The Conscious Guitarist: Alexander Technique and Body Mapping for Guitarists

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T H E C O N S C I O U S GUITARIST: ALEXANDER TECHNIQUE AND BODY MAPPING FOR GUITARISTS

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As a trainee in Body Mapping, I would like to acknowledge the Andover Educators’ (AE) training sources used in this dissertation. These are the AE training manuals (based on the book and related course: What Every Musician Needs to Know About the Body by Barbara Conable); and William Conable’s images (anatomical charts) from the same book—available to trainees and licensed Andover Educators only. In addition, I would like to underline Jenifer Johnson’s applied version of the same book: What Every Violinist Needs to Know About the Body—for providing me with an in-depth, instrument-applied version of the course. I am also grateful to David Gorman, for granting special permission to use the “Vertebral Column” image from his book, The Body Moveable.

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ABSTRACT

Musicians “move” for a living, yet many guitarists (among other instrumentalists) seem to be unaware of the quality of their movements in playing and teaching the instrument. This may simply be due to the lack of appropriate movement training and body awareness incorporated into current teaching practices, which leaves guitarists vulnerable to playing-related injuries, pain, and frustrating technical limitations. The purpose of this dissertation is to introduce somatic education into guitar pedagogy and performance, as a means of enhancing performing abilities and preventing injury.

After introducing the basis and principles of Alexander Technique and Body Mapping, the author provides practical information about anatomy, followed by an exploration of movement necessary for the process of discovering and changing the faulty body maps/perceptions. As a trainee in Body Mapping, the author is permitted to use training materials, including the course information and anatomical images, developed by Andover Educators®.
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CHAPTER 1

INTRODUCTION

IMPORTANCE OF SOMATIC EDUCATION

Beginning with Descartes (1596-1650), Western cultures have viewed the mind and the body as two separate entities. Descartes argued that a body is an object, like other objects in the physical world, and therefore is subject to the same causal laws.\(^1\) The mind, on the other hand, is immaterial and thus operates according to different, abstract principles.\(^2\) Descartes’ ideas of dualism have been deeply ingrained in modern society’s way of thinking. Whether we have a physical or a mental condition, we treat it separately by visiting either a doctor or a psychologist. But what do we do when a problem is of a psycho-somatic nature and we realize that pain medications serve only to treat the symptoms but not the cause of the problem or the affliction?

On the other hand, eastern philosophies such as Buddhism and Taoism have adopted a holistic conceptualization of an individual and his/her environment. Examples of this approach can be seen in the traditional Chinese medicine paradigm where health and well-being of an individual depends on a maintenance of a harmony between the “internal integrated whole of the person and the external environment.”\(^3\) The patients

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\(^2\) Kielhofner, 71.

\(^3\) Yang, as cited in Jackson & Segal, *Social Work Health and Mental Health*, 262.
are diagnosed according to patterns or groups of symptoms, where every pattern has an implied state of mind and emotions.⁴

Recently, western medicine has begun to integrate the mind and the body. The new science of psychoneuroimmunology studies how stressors, and the negative emotions they generate, are translated into physical changes.⁵ This approach to healing uses the power of thoughts and emotions to positively influence physical health.

The concepts of “psycho-physical unity” and “constructive, conscious control,” along with the information on how our body is designed in order to move, will be explored through two interrelated somatic disciplines: Alexander Technique and Body Mapping. By learning to utilize the mind-body connection in playing and by developing sensitivity towards change, guitarists will take control over their own well-being, which is necessary for reaching their full playing potential.

1.1 The Field of Somatics

The term somatics derives from the Greek “the study of the body,” and generally refers to any practical study of how the body operates in movement. This relatively new field of study originated about one hundred years ago when several of the pioneers in this field made personal discoveries that gradually led to the development of the first somatic

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methods. The most prominent pioneers are F.M. Alexander, Moshe Feldenkrais, Rudolph Laban, Irmgard Bartinieff, Joseph Pilates, Alexander Lowen, and Mabel Todd.\(^6\)

Among the older, more influential somatic disciplines is the Alexander Technique. Dr. Frank Pierce Jones, a former director of the Tufts University Institute for the Psychological research, describes the technique as “a means for changing stereotyped response patterns,” and “a method for expanding consciousness.”\(^7\) Barbara Conable defines it as a simple and practical method for improving ease and freedom of movement, balance, support, flexibility and coordination.\(^8\)

Body Mapping is a more recent method of somatic education. It was developed in the 1970’s in the teaching studio of cellist William Conable, and then further developed by Barbara Conable.\(^9\) In Body Mapping, one examines the perceptions (maps) about one’s own body and its movement, and compares it with accurate information presented by teachers, books, kinesthetic experience, etc. In this process, one learns to recognize the source of inadequate and pernicious movement and replace it with more efficient movement based on the reality about one’s structure, function and size.\(^10\)

William and Barbara Conable are trained Alexander Technique teachers and they consider their method to be an enhancement of Alexander’s teachings, without a need to be trained in both. Body Mapping training is based on the book and related course, *What Every Musician Needs to Know About the Body: The Practical Application of Body Mapping to Making Music* (Chicago: GIA Publications, 1998), 5.


\(^9\) In the “Info Section” of *What Every Musician Needs to Know About the Body*, Barbara uses the word “discovery” of Body Mapping, when crediting William for it.

\(^10\) Ibid., “Info Section.”
Every Musician Needs to Know About the Body, written by Barbara Conable. This course is taught by Andover Educators, “a network of teachers whose mission is to train musicians and music educators to accurately support and enhance movement in practice and performance with the goal of increasing ease while reducing and eliminating injury.”

