Fostering Freedom: A Holistic Comparison of Karen Tuttle's Ideas with Body Mapping and the Alexander Technique

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FOSTERING FREEDOM: A HOLISTIC COMPARISON OF KAREN TUTTLE’S IDEAS
WITH BODY MAPPING AND THE ALEXANDER TECHNIQUE

by

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Fostering Freedom: A Holistic Comparison of Karen Tuttle’s Ideas with Body Mapping and the
Alexander Technique
written by Erin Napier
has been approved for the College of Music

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The final copy of this thesis has been examined by the signatories, and we find that both the
content and the form meet acceptable presentation standards of scholarly work in the above
mentioned discipline.
ABSTRACT

In the domain of music education, and particularly the field of upper string instrument pedagogy, the teaching world has seen gradually increasing depth by way of efficiency, comprehensiveness, accessibility, and communicability over the past century. With these developments, there is a notable accompanying demand for synthesis and distinction of varied ideas, which can yield, in turn, new avenues for deeper exploration by string teachers. While several other orchestral instruments have pedagogy resources that have been in existence for centuries, resources for viola pedagogy have only recently been available via text-based resources. As such, this paper highlights several fundamental parallels between the teaching philosophies of a revered viola pedagogue, Karen Tuttle, and those who work in the field of somatics, particularly the Alexander Technique and Body Mapping. Literature thus far has attempted to apply the concepts of Body Mapping and Alexander Technique to various violin pedagogies, but the author in this case gives attention to individual aspects of Tuttle’s idea of “Coordination,” and compares Tuttle’s respective ideas and language usage with somatics research, in the hopes of uncovering some potential positive overlaps, or discrepancies, which may be useful information for shoulder-instrument string musicians in both teaching and performing contexts.
ACKNOWLEDGEMENTS

The act of completing this project has been a profound, enriching learning opportunity, and there are many individuals who I must recognize for their generous contributions and assistance throughout this process. First and foremost, I would like to thank all of the teachers and performers I had the pleasure of speaking with and learning from who all have direct connection with Karen Tuttle: including Sheila Browne, Susan Dubois, Jeffrey Irvine, Karen Ritscher, and Carol Rodland. This paper would not have been possible without their unique insights and testimony, and I cannot thank them enough for all of their time, interviews, and email correspondence. It was immensely engaging to learn about Karen Tuttle’s work through hearing all of the stories and ideas of her interactions with students, and each of these teachers present compelling forms of instruction that both harken to their personal experience with Tuttle, and simultaneously form distinctive styles of teaching.

I would also like to thank those with whom I had the pleasure of working with at the Karen Tuttle Viola Workshop at the University of Delaware, from the 11th to the 13th of January, 2019, but who I did not have the chance to interview, including Michelle LaCourse and Steven Wyczynski. At the workshop, I not only received extensive insight through observation, listening, and discussion, but also was given direct, personalized feedback on my own playing which has come to deeply inform this document.

Additionally, I am incredibly indebted to those who assisted in the formation of the document from the perspective of the somatics field, and donated their time and energy to helping me clarify many of the topics discussed in this paper. Jennifer Johnson and Judy Palac were notably instrumental in this process, and having the opportunity to learn directly from these teachers during the Body Mapping Workshop at the 2019 ASTA Conference was a truly inspiring experience. Both this five-hour course and their respective interviews were integral to my conceptualization of Body Mapping in this document.

I would like to make special mention of Dr. Matthew Dane, who also supported the development of this project through interview and consultation. His direct contact with Karen Tuttle and her students, along with his comprehensive dissertation, were key influences in this work.

In addition to the interview process, I was very lucky to have the opportunity to work personally with Professor James Brody at the University of Colorado, Boulder, over the course of the past two years, and his introduction to the ideas of the Alexander Technique and Body Mapping were foundational in forming my desire to pursue this topic at the outset. As an additional reader of this document, I must acknowledge his crucial contribution to the development of this paper.

Finally, I would like to thank my committee members, Erika Eckert, Dr. Margaret Berg, and Charles Wetherbee, for all of their support and guidance throughout this intensive process. This idea seemed to be a bit of a pipe dream not too long ago, and I can only say that I am
thrilled to have had the chance to learn from so many luminous educators in such a short amount of time. The act of pursuing this research has caused me to entirely reinvent my approach to both teaching and playing the viola, and I hope to continue this journey over many years to come.
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Chapter 1
Introduction

1.1 A Call to Action

This paper aims to serve as an additional layer in potential avenues of further research and pedagogical insights which may come from increased interest in kinesthetic awareness in string playing, and draws particular attention to the potential synthesis of the assertions of Karen Tuttle and Body Mapping, as well as those who study and teach the ideas of Alexander Technique. As a violist, I personally have grown a fascination for the work of Karen Tuttle after having direct interactions with several of her former students, and have seen significant resultant improvements in my overall fluidity as a player. Not only have these masterful pedagogues been influential in my progress as a musician, but they have established a firm presence in the world of viola pedagogy, establishing studios in many conservatories and music schools across the globe. Hosted each year by varying combinations of several of her former students, including Sheila Browne, Susan Dubois, Jeffrey Irvine, Michelle LaCourse, Kim Kashkashian, Lynne Ramsey, Karen Ritscher, Carol Rodland, and Stephen Wyrczynski, the Karen Tuttle Viola Workshop is another key point of entry for those who are looking to increase their exposure to Tuttle’s ideas, and is evidence of a concerted effort on the part of these individuals to maintain the integrity of Tuttle’s legacy.

In a separate, but related sphere, I also have profited greatly from numerous encounters with the ideas of Andover Educators and the Alexander Technique, having had the opportunity to absorb ideas directly from Jane Heirich, James Brody, Judy Palac, and Jennifer Johnson, in various private and class-oriented settings. The detailed information and more holistic
perspective I have gleaned from these experiences continue to regularly influence my approach to the technical, emotional, psychological, and kinesthetic aspects of my playing, and have contributed to a newfound central purpose in my pedagogical endeavors, as well as having assisted in generating an entirely new outlook on my career as a musician and teacher.

1.2 String Pedagogy of the 20th Century

With the advent of key technological and communicative advancements promulgating throughout the early to mid 20th century, alongside a palpable reformative impulse throughout the Western world to increase access to educational opportunities to ever-widening circles of populations in terms of the rise of public schooling and the desire for standardized curriculum, we find no shortage of evidence of this notion permeating into the realm of string teaching, as well.\(^1\) Never before had an age seen such widespread dissemination of pedagogical ideas, nor had such tangible access to the highest ideals of string performance practice been so readily at hand in the form of recordings and intercontinental relationships between performers, teachers, and textual resources.

As a result, we begin to see in the decades following the turn of the 20th century several new “schools” of teaching string technique, particularly among the violin school. One may recall certain household names of note, such as Leopold Auer and the so called “Russian” school, Ivan Galamian, and later on, the work of the eminent Dorothy Delay, along with pedagogues Shinichi

Suzuki, Paul Rolland, and Kató Havas, among many others. Each of these teachers mentioned, alongside the growing populace of artist faculty in residence at higher education institutions, found a niche in the history of string teaching by way of a unique and effective concept of string playing technique, and how to approach sequencing instruction for various topics surrounding the violin position, the bow hold, bow technique, and musical style.

Accordingly, we find many of these ideas have been adopted into the sphere of viola pedagogy, a realm of instrumental study that was almost unheard of during the development of modern violin teaching. In the years preceding World War II, the United States had but two conservatories which held offerings for those wishing to study viola in any capacity comparable to that of violin: the Curtis Institute of Music and the Eastman School of Music. Several pedagogical lineages exist from this initial outset, but one of particular significance is the influence of William Primrose through the legacy of his outpost at the Curtis Institute of Music. Mr. Primrose was a prolific artist, recognized among the first few to treat the viola as an instrument of virtuosic pursuits; in his documented conversations with violist David Dalton in the book, Playing the Viola, he states unequivocally that, “We are an instrument without tradition...our history of any importance does not precede the advent of Lionel Tertis.”

However, considering the fact that many noteworthy personalities of Western music composition took favor in the viola as their performing instrument of choice—namely J.S. Bach, Mozart, and the Stamitz brothers—it is a bit surprising that the viola never grew to a level of recognition

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equal in stature to that of the violin. Many of Primrose’s former students became well-established performers and teachers themselves, one of his most shrewd and determined students an integral subject of this paper: Karen Tuttle.

1.3 Karen Tuttle

If one wishes to observe such a direct example of the transition teachers experienced in 20th century pedagogy, they may look no further than the relationship between Karen Tuttle and William Primrose. A so-called “natural” player, Primrose cruised upward through the ranks with stupendous speed, surpassing his teachers’ expectations, even going so far as to become colleagues with the likes of such figures as Eugène Ysaïe. He became enshrined as the personification of fluid virtuosity on the viola, a somewhat alien concept, historically speaking, and was a complete and fascinating puzzle for Tuttle to witness. Self-described as a jumble of tension and awkward mechanics, Tuttle sought fervently after solutions in her own way, and unorthodox as it might have been, the results of her study were unquestionable, especially to those who still benefit from her ideas to this day. In an interview with The Strad in April of 1987, Tuttle mentions that she had “a picture of myself at 16 and I was just miserable playing the violin,” reportedly striking a pose of her old habitual state of playing, complete with crooked limbs, tensed hands and fingers, and a grimacing facial expression. As she tells the story, she witnessed Primrose in performance in California, and after observing his seemingly-effortless approach to the viola, she set her mind to studying with him, no matter the cost of such an endeavor, even if it meant switching instruments entirely.

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Tuttle's students describe her experience working with Primrose as an initially frustrating one, in which he could not find clear enough answers to her questions with regard to how to accomplish certain tasks physically on the viola, as he taught primarily through modeling. After reaching a bit of an impasse, she asked Primrose if she could observe his practice sessions, and take note of his behavior, and through this process she gained enough insight to eventually land a spot as his teaching assistant at the Curtis Institute; Primrose would often proclaim that Tuttle knew more about his own playing than he did. She eventually took over his position at the Curtis Institute at the age of 25, becoming head of departments of viola and chamber music.

She, in turn, developed an independent approach to teaching violists that was rather remarkable for the time, not only within the field of viola pedagogy, but within the entire domain of string teaching, as well. Through the observation of her perceived ideal models--Primrose, Marcel Tabuteau, and Pablo Casals--Tuttle systematically generated a pedagogical method based entirely, to use a familiar term, upon a holistic body map and the use of the full self, which she called "Coordination." Her firm grasp of her own body mechanics, as well as a framework of solidified principles which she adhered to in handling each unique case, allowed her approach to transcend her own individualistic style of teaching, and the imprint of her personality and legacy continue to inform the world of viola teaching to this day.

1.4 The Somatics Field, Alexander Technique, Andover Educators

Deriving from ancient Greek origins, the term somatics has come to be primarily used to denote a "practical study of how the body operates in movement," with an ultimate prevalence of

purpose to unite the objective reality that exists within the design of the body together with our methods of utilizing these structures, for heightened effectiveness. Such researchers making headway in this nascent field included Moshe Feldenkrais, Rudolph Laban, Irmgard Bartinieff, Joseph Pilates, and F.M. Alexander, among others. In recent years, Andover Educators have provided greater insights based on the efforts of these pioneers with regard to specified, more anatomically-based material, as increased research continues to pave the way forward with further recognition of the construction of our bodies.

