that movement be the students' primary focus no matter what other task has been given. The positive results of this approach are almost always immediately noticeable, by both teacher and students.

Following the initial focus on freedom of movement in this imaginary conducting class, the next unit could be spent focusing on a variety of qualitative gestures, such as might be learned via Laban Movement Analysis. Like the Alexander Technique, Laban is an experiential method. Experimenting with the Laban Effort elements at a rudimentary level and allowing

students to imitate that experience is a good place to start. Much can be accomplished before needing to become more deeply involved in Effort States and Drives. Students' focus can be steered toward different qualities of movement that are reflective of the music that is being studied. With both the Alexander Technique and Laban Movement Analysis, the instruction can gradually deepen as teachers' understanding of the concepts grows. Continuing to focus on *coordination* while studying a diverse gestural vocabulary would create an entirely different *psychophysical* history around the act of conducting then if the class started traditionally with basic gesture patterns, and only much later brought in the concepts of the Alexander Technique or Laban Movement Analysis. By the end of the semester, the students might not meet the standard beginning conducting outcomes, but the focus is to be on the process, not the outcomes. Though these students may not have memorized every meter pattern perfectly or be well-versed in Elizabeth Green exercises (Green & Gibson, 2004), they will have formed a well-coordinated *psychophysical* history around the act of conducting. As they advance in conducting study, they will be poised to consistently apply reasoned, conscious control in their conducting gesture as their technique continued to grow. In addition, they would likely accelerate in their ability to learn and adapt more sophisticated conducting techniques, as their own *psychophysical* histories would no longer be such a large obstacle to learning.

My contention is that the Alexander Technique should not be reserved for a special topic or seminar once a conductor reaches graduate school. It should be the fundamental pedagogy by which the art of conducting is explored. If, as conductors and conducting teachers, we apply this new way of doing things, such a transformative change is possible.

Empathy/Mirroring

New research has been emerging around the topic of mirror neurons, empathy, emotional contagion, and similar fields over the past decade. In the choral discipline, this fascinating field of research seeks to develop a gestural language that facilitates healthy use of the voice and body. At a presentation on the topic, Pierson & Winnie (2016) recently noted,

> The science of mirror neurons has strong applications in the choral community, and has been recently featured in the *Choral Journal* and several conference presentations. Drawing from the research of mirror neurons, music education research has begun to understand how meaning, empathy, intent, and feeling are communicated through gesture. (Clinic handout, p. 1)

While this particular line of research may seem tangential to application of the Alexander Technique in choral rehearsal and performance, the implications are clear. The literature implies that a conductor's gesture and *psychophysical* history will tend to evoke some kind of *psychophysical* response from the ensemble being conducted. If conductors model good *coordination* in their conducting gesture, some of that *coordination* is likely to be picked up by the ensemble empathetically. For more on this topic, consider Blakeslee & Blakeslee, 2008; Carr, Iacoboni, Dubeau, Mazziotta, & Lenzi, 2003; Goldin-Meadow, 2003; Manternach, 2012; Montgomery & Haxby, 2008; and Overy & Molnar-Szakacs, 2009.

In addition, research suggests that body posture and emotions are linked. Armitage (2009) goes so far as to say, "Posture can contribute towards the cause and maintenance of distress" (p. 8). Factor in the work of empathetic response, and conductors' positive or negative postural habits and *coordination* may not only be reflected in the bodies of their singers, but in their singers' emotions as well. Pierce and Stuart (2014) report that the British Psychological Society recently devoted an entire day to the Alexander Technique in their conference, themed "Investigating Somatic Consciousness." Among other highlights, the conference examined "The

ways in which the Alexander teaching process affects both pupil and practitioner's emotional well-being" (p. 150).

Stuart (2013) presents fascinating and potentially groundbreaking methodology in the field of neurophenomenology. Her article proposes an enkinaesthetic explanatory framework to explore the union of nervous systems between teacher and student in the practice of the Alexander Technique. According to Stuart, enkinaesthesia "is a neologism that refers to the reciprocally affective neuro-muscular dynamical flows and muscle tensions that are felt and enfolded between co-participating agents" (p. 315). In other words, Stuart is exploring *psychophysical* actions and habits that exist and emerge as a result of interaction between two people. In addition, enkinaesthesia "describes our plenisentient—tactile, auditory, visual, gustatory, olfactory, kinaesthetic, nociceptive, and proprioceptive—possibly naturally synaesthetic, affectively-entangled living being-with our world" (p. 315). Clearly, the Alexander Technique has a role to play in the choral discipline's growing awareness of empathy, mirror neurons, and the like.

Teaching *Coordination* through Warm-ups

Warm-ups are used in a variety of ways in the context of a choral rehearsal. They may be used purely as a tool for singers to physically warm-up the vocal mechanism, or they may function like a class voice session, building fundamentals of vocal technique in each singer. Warm-ups sometimes also serve to work on a particular technical or musical challenge that will be found in the rehearsal's repertoire. Each of these approaches (and certainly others as well) have merit. However, applying the Alexander Technique means using a new *means whereby* to accomplish the goals of the warm-up session and create a culture that utilizes *coordination* for building vocal skills and solving musical problems.

No matter what philosophical approach to warm-ups or actual warm-up exercises are used, *coordination* becomes the guiding activity of warm-ups when using the Alexander Technique. Through this, a culture of *coordination* can be developed, so that singers themselves begin to use the Alexander Technique as a method for accomplishing their own goals, in practice, rehearsal, and performance. Here are several guidelines to help create this culture of working together using the Alexander Technique.