Even though both of these educational methods will be examined in this dissertation, more emphasis will be given to Body Mapping because it provides a more practical means of learning. Barbara Conable outlines the main reasons for integrating Body Mapping (BM) with the Alexander Technique (AT) (as opposed to teaching the Alexander Technique alone):

1. Body Mapping speeds up the learning because most of the tension is the result of the faulty body maps.
2. BM clarifies the goal of learning/lessons using AT principles.
3. BM provides a cognitive aspect to learning.
4. BM reduces dependence on the teacher because students can do the mapping between classes or private lessons, or on their own through self-inquires. [Italics mine].
5. BM reduces the need for hands-on work. Palpation (self-examination by touch) can be used instead.12

In addition to these, Body Mapping is designed specifically to deal with movement issues of performing musicians.

11 Andover Educators: Teaching the Art of Movement in Music, www.bodymap.org
1.2 The Need for Study

Multiple surveys have revealed that many musicians are suffering, or at some point have suffered, from pain, technical limitations, and injuries. The largest study conducted (by Fishbein and Middlestadt, 1986) on the 48 affiliate orchestras at the International Conference of Symphony and Opera Musicians revealed:

- 85% musicians had playing-related medical problems
- 76% of them reported that their ability to perform was adversely affected by the medical problem
- 40% musicians play in pain and require medication, and
- 10% musicians out of work due to playing related injuries\(^\text{13}\)

Another study reported by The New York Times revealed that 40 percent of conservatory students experienced injuries that forced them to stop playing for a time or even to end their careers. The studies furthermore showed that guitarists and pianists are among the most frequently injured.\(^\text{14}\)

The reasons behind such a high percentage of injured musicians can be found in the lack of appropriate movement training and body awareness in pedagogy and performance. Because most musicians and teachers pay little attention to the quality of their movement in playing, there is a need for somatic education to enhance the


development of performance abilities and to prevent injuries.

The sources for studying somatic disciplines are limited, especially in the realm of applying these disciplines to a specific instrument. Guitar methods in particular lack a substantial and detailed approach to this topic. As a result, teaching advice is frequently based on personal experiences and perceptions teachers believe to be true about the body and its movement. These perceptions may not be true. These misperceptions—sometimes based on cultural myths about our body—can lead to vague instruction or directives that can be misleading to a guitar student. This is why the directives such as “bring your shoulders down,” “sit straight,” or “relax” need to be replaced with a more accurate information on how our body is designed to move.

All of these reasons point to a need for a new approach to teaching: an approach that will incorporate somatic disciplines into current teaching practices and help guitarists reach their full potential. The purpose of this study is therefore to examine the Alexander Technique and Body Mapping—two interrelated somatic disciplines—and apply them to the field of guitar playing.

As a trainee in Body Mapping, my goal is to promote body awareness and to educate guitarists to understand their physical movements better, how these affect their artistic interpretations, and how to practice in the most efficient way possible. My hope is that this approach will prevent the likelihood of repetitive strain injuries, and help guitarists move towards more effortless and artistic performances.
1.3 Methodology and Procedures

Alexander Technique and Body Mapping are methods of promoting higher self-awareness based on a process of change and self-discovery. Application of these same procedures and principles will lead to the development of a “conscious guitarist” and his/her artistry. More attention will be given to the application and studying of Body Mapping, as a more practical means of correcting faulty body perceptions (i.e., body maps).

By studying and incorporating these methods into playing, a conscious guitarist will minimize physical and emotional stress in playing, prevent repetitive strain injuries, develop a higher level of self-consciousness in both practicing and teaching, and ultimately unlock the artistry in performing.

As self-awareness is a process itself, the chapters in this study will gradually lead guitarists through this process of change and self-discovery. After becoming acquainted with F. M. Alexander’s discoveries and his technique, a conscious guitarist will be taken on an “unknown journey” of self-exploration through Alexander Technique concepts, ideas, and principles. The journey will continue with the introduction and practical application of Body Mapping. The chapters on “The Whole Body Balance in Guitar Playing,” and “What You Need to Know About the Arms and Hands” will provide anatomical information necessary for comparison, exploration and correction of the conscious guitarist’s own body maps, and the consequent movement in playing. The following chapter will reconsider the fundamentals of sitting and approaching an instrument; and the final chapter will summarize the main points of “The Self-Accomplished Conscious Guitarist.”
It should be mentioned that studying and understanding the anatomy alone does not automatically lead towards healthy movement. The correction of movement happens in part through kinesthesia—the sensory perception in the muscles and tissues. The conscious guitarist should therefore follow the guidelines for movement exploration along with the anatomy application.

The self-learning tools used in the Body Mapping process include self-inquiries (examining the truth about one’s body map and comparing it with the information presented in the text), palpation (self-examination by touch) and visual aids (anatomical charts).

Most mis-mappings (faulty body perceptions) presented in this document are common among all musicians. My intention is to educate guitarists about these mis-maps and point out to those most commonly seen among guitarists.