These particular somatics researchers and teachers function with the direct purpose of applying ideas gained from studying the body and its structures to musical instruction. As stated on the website home for Andover Educators, “The goal of Andover Educators® is to put music education on a secure somatic (anatomical) foundation for all time.” However, one may additionally draw lineage to the work of F.M. Alexander and his approach to shifting lifestyle choices, to shape the ideal vision of one’s realized physical potential. To quote Barbara Conable, the noted developer of a Body Mapping course that is now the central-most part of many Andover Educators, “The Alexander Technique is a simple and practical method for improving ease and freedom of movement, balance, support, flexibility, and coordination.” As a teacher of the Alexander Technique for over three decades, Barbara Conable worked to further develop the innovations proposed by F.M. Alexander, and to provide several new resources for musicians to find their own body truth through the frame of Body Mapping.

9 Johnson, Every Violinist, 12.
12 “Barbara Conable,” Andover Educators.
The Alexander Technique historically served as a foundation for many of those who chose to pursue Body Mapping, but Andover Educators have since transformed into a distinct entity. However, there remain many convergent aspects of both philosophies that allow room for those who may choose to mentally align aspects of the two. Readers who are unfamiliar with these areas will have access to additional information in subsequent chapters.

1.5 Synthesis and Goals

Ultimately, we can gain from the potential benefits of uniting the perspectives of the two distinct areas of somatics and Tuttle’s brand of string pedagogy. Readers will no doubt quickly take note of the immense amount of congruent themes permeating throughout both approaches. This paper does not seek to serve as the sole source for the exploration of this topic, but rather, to posit some ideas that will require further investigation from those who also aim to come to a greater understanding of the role of unifying mind with body in music performance. Tuttle put an eloquent spin on the driving force behind her approach when she stated, “When we as children are forced to inhibit natural functions, movements, and emotions, our minds and bodies develop unnatural complexities...There’s no such thing as one correct posture--you must take into consideration whether someone has a short neck, a long neck, his body structure and so forth, and you balance around that.”\textsuperscript{13} In this sense, she echoes the work of F.M. Alexander, who drew attention in a similar fashion to the lamentable loss of natural vigor and energetic impulse of the child as they grow, and consequently, developed a vision to regenerate this ease of movement and readily-accessible fluid capacities in adults.

\textsuperscript{13} Hannah Hanani, “Intuitive Path,” 1987.
However, this paper is by no means an all-encompassing document, and readers are encouraged to explore all resources at their disposal for further enrichment and far more comprehensive insight into these areas. Rather, through the select assimilation of these two distinct, but indisputably related fields, the purpose of this paper is to examine and provide an additional step into this exploration of upper string pedagogy. Within the greater expanse of education, there is also a trend for recognizing and heightening global intersections between fields, manifest in interdisciplinary curricula and the formation of hybrid and dialogical systems of teaching various subject areas. I also hope this information proves useful for those who may wish to investigate potential congruences between anatomical, linguistic, and metacognitive learning modalities, as applied in the private, group, or classroom instructional setting. More specifically, I am seeking to explore the ways in which Andover Educators, Alexander Technique, and Tuttle Coordination concepts and approaches may inform the methods we as teachers use to address the technical, musical, and psychological aspects of our students’ growth, enabling them to develop the tools to ultimately take on these challenges through self-sufficient and manageable means. It is my intent for readers to find promise in pursuing these and other kinesthetic studies for the benefit of their own overall state of wellbeing, as well as those with whom they may share their ideas in the future.
2.1 The Body Map

*Why can’t they do what I tell them?*

It is every teacher’s internal lament at some point with a student, accompanied usually with a sense of frustration and self-doubt—*what am I doing wrong?* The idea is a deeply embedded one, in which some teachers may come to the flawed deduction that a student is unable to complete a task due to a certain unwillingness to absorb a teacher’s advice. In her book, *What Every Violinist Needs to Know About the Body*, Jennifer Johnson makes note of a phenomenon with which we are all likely to be familiar: the friction between those with so-called “natural” instrumental inclinations, and those who may not assimilate so quickly to string playing technique.\(^{14}\) Often, we encounter a particular variant of the teacher-pupil relationship, in which those who teach from their own experience of “natural,” unhindered playing may not fully be able to relate and diagnose their students’ experiences.\(^{15}\) Occasionally, we may also run into trouble when, though acting with laudable intention of providing students with a concrete basis upon which to stabilize their concept of technical skill, we attempt to define the execution of a particular technique or action on the instrument, but instead misattribute a task or function to an inaccurate feature of the body structure. Though no teacher would profess to be an expert in all areas, the danger in this situation arises when the lineage of pedagogy is restricted by an avoidable misunderstanding. We are living in an age where we have the capacity to discover


\(^{15}\) Johnson, *Every Violinist*, 1.
certain objective truths in a practical and approachable fashion, and history will reflect the outcomes of such impetus on the overall population of string musicians if we allow it to do so.

However, neither of these scenarios leaves both parties at fault, as the answer often lies in an honest misconstruing of the objective reality that exists within the body, one which either the teacher or the pupil has yet to fully conceptualize. Even as performers may appear to play with fluidity, springiness, and freedom of movement, they may not entirely grasp the mechanics of the musculoskeletal structures which they are employing in that endeavor. And although it is perhaps not always necessary to use technical anatomical jargon to describe pedagogical concepts, one cannot deny the benefits of augmenting one’s exposure to this information, which can only add to our perspective as performers and educators. Teachers may debate over the concept of a “high” or “low” elbow in the bow arm, for instance, but without clear, descriptive language to describe what muscles, bones, and structures are being incorporated in the process, and how those elements are used when they are functioning at their most efficient capacity, students may be frequently left feeling as though they are shooting darts across a darkly-lit room. In essence, we come upon a somewhat make-or-break moment as teachers, when we realize we must not rely on, nor shy away from confronting our own personal areas of foggy understanding, as this will only harm our students’ development, while simultaneously deterring our own growth and mastery as performers and teachers.

Those working as Andover Educators would describe this concept as “body mapping,” the tool by which one recognizes the nature of the numerous layers that create structure and movement in the human form, and consequently supports one’s aim to employ their musculoskeletal systems in the most natural, efficient ways. Jennifer Johnson defines the body
map as "the literal, neuronal picture we have of ourselves in the brain," which "dictates how we move."\(^{16}\) She goes on to say that, "when the map is accurate, movement is free and healthy; when it is inaccurate, movement becomes uncoordinated and injurious."\(^{17}\) It is therefore this greater understanding which can inform our judgement and kinesthetic intelligence in playing, with a shift of focus from "Why is this not working?" to, "How do I tap into my true potential?"

In addition to the above-outlined, moral impetus in which one might find a call to action with regard to awareness of the body-reality, there also exist very obvious practical reasons for exploring these concepts to the full. We small-muscle workers often fail to recognize our craft as one that demands the same sort of attentiveness to physique as those who appear to be accessing a greater proportion of their muscular employ on a daily basis, such as professional athletes, olympians, bodybuilders, professional trainers, or those who work in fields that require large-muscle group exertion. As such, it is quite common among the string playing community to find repetitive action and overuse injuries. A recent international study looking to examine the prevalence of instrument-related injuries among string players found, through a systematic review of the literature, that as much as forty-four to ninety percent of all string players will experience some form of PRMD (performance-related musculoskeletal disorder) in their lifetimes\(^{18}\). To ensure continued health and longevity as performers and teachers, this paper asserts it is in one's best interest to understand the ways in which the human body functions most optimally, so in return, the body will be able to support one's functions of choice.

\(^{15}\) Johnson, Every Violinist. 5.

\(^{17}\) Ibid.

Furthermore, one may find practical motivation to draw upon this synthesis of ideas from the work of Tuttle and F.M. Alexander in being able to avoid the likelihood of future injuries or to address a current, particular variant of injury as players of shoulder string instruments. Johnson makes note in her book that over forty percent of the population of professional performers regularly experience pain while playing, according to recent research, and many others will experience chronic issues such as carpal tunnel, tendinitis, or overuse injuries. She also takes note of the fact that although many string musicians may not fall victim to injury or painful playing habits, they may find themselves limited in the scope of their performance capacities, because their lack of knowledge can be a prohibiting factor in their growth. In light of these figures, the positive impacts of learning the most natural and fluid manners in which to use the body cannot be overstated.

Karen Tuttle was one such performer whose body map concept is to be respected and revered; through her extensive internalization practice and direct observations of Primrose’s mechanics, she came to convergent conclusions to those of F.M. Alexander and Andover Educators, with further language that elaborates on some of the emergent similarities in both respective frameworks for application.

2.2 Places of Balance in the Body

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19 Johnson, Every Violinist, 10-11.
20 Ibid.
Andover Educators utilize a rather handy figure, referred to as the “Balance Mascot,” to illustrate some of the most fundamental aspects of this approach. Viewed as a cross section of the body, from the side, the figure contains a skeletal map and outline of the body’s shape. Through this diagram, the viewer is able to actively place significance to the concepts of structural balance in the body. First, attention should be drawn to the spine and its invaluable, core function in creating the foundation for movement in the entire body. In a corrective effort to draw the deserved attention to this idea, the spine runs through the very center of the human structure, rather than along the back of the torso, as some might identify its location. These “vertebrae” one may detect through palpation along the back of the trunk are simply the outer edge of these components of the spine, and, as such, are an inaccurate depiction of the whole truth contained beneath the flesh.

Once the spine has been given its full recognition, Andover Educators will draw reference to the six places of balance in the body, namely, the A.O. joint, the arms at the glenohumeral joint, the lumbar core, the hip joint, the knee area, and the ankle joint. The body is at its most natural balance when the line of weight delivery runs primarily through the center of one’s being, and is supported by the bony structures that are made for that purpose. Of particular note would be the prioritization of the lumbar core region, which both Tuttle and Andover Educators posit in varying degrees as contributing to the overall freedom in the body.

Johnson notes the phenomenon of “downward pull,” in which one chronically

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21 Barbara and Benjamin Conable, What Every Musician Needs to Know About the Body, Portland: Andover Press, 2000, 12.
22 Johnson, Every Violinist, 36.
mismaps the structural function of the spine in support of the head, leaving the person to believe that the head is held up mainly by the neck muscles at the back of the neck.\textsuperscript{23} This causes a number of resultant mismapping errors and prohibiting factors of movement, as the back of the head moves in a backward curve down behind the spine, and the chin rises in space between the ears; in reaction, the musculature in the neck responds with sustained tension as the vertebrae at the neck are shifted toward the front side of the body, off of the natural midline of structural support.\textsuperscript{24} Consequently, many other regions of the body are thrown out of their natural position range, such as the trunk of the body contributing to a slumping, forward-jutting pelvis, and shoulders that roll forward and down. This is chronically limiting for any person that hopes to use their body in the most adequate, efficient manner. However, by drawing increased awareness of the role of the lumbar core region of the spine (include picture, as the weight-bearing portion of the spine, around which our organs and innards exist, one can more readily detect their true capacity for mobility.