1. Begin by using the Alexander Technique yourself. How do you begin your rehearsal or call your singers to attention? Invite yourself into *coordination* as you perform these activities. If you remain uncertain about what inviting yourself into *coordination* even means, start by identifying the joint between your spine and head, located in the middle of your neck at about the level of your earlobes. Allow yourself a little movement from this joint, and let that subtle movement continue as you move into your activity.
2. Make the invitation to coordinate part of your instructions to the singers for the warm-up activity: "I ask myself to coordinate, so that my head can move, so that all of me can follow, so that I can [sing the warm-up exercise]" (Madden, 2014, p. 29). Feel free to use other phrases to invite *coordination* as well. "Let the neck be free" is a traditional Alexander Technique phrase that can be useful, particularly if the students have accurate body maps.
3. Use Body Mapping as a tool to focus singers on *coordination* while they are singing warm-ups. Identify other major joints in the body (shoulder, hip, elbow, knee, etc.) and encourage movement at those joints, secondary to the coordinating movement from the atlanto-occipital joint, as the singers perform their warm-ups. Feldenkrais-style slow movements may be very useful during this activity.

4. Remember that the Alexander Technique is not about attaining proper posture, but, rather, about well-coordinated use of the body in every activity or posture. Encourage your singers to adopt other postures, even intentionally poor ones, and yet invite *coordination* into those positions. In this manner, you can begin to break down the *psychophysical* history associated with particular postural positions. Another personal anecdote illuminates this seemingly counter-intuitive advice:

> I recently was working with a singer in a voice lesson, and though we had worked hard at the basic coordinating movement at the joint between the spine and head, he was still struggling to find freedom in his body and thus in his voice. Though his posture did not appear visually poor to me, I sensed tightness in his shoulders, and so I asked him to sing a given passage of the piece again but to do so while letting his shoulders slump forward. Suddenly his voice was much freer, his resonance was richer, and his pitch was improved. He sang better with "poorer" posture that was well-coordinated, because we had suddenly broken through the *psychophysical* history that existed for him around "correct" singing posture.

5. Attend to the quality with which your singers are performing the given warm-up exercise. No matter what particular thing needs fixing, remember that *coordination* in the fixing of the problem is key. Be wary of starting to give musical or technical instructions without also considering the need to coordinate. Practicing the Alexander Technique will fix some of the problems with your singers, because their bodies will be free to work reflexively. However, technical instruction is still needed. Musical errors need to be corrected, and vocal technique needs to be taught. All of these things though come first through the act of *coordination*.

As an example of applying *coordination* to a specific vocal issue, imagine a choir with a particular tenor who tends to overly raise his larynx when vocalizing into his higher tessiture on an [i] vowel. This produces a bright sound, but his resonance is less versatile and his voice has

difficulty blending into the tenor section. The tenor knows all of this, but when he tries to relax his larynx more or experiments with different resonating vowels, the clarity of the [i] vowel tends to disintegrate. His tongue is tense, which is pulling his larynx upward, but despite the conductor and the tenor's best efforts, the problem persists. Moving into *coordination* itself does not necessarily magically fix this issue, though such a sudden correction is sometimes observed. However, choosing *coordination* means an invitation to let the head lead, so that the whole body follows, so that the tongue can shape itself for an [i] vowel, which now moves independently without subsequently raising the larynx. What neither the conductor nor the tenor may have previously realized was that undue tightening of the muscles in the neck had led to an unnecessary *psychophysical* relationship between the tongue and larynx. When *coordination* happens, the tongue has been freed to move and shape vowels as befits its design and function, without the undue tension that had caused the corresponding raising of the larynx. Using the Alexander Technique is not a substitute for specific and necessary vocal technique, but when vocal technique seems to be failing a singer, the Alexander Technique allows the body to work most effectively and freely, often granting the body the ability to utilize vocal technique in a way that had previously been hampered by poor *coordination*.

Using these steps in the warm-up period of a choral rehearsal allows for a new culture to evolve within the choral ensemble. Problem solving vocal issues and technical challenges can be viewed through the lens of the Alexander Technique. No longer do singers have to simply "try harder" to do things correctly, because they will have a method for approaching their shortcomings.

Avoiding *End Gaining*

A choral conductor's impulse is often to seek a particular goal. Sing the right pitch. Breathe together. Cut off on beat two. Feel your ribs expand. Dentalize your "t's." And the list goes on. Utilizing the Alexander Technique means valuing a coordinated approach to these goals, recognizing that a lack of coordination makes the goals less likely to be achieved well. Whatever the goal might be, if singers achieve the goal, but do it in such fashion that they are reinforcing bad habits, or worse yet, causing pain to themselves, it is worth questioning the method through which the goal has been reached. Cathy Madden (2009a) captures this idea by sharing a journal entry from a student new to the technique, whose goal was to touch her toes comfortably for 10 seconds:

> The trickiest thing about getting started is not automatically going straight for the finish line, i.e. wrenching my body down to touch my toes right away. Alexander talks about this kind of thinking as missing the point of his technique. Meaning, if you accomplish your 'goal,' but hurt yourself or go out of coordination to do it, then you really have not been successful. (p. 76)

This student's emerging understanding of how to measure successfully meeting her goal has broad implications for choral conductors. The Alexander Technique does not diminish the goal itself, but rather offers a *means whereby* the goal can be achieved in the best possible way.