1.4 Literature Review

F.M. Alexander’s discoveries and ideas were considered revolutionary for the Western world in the last decade of the nineteenth century. His first book, entitled *Man’s Supreme Inheritance*, was published in 1910.¹⁵ In this book, he describes man’s development passing from subconscious to conscious control of a mind and body. In 1923 he wrote his second book, *Constructive Conscious Control of the Individual*.¹⁶ The book influenced the philosopher John Dewey, who established one of the first Alexander Technique studios. Alexander described the process of his technique in *The Use of the


Self in 1932.\textsuperscript{17} His final book, \textit{The Universal Constant in Learning} from 1941, focused on the harmful effects of “physical culture,” for which he developed a system of exercises that embraced the mind-body unity.\textsuperscript{18} This influenced some of his supporters to base some of their physical education on Alexander’s ideas.\textsuperscript{19}

Numerous sources on the Alexander Technique are available. Online sources such as “The Complete Guide to the Alexander Technique,” “The American Society on Alexander Technique,” and “Alexander Technique International” offer comprehensive information on this subject. These websites include lists of conducted studies, the available literature, the articles published on these websites, and lists with links to many other available sources.

While much has been written about the Alexander Technique, its application to guitar pedagogy is limited. \textit{Mastering Guitar Technique: Process and Essence} (1997) by Christopher Berg is perhaps the only guitar method book containing devoted research on movement training.\textsuperscript{20} Drawing upon methods of Feldenkrais and Alexander, along with anatomy sources, Berg explores the concepts and principles of movement in guitar playing. His introductory sections on “Our Primary Instrument” and “The Use of the Self,” make this guitar method among the first sources resembling Alexander’s principles of good use.


\textsuperscript{19} Gelb, 17-19.

In his most recent book, *Summa Kitharologica, Vol 1: The Physiology of Guitar Playing* (2013), Ricardo Iznaola studies an in-depth-anatomy and physiology and applies it to guitar playing.\(^{21}\) Although this is one of the most in-depth sources available on this topic, this book does not use any of the methods of movement training, such as the Alexander Technique, Body Mapping, Feldenkrais, etc. In addition to that, the amount of anatomy information provided might be overwhelming even for a serious guitar student, and may not be easily applicable unless combined with appropriate movement training.

Ethan Kind, a certified Alexander Technique teacher who holds a Masters degree in Guitar Performance, has published “The Alexander Technique Approach to Classical Guitar Technique” in the *Soundboard*.\(^{22}\) Other than these sources, no extensive study of Alexander Technique has been devoted to guitar playing. No thesis or dissertation has been written on this subject.

Body Mapping, as a more recent method, has even fewer sources. The book, *What Every Musician Needs to Know About The Body*, published in 1998, has since been applied to other instruments. At present a version of *What Every Musician Needs to Know About The Body* has been written for pianists, flutists, violinists, trombonists and oboe players. The unpublished book, *What Every Guitarist Needs to Know About the Body*, by Gerald Harscher, has been in progress for several years. Mr. Harscher is currently the only guitarist certified as an Andover Educator in the US. In his article, “Body Mapping for Better Playing,” Harsher introduces the Body Mapping principles to

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\(^{22}\) Ethan Kind, “The Alexander Technique Approach to Classical Guitar Technique,” *Soundboard* vol.34, no.4.
a general music audience. His most recent article, “Whole Arms, Healthy Hands,” published in the *Soundboard*, is the single source currently available on practical application of Body Mapping to guitar playing.

Other Body Mapping publications are listed on the Andover Educator’s (AE) website. Drawing upon the sources of AE training manuals and instrument-applied versions of *What Every Musician Needs to Know About the Body*, this doctoral document will be the first extensive source written on Body Mapping for guitarists.

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25 See footnote 9.
CHAPTER 2
ALEXANDER TECHNIQUE

Frederick Matthias Alexander (1869-1955) was born in Tasmania, Australia. While establishing his career in his early twenties as a Shakespearean actor, he suffered from chronic hoarseness, which resulted in losing his voice. After consulting voice teachers and doctors, who advised him to rest, he found that the symptoms of the hoarseness would appear as soon as he would begin to recite again. Alexander decided to look for the cure of the problem on his own.  

After months of observing himself in a three-way mirror, he noticed three things: he stiffened his neck, which caused his head to pull back; he depressed his larynx; and he gasped with every inhalation. Deducing that this “misuse pattern” was responsible for his problem, he tried to prevent himself from pulling his head back, which led to the disappearance of the other two harmful tendencies. For the first time he realized he can use the power of choice to stop the habitual misuse patterns. Alexander called this power of choice “use”—to describe the process of control over the unwanted habits. Gelb states that “the choices we make about what we do with ourselves to a large extent determine the quality of our lives.” This means that we can make a conscious decision to change our destructive habits.

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26 Gelb, 9-10.
27 Ibid., 11.
Trying to improve his functioning further, he experimented by putting his head forward and discovered that when he depressed his larynx, he would also lift his chest, which in turn would narrow his back, and shorten his muscles. Now he understood that his vocal problem was not influenced only by his head and neck but also by the poor use of his entire body. Later on he discovered that the relationship of the head, neck and torso is the primary factor in organizing the human movement, which he called the “primary control.”

While applying primary control, Alexander realized that he could see his body misuse in the mirror, but was unable to feel it. It became clear to him that he needed to use his mind too in order to make a change. This is when he formulated his ideas of psycho-physical union.

Using a new approach of mind-body connection was not an easy task for Alexander. He realized that stimuli to misuse himself were much stronger than his ability to change. Next, he discovered that he was relying on what “felt right,” when in fact these feelings were all wrong. By learning that his sense of what felt right was actually wrong, Alexander freed himself from this dependence and started relying on conscious reasoning alone.