Karen Tuttle had several methods of addressing the notion of balanced stance, and this was deeply foundational to her approach; however, her highlighted principles dealt more with the \textit{impression} of the synthesized product of these disparate elements than it did emphasizing the proper stance, leaving some room for leeway. Specifically, she notes in standing that "...the feet should be slightly separated--if the person is left-handed, the right foot back; if right handed, the left foot back. Stand loosely like a jazz player (not heavy metal), with relaxed belly...then, you must balance the instrument."\textsuperscript{25} The language Tuttle uses in this interview is consistent across her students' testimonies and other documents in which she recorded her ideas, and is an

\begin{thebibliography}{9}
\bibitem{23} Ibid., 32.
\bibitem{24} Ibid.
\bibitem{25} Karen Ritscher, "An Interview with Karen Tuttle," \textit{American String Teacher}, 1993, 89.
\end{thebibliography}
essential component to her method. Rather than describe the ideal stance as a static position, with many caveats and complexities, she gives the observer a few components that they are then free to discover on their own terms.

For example, in her "checklist" for good coordination, Tuttle also makes note of the "jazzy feel in the body" concept, which has immediate connotations for anyone who has experienced jazz performance, or even encountered jazz music before in a listening-oriented setting.²⁶ Those who are not musicians can easily conceptualize this idea, although it may not have clear parallels with their experience, as a sensation of increased ease in the body, less rigidity, something a bit "cooler" than perhaps the associations one may generally develop with classical music, though these may be misconstrued. This system of terminology and easy-going, informal tone, combined with her directness and conviction, though not necessarily very technical or procedurally demonstrative for those who are looking for definitive points of focus for their practice, is a window into the brilliant mind of Tuttle, in that she would provide guiding insights that would leave a weighty impression on her students, but still leave enough room for flexibility for those who chose to take up her ideas to make their own way to their answers.

One point of potential friction between those who are keen proponents of Tuttle's work and Andover Educators might be the status of the pelvis, and its functional role in upper string playing. Tuttle frequently is mentioned to have asserted that the body should have a "down and under" feeling, accompanied by a downward-scooping pelvis, generating space at the back, and "sinking shoulders."²⁷ This perspective appears to fall into alignment with certain aspects of the "downward pull" scenario, in which the pelvis moves forward in space in order to compensate

²⁷ Jeffrey Irvine, Transcript from phone interview, 2019.
for the displacement of the skull, as well as the shoulders rolling forward as they descend, which could potentially lead to problematic misinterpretations. However, one could contrast this predicament with the fact that Tuttle worked with many students who were experienced, devoted performers already, who were encountering some limitations to their pre-developed performing skills. These highly-skilled students arrived to Tuttle’s studio with tensions that resulted from various individual experiences with playing, but often would have many underlying similarities. Therefore, it is crucial to highlight the language that Tuttle uses in these situations: she frequently employs terms that imply motion and fluidity, for example, that the pelvis is continuing to move “down and under,” rather than merely existing in one location. For each student, a teacher must figure out a method of diagnosing and prescribing the best verbiage to address their particular topics of issue. Many of Tuttle’s students experienced lower back, lumbar discomfort, due to an overarching, concave curvature of the spine, and as such, she used language that would address that particular notion, by reminding her students that they have the freedom to support with the lumbar core. Similarly, many of her students exhibited raised shoulder regions and over-engaged trapezius muscles, and as such, she gave her students verbal cues such as “sinking shoulders” to counteract that habitual nature of raising and engaging. It is important to note here, as well, the use of action words (“sinking”) to denote a process, as opposed to a static idea. This topic may require further evaluation in subsequent research, so as to avoid any potential misconceptions.

Though perhaps not applicable to each student in this exclusive manner, Tuttle was incredibly adept at determining general trends in her students, and recognized the tendencies string players often exhibit as they play increasingly challenging repertoire and lose sight of the
ease and fluidity of their earlier selves. Though perhaps it goes without saying, good pedagogy is informed by a well-rounded, comprehensive backdrop of established and tested methods, combined with an individual’s reinterpretation of the information within their experience and perspective. Good teachers step into a lesson not only with these tenets in mind, but also will recognize that in order to accomplish similar goals across a broad range of personalities and ability levels, they must continuously adjust, perhaps even reinvent, their standard toolbox of tactics for each classroom, age group, or individual student.

We must bear in mind that some information presented in this document will be well-met by students who are interested and adequately set up to internalize this material, while some students may not take to these ideas so swiftly. There is room for further work to be done to establish ways of increasing accessibility of the more technical jargon used in these contexts for those of younger audiences, for example. However, the juxtaposition of ideas in this document is meant solely to highlight the information that already exists in these areas, which can be subsequently debated, improved, and reimagined by those more qualified than this author, to address their personal encounters of relevance. It is only then that the distribution of those insights which would be most helpful to students can be delivered more efficiently, and as early in the process of musical upbringing as possible. Tuttle’s approach, combined with the backdrop of a well-defined body map, therefore, could potentially assist teachers in being able to recognize these trends and others in their students, and more readily aid their situations with newfound focus.

2.3 The Head Region
In her documented “checklist” of foundational elements of her coordination practice, Tuttle makes reference to a few enlightening examples of her core understanding of body mechanics. Revealing as to her deeply-ingrained internalization patterns, she describes the idea that the neck remains free and loose, while there is a simultaneous feeling of “cuddling” the instrument. Her procedure for generating this sensation for students is documented in an interview with Karen Ritscher for the *American String Teacher* in 1993, in which she diagrams her preliminary steps:

The first thing I do is cup my hand around their chin and make them lean on my hand. Usually they super-impose weight, the same as they do on their chinrests. I point out that it is not necessary to tighten the muscles of the neck to balance the viola. Then I teach them the four places on the bow to release the neck: 1) before you start a down bow; to meet the down bow, 2) the balance point; you release the neck as the shoulders go down, say ‘un-huh,’ 3) over the tip; say ‘hi’ as the head releases back; and 4) for string crossings, staccato; head-neck ‘wobbles.’

First, one must note once again the language that Tuttle carefully employs in these moments of instructional emphasis; she uses the endearing term, “cuddle,” to define the manner in which one makes contact at the chin rest with the jawbone, another “active” term that connotes many elements at once: comfort, ease, motion, and gentle impetus. She also connects the gestural elements of the motion with a concrete vocal manifestation of the energy, such as the “un-huh,” or the “hi,” previously mentioned, which incorporates the use of breath in conjunction with the release of the abdominal muscles and muscles of the back.

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28 Tuttle, Unpublished Checklist.
29 Ritscher, Tuttle Interview, 89.
One can draw many parallels in this instance to the postulates of Andover Educators and Alexander Technicians, as one fundamental place of balance in the body is the A.O. (atlanto-occipital) joint, where the uppermost vertebra of the spine meets the base of the skull. Sarah Wood describes the phenomenon quite well in her dissertation, in which she elaborates:

The atlanto-axial joint...which is located between the atlas and the next lower bone in the spine, allows the head to turn to the right or left by rotating along a central axis. For violinists, this joint is used to turn the head towards the violin. The atlanto-occipital joint...is formed by two nobs [sic] on the base of the skull and two matching depressions at the top of the spine. It allows the head to nod up and down by sliding in these depressions, much like a rocking chair. This turn and nod motion is referred to by Taylor as the ‘royal nod.’

Tuttle takes both joints into account in her descriptions, but frequently points to the employment of the “royal nod,” (despite differing terminology), discussing the rocking or “wobbling” of the head over the center of the spine and backward as a natural reflex to healthy humero-scapular rhythm maintained in the bowing practice of the right arm.

2.4 The Legs and Feet

Andover Educators describe the legs as consisting of three main joints, one at the hip, the knee, and the ankle. One common mismapping error that is addressed by Johnson and Palac is the false understanding that one’s hips are located at the “waist,” (a contentious subject, in and of itself, as it is not a legitimate anatomical region of the body), and that when one refers to their

middle, they think of the place at the top curve of the pelvic bone. This misconstruing of the
function of the pelvis can lead to a holding of the lower back, as one feels that they are not
properly “stable” otherwise. To correct this error, one must understand that the hips are located
at the base of the pelvic bone, where the femur meets as a ball and socket joint, with freedom of
mobility in wide, circular paths. Tuttle accesses this concept from another perspective, of tension
that may be developed in the buttocks, as she depicts in writing about how frequently she
encountered such an occurrence.32 By pointing out the need for freedom and release in this
musculature, Tuttle inadvertently assisted her students in freeing this entire region, as it is nearly
impossible to clench the gluteus area and have an accurate awareness of the hip joint.

Johnson depicts three potential states for the existence of the knee: locked, balanced, and
bent.33 When standing, if one has mis-mapped the existence of the knee as a concrete object
within the body, rather than as a space between bones allowing for movement, this can lead to
static tension in the musculoskeletal apparatus of the leg, and contribute to or appear as a
consequence of downward pull.34 Tuttle is emphatic in her writing and teaching with regard to a
general “springiness” resulting from “planting” the feet firmly, leaving the knees are free to
move.35 This energetic reclassification of the function of the knees gives the observer a new
awareness of their purpose, and through subtle adjustment can be used as a point of entry for
enlivening and releasing tension elsewhere in the body. Here, we can also draw upon the notion
that the foot has a triangular system of balances, one at the ball, one near the little toe, and one at

33 Johnson, Every Violinist, 76.
34 Ibid.
35 Tuttle, Unpublished Checklist.
the heel.\textsuperscript{36} With this tripod-like system, there are additionally three arches in the foot between these points to create structure and distribution of weight over the foot, an idea which often goes unnoticed among string performers. Tuttle’s concept of “planting” and enabling mobility from the ground upward may further enhance this layer of comprehensive understanding of the function of the foot in the context of string playing, and help one maintain an intermittent awareness of its role in their stature. Provided that one has already developed a sophisticated body map of the foot and leg structure, Tuttle’s concept may add somewhat of a “shortcut” cue to access many of these ideas with one short phrase.

2.5 Automatic Postural Patterns

A crucial unifying element to these areas of centralized attention in the body is the concept of Automatic Postural Patterns, articulated by Johnson as the “involuntary muscular activity that facilitates voluntary movement by providing the subjective experience of springiness and buoyancy.”\textsuperscript{37} She goes on to describe the nature of our foundational layers of construction, in which the APPs contribute to the resettling of soft tissues around skeletal structures, supporting the fluidity of motion in the body without any added muscular engagement from the conscious individual.\textsuperscript{38} These patterns can be recognized, as Johnson notes, in the “lengthening of the spine,” which correlates with a properly balanced head over the topmost vertebrae and proper distribution over the lumbar curve, and in a body that is moving with vitality and ease, liberated from common tension accumulations.\textsuperscript{39}

\begin{itemize}
\item \textsuperscript{36} Johnson and Palac, \textit{Body Mapping, The Full Course}, 2019.
\item \textsuperscript{37} Johnson, \textit{Every Violinist}, 5.
\item \textsuperscript{38} Ibid.
\item \textsuperscript{39} Ibid.
\end{itemize}
Synonymous with Tuttle’s ultimate vision for string playing that possesses freedom of mobility and spirit in every aspect of the individual, these well-documented, overarching systems for motion in the body are reflected in the aspirations of all those who seek greater physical well-being. As Tuttle succinctly describes, “…muscular freedom...is the springboard of our feeling, creativity, and life.”⁴⁰ The areas of focus within this paper, as well as the ideas contained within from varying perspectives, all function with this unifying standard in mind: to unlock the potential for mechanical advantage in the body, applicable in any context desired.