When Alexander instructors tell students that they are *end gaining*, they are suggesting that the student is focused on the goal at hand to the exclusion of the needed coordinating process of the Alexander Technique. Any particular action has a goal, whether that's as simple as the everyday task of grabbing a cup from which to drink or the more complicated musical goals of phrasing, articulation, dynamics, and breath management. The point of avoiding *end gaining* is not to diminish the importance of a desired goal, but as Madden (2014) says it, to give "constructive, conscious kindness to ourselves, cooperating with our design and supporting our

desires" (p. 7). None of the goals listed in the previous paragraph (cut off on beat two, etc.) are bad goals, but the technique invites musicians to seek the goal in a constructive way that is beneficial not just to the particular situation, but will also serve as a lifelong technique for the singer. For the choral conductor, the question then arises about how best to help students demonstrate this "constructive, conscious kindness" while "cooperating with [their] design."

First and foremost, choral conductors can check their own desires to ensure that they are not *end gaining* in their approach to the music. Many conductors tend to choose particular musical goals to focus on during the rehearsal process such as melodic or harmonic intonation, articulation, rhythmic precision, or poetic stresses and diction. These are all important aspects of bringing a piece to life musically. If conductors are focused on vertical harmonic intonation, for example, they work diligently to ensure the intonation of any given vertical sonority. Conductors with this focus may find themselves asking for adjustments of pitch, balance, blend, resonance, and breath support to finely tune the chord. *End gaining* occurs when conductors work to tune the chord without the self-awareness of their own *coordination* or the *coordination* of their singers. Lack of coordinated action in the conductor may lead to a lack of helpful bodily and verbal empathy between conductor and singer, poorer vocal demonstration by the conductor, and a greater sense of frustration if the singers do not respond well to the given instructions. Lack of *coordination* in the singers may mean that they are manipulating their voices in a less than ideal or healthy way to try to achieve the instructions given to them by the conductor.

Conductors who have invited themselves into *coordination* and also invited their singers into *coordination* create a very different learning dynamic in the choral rehearsal. A coordinated conductor means that they are demonstrating, to the singers, healthy use of the body that can be imitated by the students. Coordinated singers mean that they are now in the best physical

position to achieve the results desired by the conductor. A strategy to achieve this might be the following:

1. Pause – refuse the desire to proceed as normal.
2. Choose – consciously decide to follow a different path than what is simply habitual.
3. Invitation – invite yourself to coordinate. Even for the conductor least knowledgeable about the Alexander Technique or most uncertain about the coordinating movement, this invitation becomes an important component of the mental shift that takes place when practicing the Alexander Technique.
4. Proceed – choose now to resume your path toward your goal.
5. Invitation to Singers – as part of your rehearsal, invite your singers into *coordination*. Bring their awareness not just to the aural element or physical technique being focused on, but how their own *coordination* or lack thereof affects their ability to achieve the desired goal. Whatever the goal may be (cut off on beat two, etc.), encourage them to seek *coordination* so as to be able to best accomplish the goal.

As an example of the above process, imagine a choir that is singing a piece in German, and that the language is a relatively new experience for the singers. The [ç], as in the word *ich*, and [x], as in the word *ach*, unvoiced fricative consonants are predictably causing confusion and problems for the singers. They are working hard to learn the sensation of continuous airflow through these sounds, while still attempting to maintain balanced vocal resonance before and after the consonant. This is an easy situation in which to fall into *end gaining*. Regardless of what particular strategy is chosen to aid the singers in this situation, follow the steps and process given above. First pause and refuse to simply go after the goal. Then choose to follow a different path, not focused on the goal, but rather inviting yourself to coordinate. Proceed with the strategy

for solving the diction issue, but invite the singers into *coordination* so that that they are also most likely to succeed in accomplishing the task. Inviting the singers into *coordination* gives them a tool to experiment with the new diction sensations without also bringing undue tension into the process.

It is incredibly easy to underestimate the role that *coordination* can play in allowing singers to accomplish a specific task with ease. This process will take willingness by all parties to engage in what may feel like a very nontraditional approach to resolving musical issues. It certainly will work most efficiently for conductors who have studied the technique themselves, but it is the process to build "constructive, conscious kindness" while "cooperating with our design" (Madden, 2014, p. 7).

Means Whereby for All Activities

When choral conductors model and implement the principles of the Alexander Technique consistently in their choral rehearsals and performance, the implications grow far beyond the musical benefits. As detailed in chapter three, the medical field, in particular, has a growing body of research that documents the valuable benefits of the Alexander Technique for a person's overall health and wellness. Choral conductors can encourage such wellbeing by guiding singers into the use of the technique beyond the doors of the rehearsal hall.

Throughout this chapter, the invitation to coordinate has been repeated multiple times: "I ask myself to coordinate, so that my head can move, so that all of me can follow, so that I can do what I am doing" (Madden, 2014, p. 29). Refusing to act habitually while offering this invitation is the crux of the *means whereby*. As a conductor, be willing to take the *means whereby* with you off the podium, out of the classroom, and into other activities. Challenge your choir members to do the same. Returning to my definition for the Alexander Technique, the technique is "a way of

doing things." The things can be absolutely anything. The Alexander Technique is a way of driving a car, a way of skiing, a way of reading a book, a way interacting with others, a way of showing care and compassion, a way of eating lunch, etc. The things are endless, and the Alexander Technique becomes an open door of freedom in activity wherever you go. The applications are endless.