The next step was to practice conscious reasoning. Stopping the habitual pattern, he realized, can only be done by “practicing receiving a stimulus of misuse, and refusing to do anything in response.” He called this process of “inhibition.” Secondly, instead

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28 Ibid.
29 Ibid.
30 Ibid., 13.
31 Ibid.
of directly attempting the lengthening of his spine, he practiced consciously releasing the tension, thereby allowing his spine to lengthen naturally. This process, he called “direction.” By applying inhibition and direction, Alexander was paying more attention to the quality of his action than to the desired goal. Application of these two processes made him successful in resolving his voice problems. At first this was only possible while watching himself in the mirror, but as learned to feel the change outside and inside his body, he could trust his body resolve his voice problems without visual observation.32

2.1 Benefits

Many years can pass before a musician starts to suffer from a pain or restriction of movement. Playing an instrument demands fast, repetitive, and highly controlled finger movements while adapting to asymmetrical or abnormal posture that needs to be sustained for a long period of time.33 This misuse of the self creates many unnecessary tensions in the body that can accumulate over the years.

Many of the modern methods combating problems such as aches, pains or restriction of movement involve painkilling drugs. These drugs turn off the body’s warning system, whose function is to tell us that something is wrong. Doctors cannot offer much advice since they are treating the symptoms rather than uncovering the cause of such problems. Alexander Technique does exactly the opposite: it shows the underlying cause of the problem, which in turn enables a person to eliminate unnecessary tension in the body. It is an intelligent way to solve problems and is accomplished

32 Ibid.

through understanding physical and psychological principles. In other words, mind-body unity is the basis of this technique.

Alexander Technique is not a treatment or a therapy. Rather, the purpose of the technique is educational. The following are the problems and conditions that Alexander Technique can help:

a) Back problems—87% of back problems are known to be muscular, meaning they are related to how a person moves his/her body. In this case, Alexander Technique is considered to be the best long-term approach. It is also recommended for scoliosis, whiplash, disc injuries, sciatica, and upper and lower back pain. The Alexander Technique teacher guides a person to reach his/her full potential by understanding the underlying causes of these problems.

b) Chronic pain—the technique is not a cure for medical conditions, but it can help the conditions by reducing the stress response.

c) Postural problems—unhealthy postural and movement habits (tight back and neck muscles, and collapsed stature) can be improved by learning how to find a pose that can help to ease discomfort and streamline movement. Of primary importance here is the relationship between the head and the spine. Joan


35 Ibid.

36 Ibid.
Arnold writes “with greater fluidity and stability, the individual gains confidence and a more positive self-image.”

d) Stress in daily life—the body’s reaction to stress is marked by tight neck and contracted body. If the body stays in this constant state of emergency, physical symptoms appear. With mind-body skills, AT helps to release the muscular tension and fear response, to calm the nervous system and to handle stressors more easily.

e) Diseases such as arthritis, asthma and other respiratory diseases.

f) Emotional problems—Frank Pierce Jones observed that the “physical effects of the technique are remarkable, while the psychological effects are of even greater importance.” He continues that “we tend to be less depressed when we are not physically burdened, which leads to an improvement of self image.” Because AT attacks emotional problems directly, Barker (1978) confirms that emotions such as anger, confusion, worry, and panic are easier to control.

2.2 Scientific Validity

In 1973, a distinguished Nobel Laureate, Professor Nicholas Tinbergen, tried an experiment with his own family. Each family member learned the Alexander Technique at the same time. They noted that the AT brought “striking improvements in diverse things such as high blood pressure, breathing, depth of sleep, overall cheerfulness and

\[37\] Ibid.

\[38\] Ibid.

\[39\] Ibid.

mental alertness, resilience against outside pressure and also in such a refined skill as playing a stringed instrument.”41

Many studies showing the usefulness of the technique have been published. A study by Kerren Fischer (1988) revealed that chronic pain sufferers found Alexander Technique a most effective treatment modality for relieving chronic pain. One study about posture revealed that scoliosis patients can significantly improve their appearance, strengthen their spinal musculature and achieve maximum spinal support using the Alexander Technique. Another one showed that postural habits can be profoundly affected by the AT when learning and applying the concept of inhibition. Respiratory function was studied as well, and it indicated that the AT improves respiratory muscular function. Performance stress in musicians has also been studied, and the results showed that the Alexander Technique is as effective as beta-blocker medications in controlling the stress response during an orchestra performance.42

2.3 Becoming a Conscious Guitarist

Alexander Technique is not a technique of learning, but rather of relearning something that the body already knows. “Restoring the natural poise leads to greater stability, balance and fluidity.”43 In other words, relearning to use yourself efficiently, while unlocking your true potential, is a path for becoming an artist, or in this case, a “conscious guitarist.”

41 Ibid., 7.


The numerous benefits the technique offers to guitarists further justify the need for this study. The Alexander Technique helps release unnecessary tension in the neck, shoulder, upper and lower back, tension in both hands, and it helps increase body awareness in playing. Using the technique on a daily basis can also release guitarists from everyday fatigue and exhaustion after practicing, and prevent repetitive strain injuries such as tendonitis, carpal tunnel syndrome, and cubital tunnel syndrome. The Alexander Technique addresses the cause of these widespread injuries: “lack of postural support and excess joint compression while working.” With the Alexander Technique, an individual learns to perform repetitive movements without unnecessary strain, but with ease and comfort. This can be achieved by learning how to sit correctly and how to execute repeated motions with less muscular tension in the shoulders, arms and wrists.

One of the most important benefits of this discipline is the development of self-awareness as an individual and as a guitarist. In this regard, AT can unlock the performer’s spontaneity and freedom of movement, improve focus, increase self-confidence, and help deal with performance anxiety, all of which result in better musicianship, and ultimately, artistry.