2.6 Breathing

One final element of consideration for the construction of the central frame and state of playing for both Tuttle and Andover Educators is the incorporation of breathing strategies in one’s approach. In somatics research, this concept draws upon the work of F.M. Alexander and his work with actors and singers which first initiated his path toward spreading ideas of kinesthetic awareness. Johnson and Palac describe the methods of finding breath support through an orientation toward generalized openness to exploration; by discovering what it doesn’t feel like, following the “Laws of Inhalation,” finding the deep breath support muscles, rebound on exhalation, and tapping into the gathering and lengthening of the spine, one is able to fully enable the breath to fuel their actions.⁴¹

Tuttle associates breathing directly with musical output in performance, along with vocalizations that may serve to instill a feeling of full release of tension in the body. She explains, “breath-holding bottles up the diaphragm. Breathe over the bow--change without

stiffening the shoulder. This allows a natural expansion over a phrase.” Tuttle was also known to frequently employ singing as a method for realizing internal musical ideas, and as such, breathing was an essential, irrevocably attached to the music-making process.

42 Tuttle, ""Staying Open,"" 66.
Chapter 3
The Right

3.1 The Right Hand

Tuttle takes particular care in her explanations of the hand and fingers, with specialized differentiated language between the two sides of the body. Describing the process of the bow hold, she instructs the teacher to, “Let him pick up his bow as he would any object. His fingers will automatically balance, not clutch. The fingers drawing a bow should feel like kneading dough. Intricate, involuntary movements go on all the time to maintain the balance of the bow so that it will not get stuck.” As depicted by Robert Dew in his article for The Strad, Tuttle advocates for the thumb to “live” directly across from the side pad of the middle finger, as these two digits are central to the function of drawing sound and holding the bow. Additionally, she states that “the thumb must be malleable—it evolves just like the fingers, from bent to straight. If

the bow rolls to the side, then press the ring finger. The pinky does not have to stay on the tip if
the arm is not long enough; it is nonfunctional."45

The key here is to once again take note of Tuttle’s language surrounding the action of
forming the bow hold; first, the description of the down bow as “drawing” assigns an illustrative
term to a phenomenon in which some players will overcomplicate and engage unnecessary
energy to control the outcome. For example, even the term “drawing” has connotations of
imaginative capacity: perhaps one is depicting an image on paper, or gently opening a curtain in
a comfortable space, or they might even be beguiling or “drawing in” an audience, or one’s own
attention, to the process. Rather than pointing to the visual appearance of a “straight” or “proper”
down bow as general descriptive outlook—though these terms may be helpful in other ways—
Tuttle primarily chooses to take a more indirect angle when introducing her concepts, so that
students, readers, and observers may gain a more global understanding of the “big picture” of her
approach, from the outset.46 The idea of “kneading” implies slow, methodical, gentle action at
the finger-level, not simply one bow hold that remains stagnant throughout the “drawing” of the
down bow, and aligns well with her following statement, which indicates that the hand and
fingers are constantly adjusting throughout the stages of the bow, though these adjustments may
derive from unconscious, passive components within the arm, as a reaction to the larger
instigating muscle groups.

It appears that Tuttle was tapping into a fundamental concept of distinction between
muscular action types, a key component of the research of F.M. Alexander; notably these activity
states are “voluntary” and “involuntary.” We can describe voluntary muscular employment as

45 Ritscher, Tuttle Interview, 90.
46 Revelle Team, “Simple Exercises for Playing with a Straight Bow,”
conscious engagement to dictate the use of a specific muscle or groups of muscles, to execute a particular movement or exertion. Conable puts it plainly, stating, “When I move my arm to reach for a glass of water I know that I am moving it and I feel the sensation of its moving overtly, as movement. But I can feel only indirectly the involuntary muscular activity that keeps me upright as I reach for the glass...If humans felt involuntary work directly as we do the moving of an arm we would be overwhelmed with sensation.”

Alexander asserted that when one succumbs to the habits of downward pull, the tendencies associated therewith interfere and even antagonize the involuntary muscle activity cycles that maintain our general stature, springiness, and wellbeing. Conable adds that when working with those struggling with downward pull, once they finally return to their natural uprightness, they may be overcome with the sensation of fear that they may fall over. However, when we are able to once again experience and relinquish control of unnecessary muscular usage to these involuntary patterns, enough to allow the natural mechanics of our structure to take over and do a much better job than our voluntary muscles can, we are able to spend less effort on “holding” onto our old, inhibiting patterns of muscle overuse, and can allocate more focus on the emotional, communicative, musical elements of our performance practice.

3.2 The Right Arm

A significant point of conversation among those discussing string playing and the Body Mapping practice is the structure, function, and inherent nature of the right arm. Perhaps obvious to most, the right arm is what many string pedagogues point to as the most critical feature of an

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48 Ibid.
49 Ibid.
artist, as the right arm is the direct connection between the mind of the performer and the sonic output of their musical content. Kato Havas would describe the right thumb and arm as being directly entwined with expression, and tension that occurs at any point along the path is interference with that communication.\textsuperscript{50} When Andover Educators assess the mechanics of the right arm, they describe the concept of using the “whole arm,” which involves a kinesthetic awareness of all of the skeletal components therein: the collarbone, the shoulder blade, the upper arm bone, two lower arm bones, the wrist, and the hand.\textsuperscript{51} Commonly, performers will stop the awareness of their arms’ existence at the shoulder, but this is an incomplete map, as the arm attaches to the body at a much more centralized location, near the sternum, which allows for an incredibly wide range of movement possibilities.

Tuttle would describe the use of the right arm as remaining “heavy” and “loose” in the upper arm, and notes the importance of having the sensation of the “fat wiggle” in the arm. Some Tuttle students will describe the scapula region under the arm and in the back as feeling like “sandbags,” and that the arms respond with springiness and the impression of hanging, suspended in the air.\textsuperscript{52} The elbow is described by Tuttle as generally maintaining a smooth alignment with the loose and flexible wrist, but perhaps most notably, we can take into account that the reverse is true as well in Tuttle’s vision, as the wrist will often rise above the level of the elbow and forearm, especially when playing in the lower half of the bow.\textsuperscript{53}

3.3 The Down Bow

\textsuperscript{51} Johnson, \textit{Every Violinist}, 52.
\textsuperscript{52} Notes from Tuttle Workshop, 2019.
\textsuperscript{53} Tuttle, Unpublished Checklist.
In Tuttle coordination, she posits the idea of pushing and pulling as the generation of all bow motion.\textsuperscript{54} However, these instigating, conscious desires to initiate change in direction are not quite new to the world of pedagogy; it is in the idea of the “re-pull” that one finds a rather novel idea that calls for further exploration. Former Tuttle student Jeffrey Irvine, currently teaching at the Cleveland Institute of Music, describes this notion in full, with anatomical language to elaborate:

When you start the pull at the beginning of the down bow, you are supinating, and so then you start pronating a little bit as you get to the balance point as the weight switches over, but then she would have you supinate again, (you pull again) so you don’t get too much pressure on the first finger, and it helps you have the sense of pulling all the way through the bow...without getting tight in your thumb or your index finger as you get to the upper half of the bow. She would accompany that with another sense of release, a sense of letting shoulders sink, she would always talk about “going under.”\textsuperscript{55}

Tuttle goes on to describe the importance of maintaining fluidity in the shoulder during this action, along with a vocalized “huh,” or “un-huh,” to attach a whole-body sensation to the concept.\textsuperscript{56} When one performs one of these actions, Tuttle encourages the full bodily release of tension in the gut or belly, glutes, neck, and arms, along with a coordination of the breath, so as to generate the deepest, most “throbbing” tone possible. Tuttle talks of a “softening” or “melt” and release in the shoulder blade as it slides across the ribs and over the shoulder region.\textsuperscript{57} The elbow maintains a path along the same plane as the bow, and as the shoulder maintains its

\textsuperscript{55} Ibid.
\textsuperscript{56} Ritscher, Tuttle Interview, 89.
\textsuperscript{57} Susan Dubois, Notes from Tuttle Workshop, 2019.
freedom and space, one must make sure not to put a “holding” component into the clavicular region of the pectoral muscle, as this will ultimately limit the range of rotation in the full arm, and cause the bow to change angle to the string as it progresses across the instrument.\textsuperscript{58}

Judy Palac expands on this notion with validation from a Body Mapping perspective, as when pulling a down bow, she suggests that once one begins to feel arm transition to a tilting into the bow (pronation, the “pouring water” sensation in the arm, hand, and fingers), one can then employ the sensation of pulling again to assist in maintaining the most efficient use of the arm and back muscles, and prevent the feeling of “running out” of bow.\textsuperscript{59} Tuttle students would also describe being able to reinstate the repull action at any point in the bow, occasionally for use in multiple locations of one bow direction.\textsuperscript{60} By redistributing weight through the fingers and hand more evenly when one reaches the point of pronation in the down bow, rotating the forearm back toward the pinky slightly, in a fluid, almost imperceptible gesture, one experiences an additional sensation of relief in the manner of feeling as though they might have a great amount more extension available to them, or a “never-ending bow.”

Another supplemental contribution to this tangible relief of the re-pull is in scenarios when one begins a long, slow, singular bow action from frog to tip. If attention is given only to the pronating action in the arm, wrist, and fingers, we will inevitably reach a juncture in the down bow in which we are susceptible to transition between use of the serratus anterior muscles (involuntary, natural support mechanisms) to the deltoid and pectoralis muscles of the right arm, which may be inducing effort to simply hold the arm level, in addition to the act of pulling. This muscular involvement will wear away on the stamina of the performer, especially if they are

\textsuperscript{58} Dew, “Instinctive Responses,” 65.
\textsuperscript{59} Judy Palac, Phone Interview, March, 2019.
\textsuperscript{60} Sheila Browne, Phone Interview, March, 2019.
exhibiting any holding of the breath, and, in reality, these muscles will be elicited to work in opposition to those that are contributing to the lateral motion of the bow by adding an unnecessary vertical dimensionality to a largely horizontal motion. Another way of conceptualizing this idea is to turn attention to the ulnar region of the right arm, most closely associated with the pinky-side of the forearm, and observe its innate structural advantages.