Summary

The purpose of this chapter was to explore specific applications of the Alexander Technique to choral conductors. While various resources on the Alexander Technique already exist for choral conductors, this is the first study to consider such a diverse and comprehensive application of the technique to choral conductors, and to do so with such specificity. While the applications, ideas, and suggestions contained in this chapter have not been empirically tested, the practice of the Alexander Technique itself has been verified empirically, and specific applications of the technique to choral conducting are a natural extension of the existing literature. This chapter gives choral conductors a resource for incorporating principles of the Alexander Technique into their own conducting gestures and classroom choral teaching. Conductors who do so will undoubtedly begin to experience the many benefits found in study and application of the Alexander Technique.

Chapter 6: Conclusion

Summary

The human body is a machine of extraordinary design and intricacy, and musicians widely recognize the role the mind and body play in making music. Despite the problems that affect performing artists, there is a surprising lack of an empirically verified method of teaching unified *psychophysical* performance to musicans. For choral conductors, the problem is significant. Conductors rely heavily on non-verbal communication to convey their musical intent and understanding of a given work. However, few experiences in a conductor's traditional training take full account of learning the *psychophysical* unity of the body that allows for the greatest freedom of expression.

The purpose of this study was to introduce choral musicians to the Alexander Technique and its suggested applications within choral music making. The Alexander Technique is a *psychophysical* method of directed thinking activities and heightened kinesthetic awareness leading to the best possible use of the body, defined colloquially in this study as "a way of doing things." With an improved understanding of the history, study, and application of the Alexander Technique, as well as its context among other somatic methods, choral conductors can begin to make better choices about how to incorporate the Alexander Technique into their conducting gesture, musical performance skills, choral pedagogy, other educational curricula, and even their everyday movement habits. It is my hope that this document will serve to inspire more conductors to pursue study of the Alexander Technique with a qualified instructor.

Recommendations for Personal Study of the Alexander Technique

When seeking out an Alexander Technique instructor, it would be best to find a teacher that is familiar with the particular skills and challenges of the performing arts. In addition, work

to find a teacher who practices the application approach to the Alexander Technique, as described in chapter three. While working with a teacher in the more traditional approach may provide great benefits, conductors will benefit most when they are allowed to bring their conducting gesture (and other musical practices) into the context of an Alexander Technique lesson.

Many Alexander Technique teachers of the application approach will also feel comfortable teaching in a group setting. If it's possible to form a cohort of students, this can provide a dynamic and interactive way of learning the technique, as each student not only applies the technique in their own activities, but also learns by observation of the technique in others. Various Alexander teachers and institutes also frequently put on masterclasses, workshops, or intensive retreats, which can serve as a focused time of training, as well as an excellent professional development activity.

Conductors may wonder how long of period of time they should dedicate to studying the technique. Much like the study of singing or conducting, there may be an intense time of foundational learning that is augmented later by periodic times of instruction. However, the answer to this will ultimately vary from person to person. Some students experience profound transformation in a single lesson. I had weekly or bi-weekly lessons for the better part of a school year with my first teacher and then had lessons sporadically over a two-year period with my second teacher. While I believe I have gained a great deal from my period of Alexander Technique study, I believe there is much more to be learned. Personally, for the choral musician seriously interested in experiencing the benefits of the Alexander Technique, I would recommend committing to a course of study of weekly or bi-weekly lessons that lasts six months

to a year. The empirical research, though, supports shorter-term immersion in the Alexander Technique, so even 5-10 weeks of lessons may result in significant benefits.

Implications for Further Research

The strategies and methods described in this study have not been empirically verified. Though empirical study of the Alexander Technique continues to grow, the technique itself needs to be studied more thoroughly. To date, the medical field provides the best models of quantitative experimental and investigative models about the Alexander Technique. Music researchers interested in quantitatively exploring the technique more fully should use these medical studies as the basis for further study. Though self-reported data by musicians studying the technique have been subjected to statistical analysis, very little quantitative data gathered by outside observers have been collected. There is a great need to explore this field of research, as quantitative data that suggest the usefulness of the Alexander Technique to musicians may have a greater sway on those who teach and shape pedagogy.

Qualitative data on musicians studying the Alexander Technique are more plentiful, but further investigation is needed, particularly in the field of choral conducting. Fortin and Gerard's (2005) study on dancers would be a good model for exploring the use of the technique among conductors. In addition, surveys and interviews of choral musicians who are applying the Alexander Technique in the context of choral rehearsal and performance would be a very beneficial addition to the research literature.

As testified to anecdotally and empirically, study of the Alexander Technique can have a profound impact on the quality of *psychophysical* functioning of a person. Benefits include greater ease of movement, reduction in chronic pain, increase in self-efficacy, enhanced sensory awareness, and improved confidence in performance. This study brings to light the existing

literature's justification for both further research and a greater ubiquity of study and use of the Alexander Technique in choral music.

Bibliography

Alexander, F. M. (1995). *The Alexander Technique: The essential writings of F. Matthias Alexander.* E. Maisel, (Ed.). New York, NY: Carol Publishing Group.

Alexander, F. M. (2012). *Conscious control in relation to human evolution in civilization*. London: Methuen & Co. Ltd.

Andover Educators. (2013). *Andover Educators: Teaching the Art of Movement in Music*. Retrieved from http://www.bodymap.org

Apfelstadt, H. (1985). Choral music in motion: The use of movement in the choral rehearsal. *Choral Journal, 25*(9), 37-39.

Armitage, J. R. (2009). Psychological change and the Alexander Technique. Doctoral dissertation. University of Hull.

ATI Professional Development Committee. (2007). *An operational definition of the Alexander Technique*. Retrieved from http://www.ati-net.com/ati-pdca.php

Barker, S. A. (2002). The Alexander Technique: An acting approach. *Theater Topics, 12*(1), 35-48.