To become a conscious guitarist, a journey into the unknown needs to be taken. This journey requires adapting to new ways of thinking and acting, as presented in the following chapter.

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CHAPTER 3

THE UNKNOWN JOURNEY

“Going from the known to the unknown,” as Alexander called it, is a key idea to understanding how to make fundamental changes in our behavior. The guitarist’s journey to the unknown is an ever-deepening process of self-discovery and change in which a guitarist gradually replaces the old habits with the new ones. By directing our thoughts, we have a choice to change for better, as Frank Pierce Jones stated:

The process of change is not mindless; it can be directed by intelligence into paths that lead to the best developments of the individual’s own personality.

The process of change is explained in one of his lectures in 1975:

Between any stimulus and response, meaning between the thought of doing something and putting the thought in the action, there is a characteristic preparation or “set” (ready-set-go), which determines the quality and the character of the response. Sets are difficult to change, because they are largely unconscious. They are acquired so early in the learning process that they usually remain undetected.

It is indeed very hard to correct any movement that is result of misuse in guitar playing. Because it is unconscious, it will require unlocking the higher levels of the unconscious mind. Improvement will mainly depend on the individual’s level of consciousness toward the symptom and his/her will to change it.

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45 This unknown journey is based on F. M Alexander’s discoveries.
46 Gelb, 57.
47 Jones, as cited in Gelb, 33.
48 Ibid.
Developing a new skill in playing is a gradual process where skill passes from the short term to long-term memory. Psychologists Paul Fitts & Michael Posner recognize three stages of developing a new skill (1967):

1. The Cognitive Stage is an initial phase when conscious attention is required. This is when a performer becomes aware of a habit through self-observation.
2. The Associative Stage is characterized by the performer’s refinement of the activity and the elimination of errors.
3. The Autonomous Stage is a final stage when the skill no longer requires conscious attention, as it has become automatic.49

Alexander’s self discovery involved exploration of his “sensory territory.” Because his habitual misuse was affecting his kinesthetic sense, he learned not to trust this feeling. Even more astonishing was a discovery that a “lifelong misuse can make the entire system go wrong,” meaning that our brain can send signals that “all is correct,” while in reality “all is wrong.”50 His sensory awareness improved after he temporarily suspended the judgments made on the basis of it, and allowed himself to experience something new, something beyond the expected experience of already learned habit.51

As his sensory standard developed, his intuition became more trustworthy. Specifically, when a performer tries to change an old habit that is the result of misuse, for instance raising a shoulder while playing, he/she won’t be able to rely on what feels right


50 Gelb, 55.

51 Ibid., 59.
in order to correct it. After learning to execute a correct movement, this sensory perception will improve and become more trustworthy.

3.1 Development of Self Awareness

Alexander Technique can help with the following levels of self-awareness (adopted from Leibowitz and Connington).\(^{52}\)

1. Kinesthetic—becoming aware of the feeling and tension in the body, and the body in space. This can be achieved through observing yourself while doing any action as simple as walking or sitting. Some of the examples in guitar playing would be becoming aware of tension produced in shoulders while playing, tension in both hands, or most commonly, tension in the neck.

2. Visual—seeing the habits more clearly, by gaining the knowledge of the body’s movement. Watching yourself in the mirror while playing can help in discovering many unwanted tensions in the body. Seeing your shoulder rise up while playing, or seeing your grimaces in the mirror, is a first step in acknowledging the problem. By becoming a better observer, one becomes not just a better performer, but also a better teacher.

3. Intellectual—clarity in the thinking process, by applying mental concepts to playing. This can simply mean directing your body through the correct movement (for instance, making new pathways of correct movements that were previously

learned wrong). These movements are controlled by the cerebellum, which is the part of the brain responsible for habitual actions.

4. Emotional—tracing the tension in the body while expressing certain emotions such as fear, anger, etc.

3.2 Work vs. Tension

Practicing harder is often confused with putting more effort and force into one's movements. Force reduces sensitivity to small changes, and therefore limits the potential for improvement. As stated in Feldenkrais’ *Awareness Through Movement*:

…in order to recognize small changes in effort, the effort itself must first be reduced. More delicate and improved control of movement is possible only through the increase of sensitivity, through a greater ability to sense differences.  

Furthermore, applying force while practicing unconsciously creates even more tension in the body, which again can result in poor use of the body.

3.3 “Letting the Change Happen”

Once the orders or thoughts in AT are directed towards releasing the tension in the neck, the change happens by itself. The concept of “letting it happen” as opposed to “making it happen” plays an important role in becoming a conscious guitarist. Ethan Kind explains the order of allowance in the AT, “To ‘direct’ in the Alexander Technique means to give an order of allowance to the head, neck and spine to release and lengthen prior to movement.”  

In other words, you can “Allow the neck to be free to let the head go forward and up so that the back may lengthen and widen.” Any attempts to *make* this

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53 Feldenkrais, as cited in Berg, 20.

54 Kind, 32.
change happen will not bring an experience of “body lengthening.” In other words, putting the head forward will bring the opposite effect: the body will lock itself and therefore lock the performer’s natural potential for playing. The actual experience can simply be gained by just thinking about releasing the tension in the neck, and letting the body do the rest.