Jennifer Johnson frequently makes note of the strength associated with this outer portion of the apparatus, as all of the vital components (arteries, tendons, and sensitive nerves) of the arm are protected in pronation by the sturdy ulna. When we look to the mechanics of those practicing the martial arts, they will tend to gravitate toward utilizing this region of the arm in defensive, reactionary blocks. Pronation toward the thumb and pointer finger will often be cited to form an essential component of upper string pedagogy, but perhaps it is worth considering the potential for strain in the thumb and muscles of the forearm, going far enough to progress up the arm and into the shoulder region and associated muscles therein, when the recognition of ulnar support slips out of the realm of one’s focus. The “re-pull,” in essence, gravitates the player toward awareness of the ulna, as in the primary instigation of the down bow, and therefore simplifies muscle employment within the arm in the effort to create resonance and tone on the instrument, with less overall work.

The act of the “repull” is, at its heart, an act of release, a connective thread by which Tuttle was able to synthesize an entire system of methodology. When considering this notion in further detail, a “release” will often be one correlating with total relaxation of any conscious exertion, which may often hold true in cases of unmitigated voluntary muscle use, but is actually adjacent to the true purpose of Tuttle’s invocation of the term; rather, she aimed to provide her

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61 Johnson and Palac, Body Mapping: The Full Course.
students with a means of reprogramming their tendencies by giving them an alternative option to their generalized tension patterns. In essence, Tuttle would say instances in which “any place in the body...is fixed or held when changing direction, one can allow motion to occur instead.”

Sheila Browne also describes the vernacular Tuttle developed as being a practice of reshaping not only her students’ methods for addressing technical issues, but also reforming the teacher’s vision as well, in that they might replace their own responses. For example, though it is correct to say that we find it more desirable to *not* squeeze the right bow thumb as we try to achieve bigger sound, we can instead respond with a positive notion (e.g. *release* the right thumb), which provides a direct and immediate positive result that the student will have a better chance of remembering and internalizing. This central idea echoes some of the main tenets of Alexander Technique and those who forward the work of Body Mapping, in which these researchers might advocate that the focus one contributes toward freeing the body from unnecessary, voluntary muscular tension, while reclassifying the actions of their lifestyle to being governed primarily by the skeletal structure and the work of involuntary, unconscious muscle support, will ultimately lead to greater ease and efficiency with any task one hopes to accomplish.

However, it may also be pertinent to mention the gravity inhibition also holds in our physio-cognitive wellbeing, in addition to seeking positive alternatives for previously counterproductive tension patterns. When we train the focus in our language to attend toward desirable outcomes in our anatomical awareness as a means of self-inquiry or for that of our students, the Alexander Technique reminds us to also bear in mind opportunities presented in

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62 Sheila Browne, Interview, 2019.
63 Ibid.
which we must say “no,” in addition to saying “yes” to new ideas. Alexander Technique teacher Missy Vineyard solidifies this notion with her concept of the “Positive ‘No’”, in which she outlines the dichotomy between the desire to correct an unnecessary tendency with a concrete directive toward a more ideal outcome, and the desire to quiet an unnecessary tendency by specifically addressing the counterproductive behavior. She explains further with a demonstrative example of releasing muscular engagement in the shoulder region:

It is vital to grasp the distinction between thinking of *doing* something (e.g., relaxing) versus thinking of *not* doing something (e.g., not tightening). As I have explained, for many people the words “no” and “not” conjure a meaning of “bad.” Their meaning may be oddly unclear. “No” may be misconstrued to imply failure. For others it implies a state of emptiness or nothingness. Sometimes it is perceived as a kind of diminishment or lessening of the self. When asked to inhibit, some people think of themselves as becoming less than before: If I stop doing something, or if I take something away, I must now be smaller. I become diminished...By inhibiting you do not become diminished. It is not nothingness, emptiness, or failure. It should not activate feelings of anxiety. If on a subconscious level these are the meanings you attach to inhibiting--to thinking of non-doing--then you will create a quality of holding back in yourself...Paradoxically, when you inhibit, the self that is you becomes more. By removing your interfering habits, the living being that is you grows larger, expands; it becomes more realized...Another misconception is that by saying no, nothing happens. But saying no does not mean “nothing.” It means there is *less* of what you do not want to have happen. As a result, normal functions that had been impeded by inappropriate tension can work again. By
inhibiting, you experience greater calm, clarity, ease, and more optimal functioning. In the Alexander Technique, we say that we cannot change until we inhibit our old behavior to allow something new to arise. I would add that we are not able to change our old behavior until we clarify the meaning of our words, especially the meaning of "no."  

3.4 The Up-Bow

While the down-bow may be categorized as one taking the least amount of exertion on the part of the upper string instrument player to execute efficiently, as the body benefits from the additive effects of gravity, when delving into the realm of upper string instruments, it is the up-bow which most teachers would identify as requiring specialized attention in order to achieve the most fluid, continuous action in the arm structure, in conjunction with a characteristic, penetrating sound. Tuttle is often cited describing the up-bow as beginning with an impulse stemming from the back. Robert Dew’s two-part article documenting Tuttle’s approach in notably specific, anatomical terms is a great resource to seek for more clarification of these ideas, and, for that reason, has been accessed multiple times for the purpose of this paper. In this passage, he provides further insight into Tuttle’s concept of the initial instigation of the up-bow:

The ‘impulse’ part means that just before actual movement of the bow begins, one feels a release in the back. Then, as the up-stroke proceeds, the scapula slides forward freely over the upper back. Seen from behind, the "winging" of the scapula, normally observed with the shoulder drawn back, disappears. The bulge of the shoulder blade flattens out and a smooth rounding of the right thorax occurs

as more of the ribs in the back are “uncovered.”

Jennifer Johnson describes “winging” as the result of a serratus anterior muscle that has atrophied as a result of misuse of muscles which extend over the shoulder region joint and top of the arm that assist in bringing the shoulder blade up and over the shoulder, and consequently causes the scapula to jut out at an angle from the back region, looking to take a pointier, triangular shape. The serratus muscles live in tandem with the ribs (attached in nine places), thereby supporting in an involuntary fashion the uprightness of the body without any work on the part of the actor. These muscles also contribute to raising one’s arms, as well as assisting in bringing the shoulder blade around the ribs, in the path that the scapula follows when it is in coordination with healthy humeroscapular rhythm (to be described later in this chapter), enabling fluid motion.

Furthermore, clarification of this idea can be found in resources documenting the structure and role of the pectoralis major in the function of the arm. The action that Dew describes in this segment of his article provides a practical realization that is reinforced with anatomy. The pectoralis major consists of two main groups of muscular threads: the clavicular component, and the sternocostal component. When we consider the contribution of these two distinct areas of the muscle, we find that the sternocostal portion serves primarily as a means of adduction, or when the arm is being brought in toward the midline of the body. When this form of engagement is occurring, the arm does not have the same lateral rotational capacities, such as when our ape ancestors would freely swing from trees with full reassurance that their arms would not detach from their bodies. When the bow arm is in motion, it is antithetical to the

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66 Ibid.
67 Jennifer Johnson, Phone Interview, March 2019.
production of sound to halt one's potential for motion by way of contraction downward and inward of the pectoralis major.

Tuttle also makes note in her unpublished checklist of central tenets of her approach that in the bow arm, the elbow leads to “let the back wing soften.” To paraphrase the diagramming outlined by Robert Dew on this idea, we find that in reaction to the easy, simple effort of the back, the humerus will in turn follow the impulse in a pattern of gentle, forward rotation, which thereby gives room for the pectoral muscle to rotate the upper portion of the arm to finish the path of trajectory. The scapula also follows suit, sliding over the ribs, and the deltoid will then respond to the lead of the elbow as it descends, as the angle of the arm moves toward the midpoint of the body, without dropping the elbow below the plane of the bow. The result of such a simple bowing action, though difficult to describe in words, is a sound that continues to permeate throughout the duration of the up-bow, with as little voluntary muscle effort as is required for execution.

3.5 Humeroscapular rhythm

When describing the bow arm and motion associated with string instruments in general, especially with relation to the arms, it is critical to diagram the resultant patterns of a healthy use of the arm, also referred to by somatics researchers as *humeroscapular rhythm*. This concept is diagrammed in Johnson's writing once again, quoted here for clarity's sake:

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69 Tuttle, Unpublished Checklist.
71 Ibid.
*Humeroscapular rhythm* is the name given to the natural tendency in upper arm movement for the humerus to lead and the scapula to follow. When humeroscapular rhythm is not denied, the shoulder blade follows sequentially behind the humerus in whichever direction it reaches.\(^72\)

The key element of focus in this passage is the notion of the arm being the leader, while the shoulder blade moves in a supportive, passive fashion around the ribs. Andover Educator Judy Palac points to the importance of recognizing that the shoulder blade *can* move at all, and that those who find tension in the pectoralis minor or pectoralis major region are often holding in the shoulder area, without realizing.\(^73\) Tuttle was narrowing in on this topic by noting that the elbow remains the "leader" in the bow arm, to help provide guidance to her students in avoiding a bow arm that was either too high or too low, but rather in line with the plane of the bow.\(^74\)

A high elbow in upper string playing is historically associated with the Russian violin school of pedagogy and Leopold Auer, while Shinichi Suzuki’s work was a reaction to this notion, as his advocacy for a low elbow in the bow arm is well documented.\(^75\) It is also interesting that William Primrose, Tuttle’s viola teacher, was also a vocal proponent for the low elbow in the bow arm for viola playing. Perhaps Tuttle was looking at these varied lines of reasoning and developed her own manner of approach; by drawing focus to the leading role of the elbow itself, players may be less likely to develop bowing action that is rigid and angular, or exhibit over-exaggerated pronation. However, it should also be mentioned here that Tuttle also would cite the importance of generating space in the back, with the impulse to move the bow.

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\(^72\) Johnson, *Every Violinist*, 95.
\(^73\) Palac, Phone Interview, 2019.
\(^74\) Dew, “Instinctive Responses,” 937.
\(^75\) Palac, Phone Interview.
stemming from an inflation and deflation of “emptiness” in the area beneath the scapula. This additional component to the sensation of bowing action can assist those who might often be limiting their scope of awareness of the arm only up to the shoulder region, without including the scapula and collarbone in that association.

According to Jennifer Johnson, the so called “rules” of good humeroscapular rhythm include the following:

1. The scapula follows humerus.
2. The scapula must move soon enough.
3. The scapula must go far enough.\(^{76}\)

Limitations or restrictions placed by the player in any one of these areas of focus can potentially lead to shoulder, nerve, or elbow injuries if tension is maintained in the generalized humeroscapular region over long periods of time. Without realizing the full extension of the arm across the midline of the body, and the muscles that retain the arm’s attachment to our body without our voluntary, active effort, a string performer will not be able to access the full capacity of artistry in their bow arm.

3.6 Two Families of Bowing

Tuttle frequently suggests in her writings and interviews that there are primarily two main families of bowing styles: the detache family, consisting of mareté, detaché, and arm and elbow-initiated spiccato; and the tremolo family, consisting of tremolo, so-called “spiccato tremolo,” and the finger-driven stroke often referred to as “collé.”\(^{77}\) In this context, Tuttle makes

\(^{76}\) Johnson and Palac, *Body Mapping: The Full Course*.