Barlow, W. (1973). *The Alexander Technique.* New York, NY: Warner Books Edition.

Billingham, L. A. (2009). *The Complete Conductor's Guide to Laban Movement Theory.* Chicago, IL: GIA Publications, Inc.

Blackstone, J., Buchanan, H. J., Galván, J., Jones, A. H., Jordan, J., & Larsen, L. (2007). *Teaching Music through Performance in Choir.* (Vol. 2). H. J. Buchanan & M. W. Mehaffey (Eds.). Chicago, IL: GIA Publications, Inc.

Blakeslee, S. & Blakeslee, M. (2008). *The Body Has a Mind of Its Own: How Body Maps in Your Brain Help You Do (Almost) Everything Better*. New York, NY: Random House.

Bosanquet, R. C. (1987). The Alexander principle and its importance to music education. *British Journal of Music Education, 4*(3), 229-242.

Bosch, A. J. (1997). The use of the Alexander Technique in the improvement of flute tone. Masters thesis. University of Pretoria.

Brennan, R. (1998). *The Alexander Technique: A practical introduction.* Boston, MA: Element Books, Inc.

Brenner, W. (1987). Practical Marj. *Direction, 1*(2). Retrieved from http://ati-net.com/articles/dm-bill.php

Briggs, K. E. (2011). Movement in the choral rehearsal: The singers' perspective. *Choral Journal, 52*(5), 28-36.

Buchanan, H. J., & Hays, T. (2014). The influence of body mapping on student musician's performance experiences. *International Journal of Education & the Arts, 15*(7). Retrieved from http://www.ijea.org/v15n7/

Cacciatore, T., Gurfinkel, V., Horak, F., Cordo, P., & Ames, K. (2011). Increased dynamic regulation of postural tone through Alexander Technique training. *Human Movement Science, 30,* 74-89.

Cacciatore, T. W., Gurfinkel, V. S., Horak, F. B., & Day, B. L. (2011). Prolonged weight-shift and altered spinal coordination during sit-to-stand in practitioners of the Alexander Technique. *Gait & Posture, 34,* 496-501. doi:10.1016/j.gaitpost.2011.06.026

Cacciatore, T. W., Mian, O. S., Peters, A., & Day, B. L. (2014). Neuromechanical interference of posture on movement: Evidence from Alexander Technique teachers rising from a chair. *Journal of Neurophysiology, 112,* 719-729. doi:10.1152/jn.00617.2013

Carpinteyro-Lara, G. (2014). The application of the kinesthetic sense: An introduction of body awareness in cello pedagogy and performance. Doctoral dissertation. University of Cincinnati.

Carr, L., Iacoboni, M., Dubeau, M., Mazziotta, J. C., & Lenzi, G. L. (2003). Neural mechanisms of empathy in humans: A relay from neural systems from imitation to limbic areas. *Proceedings of the National Academy of Sciences of the United States of America, 100*, 5497-5502.

Carrington, W. (1999). *The act of living: Talks on the Alexander Technique.* J. Sontag (Ed.). San Francisco, CA: Mornum Time Press.

Chien, S. (2007). Application of the principles of the Alexander Technique to viola playing and performance. Doctoral dissertation. University of Miami.

Chou. Y. (2013). When the mouse meets the elephant: A manual for string bass players with application of the philosophy and principles of the F. M. Alexander Technique. Doctoral dissertation. Louisiana State University.

Cole, A. (2006) Towards a constructive whole-person vocal pedagogy. Masters thesis. Victorian College of the Arts [University of Melbourne].

Cole, A. (2015). Do you really mean that? Towards precise, considered and constructive language in performance teaching. *Australian Journal of Music Education, 2015*(3), 4-15.

Conable, B., & Conable, W. (1995). *How to learn the Alexander Technique: A manual for students.* Columbus, OH: Andover Press.

Conable, B., & Jordan, J. (2002). *Structures and movement of breathing: a primer for choirs and choruses.* Chicago, IL: GIA Publications, Inc.

Copeland, S. L. (2007). Applied anatomy in the studio: Body mapping and clarinet pedagogy. Doctoral dissertation. University of North Carolina at Greensboro.

Corbin, L. A. (1986). Practical applications of vocal pedagogy for choral ensembles. *Choral Journal, 26*(8), 5-9.

Deadman, A. P. (2011). Improve performance, confidence and comfort with the Alexander Technique. *The Tennessee Musician, 64*(2), 25-29.

Dennis, J. & Cates, C. (2010). Alexander Technique for chronic asthma. *Cochrane Database of Systematic Reviews, 2,* 1-8.

Dennis, R. (1999). Functional reach improvement in normal older women after Alexander Technique instruction. *Journal of Gerontology, 54*(1), M8-M11.

Dimon, T. (1996). *Alexander Technique and the voice: Understanding the whispered "ah."* Cambridge, MA: Day Street Press.

Dimon, T. (1999). *The undivided self: Alexander Technique and the control of stress.* Berkeley, CA: North Atlantic Books.

Drake, J. M. (2006). The Alexander Technique and organ playing: Freedom, ease, openness and non-doing. *American Organist Magazine, 40*(12), 82.

Durie, B. (2005). Senses special: Doors of perception. *New Scientist, 185*(2484), 28-33.

Englehart, R. J. (1989). An electromyographic study of prepatory set in singing as influenced by the Alexander Technique. Doctoral dissertation. Ohio State University.

Fedele, A. L. (2003). The Alexander Technique: A basis for oboe performance and teaching. Doctoral dissertation. University of Illinois at Urbana-Champaign.