3.4 Inhibition and Orders in Guitar Playing

Drawn from the maxim, “improvement means change,” from the Feldenkrais method, Christopher Berg concludes that change happens when we increase our sensitivity to movement, tension, and awareness of proper use.\textsuperscript{56} This process of changing a habit in playing begins when a performer makes a choice to consciously inhibit old habits and direct the thoughts towards correcting those movements. According to Ethan Kind, there are three steps in changing a bad habit:

1. The performer becomes aware of the habit.
2. The performer needs to observe his/her habitual response to the particular stimuli (the poor habitual response is raising the shoulder while playing), which causes tension in the neck, shoulders, arms and hands.
3. The performer needs to inhibit his initial habitual response and allow the body to find a balance by using the orders of allowance.\textsuperscript{57} For example, if a guitarist’s...

\textsuperscript{55} Gelb, 69.
\textsuperscript{56} Berg, 20.
\textsuperscript{57} For order of allowance, refer to footnote 54.
neck is tight at the moment of playing, he/she needs to stop playing, inhibit the
destructive movement, and begin playing again.\textsuperscript{58}

3.5 Ends and Means

Alexander always emphasized the process of attaining his goal, and not the goal itself. When he was practicing direction and inhibition, he paid more attention to the quality of the means (process) as opposed to the desired goal.

Alexander discovered that most of us let our immediate goals dominate the field of our attention.\textsuperscript{59} He called this “end gaining.” Gelb states that if “we adapt this end-gaining approach to changing our habits, the muscles that habitually perform an act will automatically be activated, and the stimulus will result in a misuse of an organism.”\textsuperscript{60}

In the guitar world, much emphasis is placed upon achieving a perfect technique and getting perfect results. Some of the best examples that illustrate the preoccupation with perfectionism are today’s competitions. Preoccupation with the desired result, which is winning a competition, means one becomes preoccupied primarily with playing without errors. This imposes demands on both the body and the mental state of a musician and the larger picture of developing musical vision can be forgotten. The body is also neglected and the mind is doomed to a passive state of mindless repetition.

Examples of the end gaining are numerous, but let us consider negative self-talk, as one of the main predictors for developing performance anxiety. A performer sees his upcoming event or a concert as a disaster. The process of improvement in this case is

\begin{itemize}
\item \textsuperscript{58} Kind, 32.
\item \textsuperscript{59} Gelb, 81.
\item \textsuperscript{60} Ibid.
\end{itemize}
limited because the performer’s attention is directed towards an end, which is the concert itself, instead of the means. The quality of mental and physical preparation for a successful performance will be diminished, and the symptoms of performance anxiety will increase. In other words, the quality of the means will determine the quality of the end. Pedro Alcantara, one of the most famous Alexander Technique teachers, explains stage fright in Alexandrian terms:

Stage fright is a symptom of an ‘unbalanced, disturbed psycho-physical condition,’ a symptom of the misuse of the self. It is characterized by interference with the ‘Primary control’, and its remedy is the ‘inhibition’ of the end-gaining that causes it, and the direction of the means whereby any end may be achieved.  

3.6 Staying in The Present

Some of Alexander’s preoccupations were “staying in the present” and “letting things happen.” It may be easily perceived that some of his discoveries, such as “Whatever I fight I am stuck with, whatever I accept I go beyond,” resemble the wisdom of Zen. In other words, worrying about the results (end-gaining), or forcing yourself to fix them (instead of accepting and letting go), will prevent a performer from developing more useful habits.

Distracting thoughts happen both in practice and performance. Many guitarists are not aware of how self-criticism can prevent them from experiencing playing in the moment. In *The Inner Game of Tennis*, Timothy Galwey explains how some tennis players are “distracted from the playing because they are praising or criticizing

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62 Alexander, as cited in Gelb, 45.
themselves under their breath according to how well or badly they think they are playing."\(^{63}\)

Negative self-talk also increases tension in the body and re-enforces the potential for mistakes. How many times before a difficult passage do we hear an inner voice saying, “Oh no, here it comes!” after which our body automatically tenses? As a consequence, our movement, sound, and expression become restricted, creating a vicious cycle.

Lee. F Ryan (1997) explains what happens to the mind when criticizing takes place. The conscious mind, represented by the cerebral cortex, is the part that thinks and gives commands to the subconscious and the body. The subconscious mind, represented by the mid and lower brain, attempts to carry out these commands. Ryan implies that the subconscious mind is so powerful that it will do whatever the conscious mind asks of it and concludes that success or failure in playing depends on what the conscious mind puts into your subconscious.\(^{64}\) As a negative example, telling yourself that you will make mistakes when you perform will certainly encourage mistakes to happen. As a positive example, practicing a piece with the correct movements will encourage performing the piece correctly.

3.7 Directing the Attention

In the Alexander Technique, attention differs from concentration:

Concentration is often associated with a state of over-tension manifested by a furrowed brow and interference with breathing, almost as though one were trying to hold everything in place so as to be able to focus totally on a certain aspect of one’s surroundings. Attention in the Alexandrian


\(^{64}\) Ryan, 177.
sense involves a balanced awareness of oneself and one’s surroundings with an easy emphasis on whatever is particularly relevant at the moment.65

Alexander realized that most people don’t know how to direct their attention, and therefore suffer from “mind wandering” or over-fixated concentration.

Directing attention towards something that is relevant in the moment, brings us back to the present, and to a deeper connection to the piece. For example, instead of concentrating on disruptive thoughts or an outcome of a difficult passage, guitarists can learn to release tension in the neck, which will unlock the whole body movement and free the hands to do what they have already been trained for. This conscious approach can also decrease the mind wandering and the potential for making mistakes.

3.8 The Power of Visualization

Through the process of visualization, guitarists can learn to direct attention towards the relevant and small details in the piece. This mind-body approach has proven to be highly effective in memorizing music. Because secure memorization of a piece is essential for the artistic freedom, it is a necessary step in becoming a conscious guitarist.