\(^{77}\) Ritscher, Tuttle Interview, 90.
mention of the central impulse for these different strokes, such as the “collé”-like stroke, which
she describes as “an impulse of down-up (straighten fingers out and let them spring back).”78 She
also notes the specific “wave bye-bye” motion required for tremolo action, as well as the
instigation of “spiccato-tremolo” (a style that falls under many names, but many may call
“sautillee stroke”) derived from the wrist, as opposed to the “balanced” spiccato that comes from
the arm. 79

The significance of these stroke definitions lies in the value Tuttle assigns the regions of
the arm she places the most focus for each stroke. For example, by drawing our attention to the
elbow for the larger, arm-instigated spiccato stroke, the ulnar side of the arm becomes a focal
point of activity as a result, and consequently, the opening of the elbow combined with the
signature sense of ‘release’ increases the likelihood of a stroke that requires the least amount of
effort. These two dimensions of realizing bowing in performance practice illustrate the direct
application of Tuttle’s concept of the quintessential form of the bow arm and its innumerable
means of employment in musical context, rather than in just the vacuum space of one “ideal”
down and up bow. By grouping bowing into these two subcategories, she associates the styles by
way of the directed energy at the instigation of the stroke and its follow through with regard to
the string, and lays a rather simple, memorable foundation upon which to build one’s technique.

78 Ibid.
79 Ibid.
4.1 Instrument position

With regard to instrument position, Tuttle would generally emphasize comfort and freedom of movement over all else. As mentioned in earlier chapters, Tuttle’s language was often oriented toward creating a gentle, communicative relationship with one’s musical apparatus, by way of allowing an internally generated desire to permeate directly through the physical body of the instrument, which leads to a consequent resonance within one’s whole being. This “resonance” refers not only to the visceral sensation of sound oscillations in one’s chest cavity and the feeling of a direct bond with the instrument, but also to a dynamic state of “harmony” within the body, as motion occurs in ideal synchronization with one’s physical design and musical intention.

Turning once again to her unpublished “coordination” checklist, she notes the idea of maintaining a “loose neck,” while, in practice, “cuddling” the instrument. Generally, according to Tuttle, one should employ the natural weight of the head to keep the instrument in balance, which is further reinforced through previously mentioned ideas of the neck release in coordination with the bow arm, with the chin rest ultimately serving as more of a “jaw rest” or “head rest” in function. She advocates for keeping the “shoulders down,” and creating a comfortable balance with the instrument, achieving a “passive upper arm” and a connecting line of energy stemming from the upper arm, to the lower arm, wrist, back of the hand, and finally, to the thumb. As mentioned in a previous chapter, Tuttle’s words are most relevant in this

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80 Tuttle, Unpublished checklist.
81 Ibid.
particular context to those who have already accumulated counterproductive tendencies, who could benefit from the idea of releasing the muscles of the shoulder region.

Interestingly, Tuttle also ties together the left hand side of the upper string player with a sensation of a “LOOSE BELLY,” which she writes in all capitals, for emphasis. Coinciding with her notion of “release,” which is discussed in the previous chapter, the “loose belly” concept should be noted for its gravity in Tuttle’s mind as irrevocably associated with the left arm and stacking of structures. Jeffrey Irvine mentions that this was a key factor of Tuttle’s work with his playing, and that when the belly is released, one is more likely to feel freer musically, as well. This could in part be due to the fact that when focus is directed to the release of the abdomen, there is an accompanying sensation in the deepening of the breath, which in turn encourages the mobility and fluidity of the entire upper body.

When looking to address the overall comfort of an upper string instrument set up, it is inevitable that one must also engage with the engineered supports that we have access to, in order to accommodate our varying structures, shapes, and sizes. In her dissertation discussing Alexander Technique principles in the context of upper string playing position and stature, Sarah Wood created a valuable resource for musicians looking to tap into some of these ideas with regard to their own instrumental hardware. “The equipment should use the skeleton as much as possible for support, and avoid touching arteries, cartilage, soft tissue and structures of the body whose purpose is to move, allowing the equipment to have minimal contact with the body.”

She goes on to describe the consideration for chin rest shape and location, stating:

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82 Ibid.
83 Irvine, Interview.
The chin rest should mirror as closely as possible a specific region on the jaw bone for contact, while allowing the head to be in a position of balance and poise, and be tall enough to fill in the space made by the vertebrae between violin and jaw...Within the range of motion, the head is balanced atop the spine but can move with freedom, and the muscles of the neck and back do not need to overwork in order to keep the head upright. But if the head bends or twists past this balance, the complex muscles of the head and neck are activated to keep the head steady. When this happens, the mobility of the rest of the body decreases. 85

Most pointedly, Wood draws attention to the importance of the instrument distributing its weight on the bony structures of the body, not muscular, fleshy regions of the upper body; a relevant theme throughout the works of somatics research and Tuttle’s conclusions echoes that motion occurs at the skeletal level, and muscles are merely guiding this action. As Tuttle herself states, “Sometimes, too much mechanical support does get in the way of mobility--you adjust students according to their physique.” 86 Striking the right balance of filling in space, while maintaining freedom for movement, is key. Enabling mobility with an awareness of one’s most stable structural features will ultimately free up the musculature to support these actions, and create more fluid activity in the entire body.

4.2 The Left Hand and Arm

Tuttle describes the action of the left hand as being directly associated with the potential for the most “throbby,” penetrating sound from the right hand. One famous line from her teaching and interviews relevant to this notion would be her idea of the player having “a love

85 Ibid., 10.
86 Ritscher, Tuttle Interview, 89.
affair with the fingerboard." In her YouTube video addressing the left hand, Carol Rodland, herself a former student of both Tuttle and of somatics teachers of the Alexander Technique and Feldenkrais Method, suggests that the pathway of vessels and tendons through the wrist should always remain inflated with a sensation of "openness" throughout the carpal tunnel, alongside a "generous" shape in the left hand and wrist; specifically, she demonstrates a similar angle in this regard to that of the teachings of Kato Havas and the proposed idea of the "giving hand," with the structure of the hand rocking backward over the bones of the wrist so as to allow the fingers to drop toward the center of the palm.

Rodland also points to the importance of familiarizing oneself with the bones at work in this structure, coining the idea that, "the thumb is the ambassador of the radius." A clever reworking of multiple pedagogical angles, this message can be interpreted through the lens of Body Mapping by recalling that the various spatial regions of the hand are supported by structures that run through the arm, specifically the bones of the forearm. When the thumb is displaced above and behind the plane of the palm, this immediately disconnects its direct relationship with the radius, and is inherently weaker, and causes potential for excess muscle employment in the thumb.

Additionally, the little finger side of the hand is supported by the ulna bone, and deviation from this alignment (when the pinky is in line with the ulna bone, through the forearm and up to the elbow, referred to as the "rest relationship") can result in strain and overuse injuries, as well as a decreased efficiency of the little finger action. If the wrist and hand are

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87 Ibid, 88.  
88 Carol Rodland, "In the Viola Studio with Carol Rodland: Some Left Hand Tips," April, 2018. https://www.youtube.com/watch?v=aAxQMGY0NOA.  
89 Ibid.  
90 Ibid.
splayed out of alignment, such as in the commonly miscalculated bow hold of an arched wrist and straightened pinky and flexed thumb, or in a left hand set up which sees the wrist skewed at an angle away from the body in supination, this effectively weakens the connection of intention from the forearm to wrist to finger to finger tip, through the arm, and will prevent the efficient transfer of attention given toward finger action.91

Permeating throughout Tuttle’s teaching, writing, and interviews on coordination is an overwhelming emphasis on the role of passion and connecting with the instrument; no less does she place significance upon the musical, phrasing sphere of her teaching, than she does within the domain of kinesthetic awareness in playing. Though we have come across this idea several times in previous chapters, it bears repeating that Tuttle was incredibly devoted to providing strategies that would promote greater comfort in students’ playing, with the central purpose of awakening their inner artist to the full. We see this message peek through once again in the left hand, where she strove to inspire her students to connect emotionally with the instrument as much as they were physically.

She goes further to explain this mantra with specific terminology, clarifying that “you have to feel tactilely into the string with your left hand pads...you must let your wrist give in and enjoy the contact with the fingerboard. That is paramount for sound.”92 To be clear, it is the fingers that are maintaining contact in this scenario, not the wrist; as Rodland notes, the “generous” wrist is one at an angle that is brought gently toward the neck of the fingerboard, either in alignment with the forearm or slightly inward, but is not thought to be “straight.”93 We may also note Tuttle’s employment of the term “left hand pads” as opposed to finger tips; once

91 Conable and Conable, Learn Alexander Technique, 57.
92 Ibid.
93 Rodland, “Left Hand Tips.”
more, we stumble upon Tuttle’s connotative fluency, as we see she chooses to imagine a larger area for contact at the finger than simply a “tip,” which may imply something a bit narrower in circumference. This concept was also a large part of Primrose’s technical framework, as his hands were particularly notable for the width of his fingertips, and he frequently advocates that unlike the violin, the viola calls for the wider employment of the “fleshy” part of the pad, especially for vibrato.⁹⁴ Reminiscent of a helicopter “landing pad,” there is something to this idea that connotes a broader use of the top segment of the digit, and, perhaps more subconsciously, denotes less necessitated “holding” in other locations of the body, out of fear of landing in the wrong place. This idea may aid in supporting Tuttle’s approach to vibrato on the viola (mentioned later in this chapter), and is also congruent with her proposal for “plopping” fingers, which, when in action, could be reinforced with the notion of a wider landing area, as opposed to a precise, concentrated point on the fingerboard.

4.3 Finger Action

Tuttle describes the motion of the left fingers springing to life from an impulse in the “base knuckles,” which Carol Rodland pointedly demonstrates as being directed from the palm of the hand in her video, “In the Viola Studio.”⁹⁵ However, there is potential for misunderstanding in this concept. A common mis-mapping occurs when one considers where the fingers and thumb truly begin in the hand, as many will associate the “knuckle” mounds on the backs of the hand with the ends of their fingers, much in the same way that some might associate the beginning of the arm as stemming from the shoulder. This knuckle-based terminology may

⁹⁴ Dalton, Playing the Viola, 35.
⁹⁵ Rodland, “In the Viola Studio.”
be assisted by referring to the numerous joints in the hand by number, with diagrams and encouragement of palpation, so that students may properly come to recognize the full range of the reach of their fingers.

Tuttle also uses the term “plop” when discussing the left hand fingers, so that there may be no resistance on the way down to the string by unnecessary tension, which is often applied by the player in the hopes of achieving greater articulation in the finger action. Former student Michelle LaCourse goes on to note how Tuttle would often refer to the reactionary element of the left hand finger action, as well, in a rebound-like fashion (as though one were “cracking an egg”). This idea targets the core notion of generalized springiness throughout the body, ensuring that nothing is stuck or stationary; once the finger plops, the vibrato is a natural reaction to the gesture, and the consequent release of the note sees the finger moving off the string in a reactionary lift pattern. Tuttle students may refer to the action as “walking fingers,” in that each finger has its own instigated path toward “plopping” and vibrato on the string, moving independently from the other fingers of the left hand frame. While other pedagogies in the upper string field will attribute ideal left hand action as functioning within a stable left hand structure and shape, Tuttle reacted to this tendency by noticing that students would often develop gripping, immobile left thumbs and taut, dry vibrato action. Her philosophy in this sense derived from similar paths to those of Andover Educators and proponents of the Alexander Technique, insofar as when muscular effort is “held” in the body, there is potential for tension and restriction of motion to occur. When one develops too fervent a focus on developing a specific “hand frame,” there can be mistaken voluntary muscle involvement in the thumb, even progressing up the arm

96 Michelle LaCourse, Notes from Karen Tuttle Workshop, 2019.
and into the shoulder region, and this acts in direct antagonization of a free musculoskeletal structure that is able to move in all ranges of possibility.