Fedele, A. L. (2006). The Alexander Technique and oboists, part I: What the Alexander Technique is and how it is relevant to oboists. *The Double Reed, 29*(4), 95-98.

Fedele, A. L. (2007). The Alexander Technique and oboists, part II: Applications of the Alexander Technique to oboe playing. *The Double Reed, 30*(2), 71-81.

Feldenkrais, M. (1977). *Awareness through movement: Health exercises for personal growth.* New York, NY: Harper Collins.

Feldenkrais Educational Foundation of North America. (2015). *The Feldenkrais Method of Somatic Education*. Retrieved from http://www.feldenkrais.com/whatis

Finger, S. (2001). Reflex, habit and learning. Masters thesis. University of Victoria.

Finn, R. (2011, August 4). To relieve tension, mind the spine but do not relax. *The New York Times,* p. A21.

Fishbein, M. & Middlestadt, S. E. (1987). Medical problems among ICSOM musicians: Overview of a national survey. *Senza Sordino, 25*(6), 1-8.

Fitzgerald, T. (2007). The future of Alexander Technique teacher education: Principles, practices and professionalism. Doctoral dissertation. University of Technology, Sydney.

Fortin, S. & Girard, F. (2005). Dancers' application of the Alexander Technique. *Journal of Dance Education, 5*(4), 125-131.

Gambetta, C. L. (2005). Conducting outside the box: Creating a fresh approach to conducting gesture through the principles of Laban Movement Analysis. Doctoral dissertation. The University of North Carolina at Greensboro.

Garretson, R. L. (1990). The singer's posture and the circulatory system. *Choral Journal. 30*(9), 19-22.

Gelb, M. J. (1994). *Body learning: An introduction to the Alexander Technique* (2nd ed.). New York, NY: Henry Holt and Company.

Gleeson, M., Sherrington, C., Lo, S., & Keay, L. (2015). Can the Alexander Technique improve balance and mobility in older adults with visual impairments? A randomized controlled trial. *Clinical Rehabilitation, 29,* 244-260. doi:10.1177/0269215514542636

Goldin-Meadow, S. (2003). *Hearing gesture: How our hands help us think.* Cambridge, MA: Belknap Press.

Gray, J. (1990). *The Alexander Technique.* New York, NY: St. Martin's Press.

Green, D. (1984). Choralography: Expressive movement for choral singing. *Choral Journal, 25*(3), 19-23.

Green, B. & Gallwey, W. T. (1986). *The inner game of music.* New York, NY: Doubleday.

Green, E. A. & Gibson, M. (2004). *The Modern Conductor* (7th ed.). New York, NY: Pearson.

Hancock, V. (2012). Pedagogues give insights into their methods. *The Strad, 123,* 85.

Hanko, M. (2010). Beyond posture: The Alexander Technique for singers. *Classical Singer*, *23*, 36.

Harsher, J. (2010). Body mapping for better playing. *Berklee Today, 22*(2), 31-33.

Heirich, J. R. (2011). *Voice and the Alexander Technique: Active explorations for speaking and singing.* (2nd ed.). Berkeley, CA: Autumn Press.

Hembreiker, L. R. (2010a). Incoporating Alexander Technique into the daily practice session. *The American Harp Journal, 22*(3), 34-39.

Hembreiker, L. R. (2010b). Teaching with the Alexander Technique. *The American Harp Journal, 22*(4), 41-45.

Hoberg, A. (2008). Reducing performance anxiety in woodwind playing through the application of the Alexander Technique principles. Masters thesis. University of Pretoria.

Hohauser-Nizza, C. M. (2013). Internal aspects of flute technique: A mixed-method investigation of teaching strategies and their effectiveness. Doctoral dissertation. Teachers College, Columbia University.

Holt, M. M. (1992). The application to conducting and choral rehearsal pedagogy of Laban Effort/Shape and its comparative effect upon style in choral performance. Doctoral dissertation. University of Hartford.

Hudnall, C. R. (2012). Teaching relaxed, healthy posture: An investigation of pedagogical approaches and string musicians' performance-related problems. Doctoral dissertation. Mercer University.

Isiguen, A. R. (2015). Sensing and shaping from within: Exploring the integration of somatic concepts into the teaching and learning of ballet. Masters thesis. University of California, Irvine.

Jones, F. P. (1979). *Body awareness in action: A study of the Alexander Technique.* New York, NY: Schocken Books.

Jones, F. P. (1997). *Freedom to change: The development and science of the Alexander Technique.* (3rd ed.). London: Mouritz.

Jones, T. (2012) Exploring the psychological processes underlying touch: Lessons from infant massage and the Alexander Technique. Doctoral thesis. University of Hull.

Jones, T., & Glover, L. (2014). Exploring the psychological processes underlying touch: Lessons from the Alexander Technique. *Clinical Psychology and Psychotherapy, 21*, 140-153. doi:10.1002/cpp.1824

Jordan, J. (1996). *Evoking sound: Fundamentals of choral conducting and rehearsing.* Chicago, IL: GIA Publications, Inc.

Jordan, J. (2005). *Evoking sound: The choral warm-up, methods, procedures, planning, and core vocal exercises.* Chicago, IL: GIA Publications, Inc.

Jordan, J. (2015). *A recipe for the development of expressive conducting technique: Harmonic rhythm add Laban and Bodymapping.* Clinic presented at the American Choral Directors Association National Conference, Salt Lake City, UT.