The power of visualization is illustrated in a study by the psychologist Allan Richardson. He measured performance of basketball free throws. Three groups of randomly chosen people practiced free throws for twenty-one days. The first group spent twenty minutes a day practicing free throws, the second group did not practice at all, and the third group practiced twenty minutes a day visualizing themselves scoring free throws. The results showed that the first group improved by 24%, the second group did not improve at all, and the third group improved by 23%.66

65 Gelb, 75.
66 Gelb, 77.
This study shows that visualizing a specific task is as effective as practicing the same task. The only difference is that the person can save energy by not having to do the physical work. When visualizing and saving energy, the conscious guitarist can direct attention to the smaller details in the piece. The small details are often neglected when trying to memorize a piece through mindless repetition. Recalling or retrieving information is a more efficient way of preparing mental material for long-term storage than simple repetition or reading through material.67

3.9 Unlocking the Conscious Guitarist’s True Potential

Before playing, a conscious guitarist (CG) should first let Alexander’s order of allowance happen.68 Once the head moves forward and the “spine lengthens,” a CG will rediscover the body’s natural balance and freedom of movement. This will increase the CG’s concentration and allow him/her to stay in the moment. Staying in the moment while performing is one of the most important factors in playing. The order of allowance in Alexander Technique increases the focus and stops the mind from wandering while playing. Effortless and elegant movement will unlock the CG’s natural musicality. By staying in the moment and connecting to the piece, a CG will finally experience a natural flow and reach the highest potential for the optimal performance.


68 For order of allowance, refer to footnote 54.
CHAPTER 4

INTRODUCTION TO BODY MAPPING

A body map is the internal, neuronal representation we have of ourselves in the brain that dictates how we move.\textsuperscript{69} The term was coined by cellist William Conable who “observed that students in his studio were moving according to how they think they are structured and not how they are actually structured.”\textsuperscript{70} At the time, he wasn’t aware the term was also used in neuroscience as a body scheme, body image, or internal representation.\textsuperscript{71}

Conable’s discovery helps us understand that the quality of our movement is governed by the accuracy of our own body maps. Simply put, if our body map is adequate, our movements will appear and feel free, elegant, and easy. If the body map is inadequate, however, the movement will be restricted and hazardous to our playing.

Body Mapping, developed by William and Barbara Conable, is based on a process of discovering, refining, and changing one’s faulty body maps.

The term “body map” is not a metaphor. Rather, the term is used literally.\textsuperscript{72}

Richard Nichols, neurophysiologist (Ph.D., M.D.) at Georgia Tech

\textsuperscript{69} Johnson, 13.

\textsuperscript{70} Conable, “Info section.”

\textsuperscript{71} Johnson, 13.

\textsuperscript{72} Johnson, 14
University, describes the science behind the body map:

In the cerebral cortex, it has been known for a long time that cells in the primary motor and sensory areas are associated with different parts of the body, and that these cells are spatially arranged in such a way as to represent the anatomical correspondence of these parts.  

Nichols also explains the importance of having an accurate body map in the life of a musician:

The maps in the executive areas of the cortex that represent the anatomy of the body are clearly dependent upon the motor and sensory experiences of the individual. In the case of a highly trained artist such as a musician, it is expected that the cortical areas become reorganized in a way that reflects the motor planning practices of that individual. Cortical maps are sufficiently flexible that they can represent a wide range of motor behaviors.

“But some motor practices,” as Nichols confirms, “can lead to pathological changes in the musculoskeletal system, such as carpal tunnel syndrome or tendonitis.”

These mapping errors can have career-destroying consequences, as stated:

If movement is based on an inaccurate knowledge or perception about the anatomy of the body, then pathologic changes can result. These practices can lead to alterations in cortical representation or body maps, which can then become reinforcing of the faulty motor practice. Overtraining of one specific motor pattern can also lead to pathologic changes, such as focal dystonias, in the central nervous system. These findings, he concludes underscore the importance of educating musicians in anatomy and physiology of the motor system so that practices that can lead to pathology in the musculoskeletal system can be avoided.

On the brighter side, the brain’s neuroplasticity or the ability to form new neural connections, is what enables us to change these faulty movement patterns. Let us examine this process of change from the perspective of Body Mapping.

73 Richard Nichols, as cited in Johnson, 15.

74 Ibid.

75 Ibid.

76 Ibid.
4.1 Process of Accessing and Changing the Body Map

Re-training movement starts with the process of accessing and changing our body maps. For that purpose, let us examine the three aspects that comprise our body map:

1. Structure—it tells us what the body or the part is like.
2. Function—it tells us what does this part of the body does.
3. Size—it tells us how big the part is.

By asking these questions about structure, function and size, a conscious guitarist will examine what he/she believes to be true about their own body and compare it with the accurate information presented in this document. Guitarists will thereby learn to recognize the source of inefficient and harmful movements and gradually replace them with efficient, healthy movements based on the truth about one’s structure, function, and the size.

4.2.1 Body Mapping Self-Inquiry

Self-inquiry is a powerful way of discovering our faulty body maps or mis-maps. Because the spine plays such an important role in regaining our natural balance or poise in playing, let us begin with its exploration. On the sheet of paper, write these three questions:

1. What is my spine like (structure of the spine)?
2. What does my spine do (function of the spine)?
3. How big is my spine (size of my spine)?