4.4 Shifting and Vibrato

Applying these ideas in more complex left hand techniques of upper string playing, Tuttle takes the simplicity of her outlined approach to finger action into a broader context. A well-recognized idea in string teaching is the notion that shifting and vibrato both derive from the same technical roots, as each draws from the idea of finger and wrist flexibility, and motion up and down the string. She diagrams two types of shifts, the first being the “Expressive Shift.” Expressive shifts in the left hand cover distances of more than a step, and call for incorporation of larger structures of the hand, wrist, and arm, in order to make them fluid. Tuttle speaks on this idea with attention to the sensation of the action: “This is a release of the left wrist and the base knuckles come up to meet the fingerboard before the shift; that allows you to shift before you shift. Then the fingers assume a normal curve before the arrival note. The longer the shift, the more the movement becomes like an inch-worm. So you’re always in touch with wood. You don’t feel positions, but just tactile touching.”97

Tuttle here is depicting the shift as a fluid motion, stemming through the wrist, base knuckles, and then the finger joints at the digit; the base knuckles “meeting the fingerboard,” then, are notable in that the hand does not remain in a rigid, fixed position through the shift, but rather, there is an elicited follow-through, which Tuttle points out as taking place through the center of the hand. We may note in this description that Tuttle is diagramming what players experience when they reach a certain level of inclusive awareness so as to enjoy the process of

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97 Ritscher , Tuttle Interview, 90.
their technical pursuits. One can also extrapolate the notion of “rebalancing,” touched upon by Tuttle’s students, such as in the case Carol Rodland’s accessing of ulnar support in the left hand, which she accomplishes through transferring the weighty portion of the hand to the little finger side, and bringing the elbow around slightly to meet it. Further by Rodland, she conceptualizes this action in the manner of a cellist’s left hand technique, in which players will transfer the weight toward the little-finger portion of the hand, so as to optimize the placement of the ultimate note of the shift. Additionally, we recognize here the return of the “release,” (an emergent theme in all of Tuttle’s focus areas), in which the wrist and forearm are simplified in concept to their skeletal components (rather than muscular) and are free to move.

The second type of shift Tuttle mentions is the “Scalar shift,” which would refer to those shifts that do not require extensive translation of the hand up or down the fingerboard, but are accomplished through a more subtle rebalancing of the hand. She describes these shifts as “...just displacement of the fingers. For downshifts you come back into the palm of the hand.” Again, we may recognize that Tuttle avoids mention of maintaining a consistent “hand frame” through the shift, a notion which, although beneficial in some ways for students who are working toward greater consistency, is inherently prone to conveying a sense of “holding” of that frame, which may manifest in tension in the left thumb or other connected areas of the arm. At the idea of returning “back in to the palm of the hand,” we can reason that Tuttle may have hoped to avoid an over-extended, backwardly-skewed wrist in this process, as students may often choose accomplish downshifts in the left hand by squeezing the finger into the string, due to a mis-mapping of the weight distribution of the hand as they move back toward the scroll end of the

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98 Rodland, “Left Hand Tips.”
99 Ibid.
100 Tuttle, Ritscher Interview, 90.
fingerboard. By placing attention on the fingers as remaining balanced over the center of the hand (base knuckles), there is greater likelihood that students will return to this neutral state of a gentle curve in the wrist.

Often taught in tandem in the field of string pedagogy, the techniques of both shifting and vibrato both require a familiarity with looseness and flexibility in the left hand, wrist, and fingers. These two related techniques can potentially be the most objectively detectable symptoms of tension in one’s playing, a tendency which may result in uneven, stiff shifting and vibrato action reflected in one’s sound. Tuttle chooses lush language to articulate her particular affinity for vibrato practice: “The vibrato is a delicious sensation--getting the fat focused just right. Each finger has its own weight and balance...I feel the two middle knuckles of both hands--it’s a wonderful connection. If you feel the pull in the bow and if you coordinate with a repull, then your vibrato responds as well.”101 Here, she denotes both a practical, anatomical basis for vibrato action, as well as a connotative affect which some may find compelling on another level. Once again, we see a correlation between the employment of both the left and right hands (foundational to Tuttle’s coordination, in general), alongside the idea that the fingers each have their own trajectory and relationship with the hand, string, and musical context.

101 Ibid, 88.
Chapter 5
Inclusive Awareness

5.1 Broadening Scope

It is undeniable that one may find overarching consistencies between ideas of Andover Educators and proponents of Tuttle’s coordination pertaining to an increased attention to the underlying, objective realities of our bodies. Ultimately, the longer we ignore our discomfort, we increase the risk of experiencing injury and debilitation. As we continue to pass through these varying areas of potential exploration in the body, the reader is encouraged to consider the fact that these are only components of the fully immersed, cohesive product, attainable through additional mental engagement and training. In essence, Tuttle, the Alexander Technique, and Body Mapping each propose a method by which one may learn to direct attention to these details; a significant level of discrimination in these domains requires work and focus, but we must attend to it if we wish to truly assess the results of our efforts, with the same ease and gentleness that we expect to receive out of our self-training in musicianship.

Jennifer Johnson makes reference to this idea by citing the dichotomy between “concentration” and “focus.” Using the common anecdote of a student who is instructed to “concentrate” on a particular aspect of their technique, she accentuates the irony of applying one’s attention too acutely:

Contemplate young violin students who have been asked to ‘concentrate’ on their vibrato and have found that the more they concentrate, the stiffer and uglier the vibrato becomes...Concentration is one of the worst things a student can be asked to do because concentration narrows attention. When attention narrows, so does the body: furrowed

102 Johnson, Every Violinist, 13.
eyebrows, needlessly tensed muscles, and mental strain are inevitable products of concentration.¹⁰³

In this passage, Johnson uses the connotative weight of each term to discern exactly how one may address the slim edge between a healthy amount of attentiveness and tendencies that may lay the groundwork for potentially debilitating self-criticism. "Focus," according to Johnson, is to us as a lens is to a camera, in that the idea is not to limit the scope of the image, but rather to highlight a particular element of the frame.¹⁰⁴ The idea is that with a sophisticated level of inclusive awareness, one is able to assess, sort, and manage the information flooding the mind at any given point in a performance, without allowing any of these bits of data overwhelm the mainframe. Additionally, Palac and Johnson elaborate on this idea with clarification of the distinction between attentiveness and "scanning," in which one elicits rapid, sequential moments of concentration.¹⁰⁵ The dangers that arise with these varieties of "concentration" lie in one's propensity for developing performance anxiety, musical disconnect from one's surroundings in an ensemble or solo setting, and limitations upon one's ability to self-diagnose and self-assess in an objective fashion.

Additionally, Missy Vineyard points out the necessity of clarifying the various functional states of the mind, and its consequent implications for our ability to attend to these structural adjustments in our bodies. She stakes a claim in the idea that one cannot simply rely on the pure physical sensation for internal assessment:

Your brain is like a two-way radio. It has two channels, not one...Your brain/radio can receive signals (inputs) and it can send signals (outputs). It receives inputs from all your

¹⁰³ Ibid, 13.
¹⁰⁴ Ibid.
¹⁰⁵ Johnson and Palac, Body Mapping: The Full Course, Notes.
sensory organs, as well as from sensory receptors throughout your body. These sensory receptors transform types of stimuli--such as pressure--into nerve impulses that travel along sensory nerves, sending information to your brain. Your brain then processes this incoming data, *interpreting what these inputs mean*. Then in response, your brain sends commands...When you are **thinking**, you are sending out an instruction to make something happen in yourself. This may be an overt action such as standing up, or it may involve small changes of which you have no conscious awareness...Feeling is a reporting in. Thinking is a command for action...you need to be able to shift your mind's attention from what is coming in (feeling) to what is going out (thinking). For example, putting your attention on feeling your muscles tightening is not the same thing as thinking that you want your muscles to stop tightening.\(^{106}\)

It is worth noting that another fundamental contribution of those working in the Alexander Technique, Body Mapping, and Tuttle's coordination, if perhaps not stated overtly, is that language is a very powerful tool in the realm of teaching. When precision of language is lost, or becomes slightly fuzzy out of lack of perspectives to approach a particular idea from, the potential arises for the vacuum of doubt to take hold in the teacher, and consequently, students (or our own minds) may fill in the resultant void with assumptions and misunderstanding. Each of the teachers and researchers I have interviewed have presented their ideas with the utmost care for exact phrasing, so as to represent meaning as fully and comprehensively as they are able. This principle appears inseparable from the work of F.M. Alexander, Barbara Conable, and Karen Tuttle, and ripples through their documented writings, interviews, and testimonials from students as a consistent factor in their philosophies. Though there may arise drawbacks with

regard to individual discrepancies in perspective and interpretation, the value of such an effort as to create greater objectivity within the realm of somatics and physicality of musicianship is to be lauded.

5.2 Primary Control and Constructive Conscious Control

Unique within the field of somatics is the Alexander Technique idea of integrating a well-developed sense of both “primary control” and “constructive conscious control,” so as to fully unify our cognitive functioning with our body mechanics. To clarify, “primary control” as a concept has been somewhat contested within the Alexander Technique community with regard to its authenticity to F.M. Alexander’s original teaching, but for concision, we may look to the definition proposed by Hilary King, an Alexander Technique teacher in London. She describes it as “the way in which our Head Neck Back relationship is a primary influence and dynamic organiser, for the coordination of our whole body mechanism and all our movements...This subtle control is only possible when we do not interfere by tightening our neck muscles, but allow the head to balance freely on the atlanto-occipital joint at the top of the spine.”107

Furthermore, Barbara Conable’s employment of the term illustrates the re-synchronization of a person’s ability to “voluntarily, 100 percent on-purpose cooperate with that intrinsic, vital support.”108 “Primary control,” therefore, can be regarded as a central, structural foundation for the practice of the Alexander Technique, as the individual gradually gains the self-awareness and kinesthetic sense of what is occurring in the body in relation to primary control, and address it with a supplemental component of “constructive conscious control.”

108 Conable and Conable, Learn Alexander Technique, 9.
According to F.M. Alexander, this term references the manner in which our desire to use our bodies is "directed and controlled by reasoning processes which have been primarily employed in connection with the use of (our) psycho-physical organism." To elaborate, one may look to King's language once again, as we gradually adapt our conscious system of diagnosis in the body context to address habitual tendencies that are dependent on false preconceptions of the structure of our musculoskeletal system. The key here is to note the function of the conscious self in this process, and the subtle attentiveness required to properly recognize the manner in which both of these related awareness areas can be helpful to our whole being. We may also look to Conable's assessment of the overall basis for the Alexander Technique, which she articulates in just one sentence: "The purpose of the Alexander Technique is to learn to take optimal advantage of the bony structure (mechanical advantage, in Alexander's words) and of involuntary muscular support for voluntary movement." Through the ideal balance of both primary control and constructive conscious control, supported with the knowledge of how our bodies are structured and best maintained, we can hope to augment the quality of our lifestyle and craft.