Jordan, J., & Buchanan, H. J. (2002). *Evoking sound: Body Mapping principles and basic conducting technique* [Motion picture]. (Available from GIA Publications, Inc., 7404 South Mason Avenue, Chicago, IL 60638)

Jordan, J., Wyers, G., & Andrews, M. (2011). *The conductor's gesture: A practical application of Rodolf von Laban's movement language*. Chicago, IL: GIA Publications, Inc.

Jost, J. (2011). Sculpting the music: Gesture, movement, and expression in the choir rehearsal. *Choral Journal, 51*(7), 19-23.

Kaplan, I. (1994). The experience of pianists who have studied the Alexander Technique: Six case studies. Doctoral dissertation. New York University.

Kind, E. (2008). The Alexander Technique approach to classical guitar technique. *Soundboard, 34*(4), 31-37.

Kleesattel, A. L. (2012). Applications of somatic practices to cello playing and pedagogy. Doctoral dissertation. University of Wisconsin-Madison.

Kleinman, J., & Buckoke, P. (2013). *The Alexander Technique for musicians.* London: Bloomsbury.

Knaub, M. J. H. (1999). Body Mapping: An instructional strategy for teaching the Alexander Technique to music students. Doctoral dissertation. University of Pittsburgh.

Kutschke, I. (2010). The effects of the Alexander Technique training on neck and shoulder biomechanics and posture in healthy people. Masters thesis. McGill University.

Kwon, S. R. (2012). Basic principles of the Alexander Technique applied to cello pedagogy in three case studies. Doctoral dissertation. University of Cincinnati, College-Conservatory of Music.

Laban, R. (1975). *Laban's principles of dance and movement notation* (2nd ed.). R. Lange (Ed.). Boston, MA: Plays, Inc.

Lauche, R., Schuth, M., Schwickert, M., Lüdtke, R., Musial, F., Michalsen, A.,…Choi, K. (2014). Efficacy of Alexander Technique in the treatment of chronic non-specific neck pain: A randomized controlled trial. *Journal of Alternative & Complementary Medicine, 20*(5), A59.

Leibowitz, J., & Connington, B. (1990). *The Alexander Technique.* New York, NY: Harper Collins.

Lennon, J. (1985). Back to the wall. *Choral Journal, 26*(3), 27-28.

Little, P., Lewith, G., Webley, F., Evans, M., Beattie, A., Middleton, K., . . . Sharp, D. (2008). Randomised controlled trial of Alexander technique lessons, exercise, and massage (ATEAM) for chronic and recurrent back pain. *BMJ, 337:a884.* doi:10.1136/bmj.a884.

Lloyd, G. (1988). The application of the Alexander Technique to the teaching and performing of singing. Master's thesis. University of Stellenbosch.

Lorenz, S. R. (2002). Performance anxiety within the secondary choral classroom: Effects of the Alexander Technique on tension in performance. Master's thesis. Michigan State University.

Mabry, G. (1992). Head position and vocal production. *Choral Journal, 33*(2), 31.

Macdonald, G. (2002). *Illustrated elements of Alexander Technique.* London: Element.

MacPherson, H., Tilbrook, H., Richmond, S., Woodman, J., Ballard, K., Atkin, K.,…Watt., I. (2015). Alexander Technique lessons or acupuncture sessions for persons with chronic neck pain. *Annals of Internal Medication, 163*, 653-662. doi: 10.7326/M15-0667

Madden, C. (2002). The language of teaching coordination: Suzuki training meets the Alexander Technique. *Theatre Topics, 12*(1), 49-61.

Madden, C. (2003). The mind-body connection: An introduction to the Alexander Technique. *Teaching Theatre, 14*(3), 22-25.

Madden, C. (2009a). Group teaching and learning from the eyes of beginners. In *The congress papers: From generation to generation, proceedings of the 8th international congress of the F. M. Alexander Technique* (72-80). London: STAT Books.

Madden, C. (2009b). Teaching as deep play and teaching in activity. In *The congress papers: From generation to generation, proceedings of the 8th international congress of the F. M. Alexander Technique* (81-94). London: STAT Books.

Madden, C. (2014). *Integrative Alexander Technique practice for performing artists: Onstage synergy*. Chicago: Intellect, The University of Chicago Press.

Manternach, J. N. (2012). The effect of varied conductor preparatory gestures on singer upper body movement. *Journal of Music Teacher Education, 22*(1), 20-34.

McClean, S., Brilleman, S., & Wye, L. (2015). What is the perceived impact of Alexander technique lessons on health status, costs and pain management in the real life setting of an English hospital? The results of a mixed methods evaluation of an Alexander technique service for those with chronic back pain. *BMC Health Services Research, 15,* 293. doi:10.1186/s12913-015-0966-1

McCoy, C. W. (1986). The effects of movement as a rehearsal technique on performance, meter discrimination ability, and attitude of members of high school choral ensembles. Doctoral dissertation. The University of Iowa.

Mnatzaganian, S. (2009). Health matters. *Strad, 120*(1436), 57.

Montgomery, K. J. & Haxby, J. V. (2008). Mirror neuron system differentially activated by facial expressions and social hand gestures: A functional magnetic resonance imaging study. *Journal of Cognitive Neuroscience, 20*, 1866-1877.

Moore, D. S. (n.d.). *Curing voice problems with the Alexander Technique*. Retrieved from http://alexandertechnique.com/articles2/moore2/

Mozeiko, K. J. (2011). The effects of participation in the Alexander technique on female violinists and violists: A mixed-methods study. Doctoral dissertation. Boston University.

Neely, D. W. (2012). Body conscious: A comparative study of body awareness and body alignment methods for singers and for teachers integrating them into their teaching. Doctoral dissertation. The University of Alabama.

Nelson, S. H., & Blades-Zeller, E. (2002). *Singing with your whole self: The Feldenkrais Method and voice.* Lanham, MD: Scarecrow Press.

Overy, K. & Molnar-Szakacs, I. (2009). Being together in time: Musical experience and the mirror neuron system. *Music Perception: An Interdisciplinary Journal, 26*, 489-504.

Packer, I. (2006). The Alexander Technique for musicians: An indirect means to increase performance quality and longevity. *The Folk Harp Journal,* (132), 74-75.

Pearson, K. S. (2009). The Alexander Technique and Body Mapping: A strategy for voice teachers and choral directors. Masters thesis. University of Wisconsin Stevens Point.

Peterson, P. (2008). Alexander or Feldenkrais: Which method is best? *Choral Journal, 48*(11), 67-72.

Pierce, B., & Stuart, S. A. J. (2014). Investigating somatic consciousness. *Journal of Consciousness Studies, 21*(11-12), 149-154.

Pierson, B., & Winnie, B. (2016, January). *Conduct with me: The gestural language of mirroring and empathy.* Clinic presented at the Illinois Music Education Conference, Peoria, IL.

Richmond, P. (1996). Body and soul. *Teaching Theatre, 8*(1), 1-2, 12-14.

Richmond, P. (2007). Free your neck. *Country Dance & Song Society News,* (194), 9-10.

Rickover, R. M. (1988). *Fitness without stress: A guide to the Alexander Technique.* Portland, OR: Metamorphous Press.

Santiago, P. F. (2004). An exploration of the potential contributions of the Alexander Technique to piano pedagogy. Doctoral dissertation. University of London.

Schirle, J. (1986, August 12). A conversation with Marjory Barlow [Video file]. Retrieved from https://www.youtube.com/watch?v=bYH_xpoDkBM

Schulte, D. & Walach, H. (2006). F.M. Alexander Technique in the treatment of stuttering – A randomized single-case intervention study with ambulatory monitoring. *Psychother Psychosom, 75,* 190-191.

Sehic, A. (2014). The conscious guitarist: Alexander Technique and Body Mapping for guitarists. Doctoral dissertation. University of South Carolina.

Spady, W. G. (1994). *Outcome-based education: Critical issues and answers*. Arlington, VA: American Association of School Administrators. Retrieved from https://eric.ed.gov

Stallibrass, C., Frank, C., & Wentworth, K. (2005). Retention of skills learnt in Alexander technique lessons: 28 people with idiopathic Parkinson's disease. *Journal of Bodywork and Movement Therapies, 9,* 150-157. doi:10.1016/j.jbmt.2004.06.004

Stallibrass, C. & Hampson, M. (2001). The Alexander Technique: Its application to midwifery and the results of preliminary research into Parkinson's. *Complementary Theories in Nursing & Midwifery, 7*(1), 13-18.

Stallibrass, C., Sissons, P., & Chalmers, C. (2002). Randomized control trial of the Alexander Technique for idiopathic Parkinson's disease. *Clinical Rehabilitation, 16,* 695-708.

Stevens, C. (1995). *Alexander Technique: An introductory guide to the technique and its benefits.* London: Vermilion.

Stewart, A. (2010). Sing long and prosper. *Classical Music,* (928), 10-11.

Stuart, S. A. J. (2013). The union of two nervous systems: Neurophenomenology, Enkinaesthesia, and the Alexander Technique. *Constuctivist Foundations, 8*, 314-323.

Tarr, J. (2011). Educating with the hands: Working on the body/self in Alexander Technique. *Sociology of Health & Illness, 33*, 252-265. doi:10.1111/j.1467-9566.2010.01283.x

Thapen, K., & Forsstrom, B. (2011). Proffering perfect posture. *Occupational Health, 63*(11), 18-20.

Tompkins, E. K. (2009). Somatic education: Gentle exercises for easier movement. *Journal of Consumer Health on the Internet, 13,* 18-197. doi:10.1080/15398280902897160

Urbanski, K. (2012). Overcoming performance anxiety: A systematic review of the benefits of yoga, Alexander Technique, and the Feldenkrais method. Undergraduate honors thesis. Ohio University.

Valentine, E. R., Fitzgerald, D. F. P., Gorton, T. L., Hudson, J. A., & Symonds, E. R. C. (1995). The effect of lessons in the Alexander Technique on music performance in high and low stress situations [Abstract]. *Psychology of Music, 23*, 129-141. doi:10.1177/0305735695232002

Vasiliades, T. (2004). *The Alexander Technique: An acting approach.* Retrieved from http://www.alexandertechnique.com/articles/acting3/

Walker, H. (2009). From symptoms to solutions: The Alexander Technique and musicians. *International Musician, 107*(11), 14.

Weeks, J. (2004). Mind your body: Alexander Technique: Get in gear. *Dance Magazine 78*(5)*,* 31.

Weiss, M. (2005). The Alexander Technique & the art of teaching voice. Doctoral dissertation. Boston University.

Wu, L. (2010). The Alfred Cortot study edition of Chopin's etudes & how the Alexander Technique can facilitate progress towards performance through his suggested exercises. Doctoral dissertation. Louisiana State University.

Yardley, L., Dennison, L., Coker, R., Webley, F., Middleton, K., Barnet, J.,…Little, P. (2010). Patients' views of receiving lessons in the Alexander Technique and an exercise prescription for managing back pain in the ATEAM trial. *Family Practice, 27*, 198-204.

Yoo, A. (2015). Alexander Technique and organ performance. Doctoral dissertation. University of Washington.