5.3 Incorporating the whole self

Turning attention further to the role of the mind in synthesizing these elements, Alexander Technique teacher Pedro de Alcantara describes the cultural fallacy of "end-gaining," a phenomenon which one would not need to spend much time looking for evidence among the

music performance community.\textsuperscript{112} We can detect “end-gaining” in ourselves when we accept any variety of means in an attempt to reach a desired outcome with apparently increased efficiency and effectiveness, perhaps with detrimental consequences.\textsuperscript{113} This is often seen in musicians who are highly self-motivated and fueled with the drive toward a career of competing for positions in an incredibly sparse job market, who may also misplace their focus in the process. De Alcantara notes that when we strive for an ultimate “win” result, we may lose sight of the fact that we are working against ourselves in employing a misuse of ourselves and our bodies.\textsuperscript{114}

For example, one is “end-gaining” when they are working toward an audition for an orchestral job, sense a particular unfamiliar pain or sensation in the body, and choose to “work through it,” in the hope that the payoff of attaining the job will outweigh any negative side-effects of an injury. However, as the reader is surely aware by reading this paper, injuries that go unnoticed or undiagnosed can eventually lead to the complete derailing of a career, no matter how established or prestigious a position one achieves. This is an inherently counterproductive scenario, which certainly appears obvious to the average eye, but when it comes to our own experiences, one cannot doubt the temptation to undermine current discomfort for the eventual achievement we hope to gain, especially in the world of music.

Therefore, it is crucial to recognize the dangers of such practices in the context of longevity and depth of a career in music; we are called to action by those in somatics research and the pedagogical field to reclaim our understanding of the whole being in the present. Karen Tuttle found a unique avenue to this end by way of coordination, but she also drew attention to

\textsuperscript{113} Ibid.
\textsuperscript{114} Ibid.
the importance of being in complete synchronization with one’s emotional being, as well. She
frequently referenced one of her main musical influences, in addition to William Primrose, was
the cellist Pablo Casals, from whom she developed her sense of musical ‘character.’ She
states, “I felt that he was Truth...and people like that I accepted wholeheartedly.” According to
Carol Rodland, Tuttle found this “Truth” manifest in those who hold to light principles of
honesty, integrity, freedom, highest standards, and, pointedly, communication as an artist
“without holding anything back.” These elements were key to both her concept of
performance practice and teaching, and served to define her propulsion as a teacher in the
deepest lines of inquiry and inspiration with her students.

5.4 Cognitive and Emotional elements

Inspired by her work while studying under Pablo Casals, Tuttle compiled her
characteristic “List of Emotions,” which she used regularly in her teaching to help students
determine concrete, particularly human responses to the music they were studying. She deeply
admired Casal’s capacity for expression, conveyed through his concise words and facial
expressions, as she believed “he was a huge influence on many people’s lives because he
verbalized what a lot of people felt but were afraid to say.” The five categories, as Tuttle
further cements through various interviews and testimony from students, would be deemed as
“Love,” “Joy,” “Anger,” “Fear,” and “Sorrow,” with an extensive list of imaginative
subcategories within each heading, such as “stormy,” “peevish,” or “grim,” for “Anger,” and

115 Hanani, “Intuitive Path,” 2.
116 Ibid.
117 Carol Rodland, Interview, 2019.
118 Tuttle, Ritscher Interview, 87.
“noble,” “calm,” and tender,” under the emotion category of “Love.” The reader might note that some of these words, such as “peevish” or “grim,” may not necessarily come into one’s mind at immediate recall, which is a bit curious to take in from an initial glance. Additionally, some particular words do not appear to be a direct correlation at all, such as “evil” or “Ophelia” under the “Fear” heading. However, the reader may also recall Tuttle’s propensity for connotative and associative meaning in her employment of language; not only is Tuttle classifying words merely by the visceral sensation of one’s experience of those emotions, but she projects the idea that we, as humans, also confront emotions adjacent, provided that we are in communicative relationships with others.

For example, the word “evil” under the “Fear” emotion has many associated meanings for English speakers. One can initially reflect on the notion of mythic or fictional “evil,” the kind in fairy tales, novels, movies, operas, a sort of symbolic entity rendered as a conduit of some larger fatal flaw of humankind (one that we can identify straight away). Or, one can ruminate on the sort of “evil” that permeates characters and subjects with fractured, sinisterly brilliant logic, those who perhaps are not “pure evil,” but may be powerful and conniving enough to commit great harm and calamity. These two varieties of “evil” serve our imaginations by way of an extreme representation, a “cautionary tale” for our society to learn from. However, there is “evil” readily at hand in our own realities, which we all come to face in our own way, and at our own will. No matter which direction one follows down the connotative trail for the term, it is far from unlikely that we all imagine a similar response, whether it is a character with whom we empathize or our own personal confrontation: fear. Tuttle was incredibly thoughtful in her ability to recognize this in human nature, and especially in the case of musicians, whose very job is

arguably tied up in emotional content, ranging from those of our own perspectives, to the perspectives of those with whom we work, to the undeniably entwined documentation of human experience dispersed throughout the content of our medium of repertory. She presented these affects as a way forward for students and performers alike to experience the music in a personal way, however that may best reach them; the only indispensable component was the notion that it was to be entirely personal for each individual. Though perhaps not an exhaustive list, those who encounter it may be surprised by the depth and scope accomplished by Tuttle in a succinct half-page of text to address such a crucial, often indescribable aspect of music making.
Through observation of the closely related, oftentimes converging ideas of Tuttle and the work of Andover Educators and the Alexander Technique, one may come to find that it is also important to distinguish both perspectives, so as to avoid confusion. Though she encouraged many of her students to explore various forms of research on the human anatomy to augment their perspectives on playing, performing, and teaching, Tuttle’s work was primarily oriented to training the whole self in expectation of refining artistry in performance. She developed an intuitive, brilliant vocabulary for the ideas she aimed to address in her approach, and firmly adhered to these tenets, despite subtle shifts due to time and growing wisdom. Her consistency over the course of several generations of students reveals that she was truly a self-innovator, one who was, at her core, a devoted and generous teacher for the entirety of her career.

After discussing several points of focus in Tuttle’s model of Coordination, the reader may begin to detect an emergent theme of dualism, which takes hold in many topics of note. Though a bit of an extrapolation from adjacent impressions of Tuttle’s approach, we may acknowledge the clear alternatives she presents for those who are facing limitations in their string playing. The nature of these suggestions often reflects a sense of both internal and external balance of the mind and body, and within the context of one’s musicianship. Take for instance the organization of “two families” of bowing styles, two types of shifts in the left hand, even something as simple as her acknowledgement of the two bowing actions (“pull” and “push”); attention in Tuttle coordination is consequently drawn to the balance and symmetry of the approach, at various
levels of processing. This is important to acknowledge in the sense that those who seek to understand and internalize Tuttle’s ideas must also seek an aggregate assimilation of both sides of the body along with an awareness of the multidimensional layering of the systems in the body, working in tandem to accomplish any given task. Any movement or desire in the body involves the whole body in some way, whether that is through a “release” and allowance for that action to occur, or through supporting the action in the simplest, least active manner. And Tuttle’s insightful teaching, realized in her thoughtful, intentional use of language, can be made accessible to more audiences as time goes on through further discussion of her approach in terms of generally-recognizable terms and concepts, such as those found in the Alexander Technique.

In essence, one may choose to explore further the implications and effects of the various ideas enclosed in this document, both for themselves, their students, and others who may benefit from this knowledge. Ultimately, there can be no denying that the most artful performances on string instruments, along with all families of instruments, the voice, and other performing arts, are inextricably linked with a solid grasp of kinesthetic awareness, and could potentially be further reinforced with knowledge pertaining to the practical and anatomical concepts that may serve to benefit a comprehensive understanding of how to play healthily, at our highest standard of musicianship. One may make mention that there are many performers who deviate from the path for which the human body is naturally built, and still often play quite effectively and with great artistry. While this can no doubt be true, one cannot deny the benefits of becoming well-versed in the topics discussed, even if he or she does not choose to fully immerse in these particular approaches; as current research literature in the field reflects string players are significantly at risk of encountering injury at least once in our lifetime, and as such, it can only
be useful to have this knowledge at hand for when we need it most for ourselves and our students, or in preventing injury entirely. Each of us are met with unique bodies, tension patterns, and movement tendencies, which makes the art of performance all the more fascinating to study in both personal and educational platforms. As we continue to further our artistic identities as musicians, it seems only natural that we become familiar with the distinct variants of the human form, so as to assist in fueling the most efficient cohesion of musical intention with physical output.

6.2 Call for Further Research

This document by no means encompasses the innumerable angles one may take with regard to this topic, which deserves supplemental research that may be able to provide much keener insight into Tuttle Coordination and somatics areas. In particular, the field of pedagogy may benefit from continued investigation into the topic of somatics research, perhaps exploring comparable themes present in the work of Feldenkrais, Pilates, or other body-oriented approaches with those of Karen Tuttle and other notable string pedagogues. Each area of insight in this paper could also afford to be redefined in greater depth, as there are surely indefinite lengths to which one may find additional layers of subtlety to uncover. Perhaps it is also worth venturing into comparison between the experiences of Tuttle’s students of various generations, as there is a perceptible evolution of Tuttle’s pedagogy as she developed over the course of her career, and consequently, as her students did in their careers. Throughout this paper, I have outlined some of the ideas of Andover Educators and Alexander Technique teachers with regard to healthy upper string instrument playing, while analyzing a potential realization of these ideas.

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120 Kochem and Silva, “Playing-related Disorders,” 54-549.
via Tuttle’s approach. If one wishes to take upper string pedagogy with this cognizance, then an arguably effective manner of doing so can be found through adjusting one’s teaching language to include composite features of the body’s anatomy and the work of Karen Tuttle and her former students.
Appendix A
Karen Tuttle’s Checklist of Coordination

1. Plant feet so that knees can spring
2. Lose neck - cuddle instrument
3. Shoulders down
4. Heavy, lose upper right arm
5. Elbow - level with wrist
6. Lead up bow with elbow to let back wing open
7. Loose - flexible wrist
8. General jazzy feeling in body
9. Feel inner pulse in whole body

**LEFT SIDE**

1. Balance instrument
2. Passive upper arm, lower arm, wrist, back & hand - thumb
3. Feel finger action from base joint. Vibrato impulse. Release finger down. Each finger has own weight
4. Loose belly
### Karen Tuttle’s List of Emotions

<table>
<thead>
<tr>
<th>LOVE</th>
<th>JOY</th>
<th>ANGER</th>
<th>FEAR</th>
<th>SORROW</th>
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References


Irvine, Jeffrey. Phone Interview. February, 2019.


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Packet of Assembled Writings of and regarding Karen Tuttle, received at the Karen Tuttle Viola Workshop, January, 2019.