77 Johnson, 17-22.
Spend a couple of minutes answering these questions as thoroughly as you can. You might even try drawing a spine while asking yourself these same questions. Notice whether your awareness of the spine is vague or perhaps more detailed than you thought. Once you exhaust your knowledge of the spine, compare your answers to the illustrations and information below.

1. What is my spine like?

![Vertebral Column Diagram](image)

Figure 4.1. The vertebral column, from *The Body Moveable* by David Gorman, used with permission, www.bodymoveable.com

1. The spine is segmented into twenty-four separate vertebrae that each have a joint between them. If you have mapped your vertebral column as a one long piece of bone, your movement throughout the torso might be restricted. It is the segmented nature of the spine that helps us twist or spiral around when we play.
2. The spine has four natural curves (cervical, thoracic, lumbar and sacral). Did you map your spine straight as a broomstick? If so, you might be one of the many guitarists who have been told to sit straight while playing; and you may have restricted your spine’s natural elasticity necessary for free movements.

3. The spine is comprised of a front and a back half. Take a look at the lateral (side) spine view, as seen in the figure 4.1. Notice that the vertebrae in the front half of the spine is smooth and rounded so it can protect the internal organs from nestling against the bony surfaces. The back part of the spine allows space for the spinal chord. In your description, have you made a distinction between a front and a back half of the spine?

4. Think about where your spine meets the other structures. Did you mention that the spine forms a joint with the skull at one end and meets with the pelvic bones at the other, or did you think of it as a free-floating unit dis-attached from the rest of the structures? In order to securely support their instrument in playing, guitarists need to be clear about the location of the head-spine joint as well as the place where the spine joints the two pelvic bones on each side.

What does my spine do?

1. An essential function of the spine is to bear the weight of the head and upper torso. Which half of the spine do you think is responsible for bearing the weight: the front part with its soft cushiony discs, or the back bony half where the spinal chord is housed?

2. Equally important is the weight-delivery function of the front half of the spine. Guitarists who mapped their back halves as responsible for the weight delivery
function will be putting pressure on the big nerves housed in that part. The essential function of the back part is therefore to protect the spinal chord and the nerves, and not the weight-delivery (figure 4.2).

3. Because of its segmented nature, the spine can twist, spiral, turn, and bend, making it possible to move in any direction while we play.

4. One of the most important functions of the spine is its ability to lengthen and gather (figure 4.3). The vertebrae naturally move apart on exhalation and gather together on inhalation. You can discover this movement by paying closer attention to your breathing: while exhaling, think of releasing your neck muscles and notice if your spine is lengthening. The mis-map usually occurs if a guitarist thinks the lengthening happens with the inhalation. The lengthening of the spine is crucial in our playing: our free arm movement and entire torso depend on it.
3. How big is my spine?

The spine is big. Because we can see and touch only the small structure of the spine that runs up our back, we tend to map it as much smaller than it actually is. In reality, the lumbar/lower part of the spine is so big, that if you’d try to wrap your fingers around it, it would be impossible.

After learning about your faulty maps, it is necessary to take action and put these changes into everyday activities. Practicing new ways of movement requires self-observation and exploration that happens on an everyday basis. For example, you can explore different spinal movements every-day while seating, standing, walking, etc. The more movement awareness you bring to these activities, the more you will change,
4.2 Training the Senses

Most of us were taught from an early age that we have five senses through which our body perceives an external stimulus: auditory (hearing), visually (sight), gustatory (taste), olfactory (smell), and tactile (touch) senses. As musicians, we are mostly trained to use the auditory, visual and tactile sense, but there is a sixth sense, and even though it is incredibly important in what we do, it has not been named in our culture.

This is not the sense frequently linked to the paranormal; this is our sense of movement, or sense of kinesthesia (from the Greek kinema—moving and esthesia—perception). Because our culture does not inform us about this sense, most of us use it in very limited ways. To experience how your sense of kinesthesia informs you about the movement: close your eyes, and then try touching your nose. Without this sense, you would not be able to find your nose. Now close your eyes and try playing a difficult left-hand passage. Did you succeed in doing so? This task is more complex than touching a nose, as it involves awareness of highly refined movements in playing. But the good news is that you can learn to use this sense more consciously in your practicing, and free yourself from constant visual dependence.

Learning the anatomical information is not enough to successfully change our body map. The change happens in part through kinesthesia, a necessary component in fixing our faulty movement habits.

4.3 Training the Attention

Attention is often confused with concentration. According to Body Mapping, concentration means narrowing our attention to a single object.\textsuperscript{78} Sight-reading is a good

\textsuperscript{78} Conable, \textit{Training Manuals}.
example to demonstrate difference between attention and concentration. A beginning sight-reader will suffer playing through a line of music as he/she is concentrating on one note at a time. Training your attention to see more notes ahead of time is what eventually makes you successful at sight-reading.

Similarly, when playing in a guitar quartet, you don’t want your attention focused on one thing (ex. playing the correct notes), as you might miss what is going on in the other parts. Instead, we want to cultivate inclusive awareness. We want to train our Gestalt (from German—the contents of consciousness and its organization) to encompass everything around us so our attention can fluidly shift to wherever we need it the most.

4.4 Training Inclusive Awareness in Guitar Playing

1. Choose a passage of music you find challenging. This can be anything from rapid 16th notes passage to a large shift you are afraid of missing.

2. Play it as objectively as you can (videotaping can be helpful).

3. Notice what happens in your body as you approach the difficult passage:
   a) Do you feel your muscles tightening? If so, where?
   b) Are you staring at your left hand/right hand fingers?
   c) What is happening with your facial muscles?

4. Next, prepare to play the passage again, but this time as your eyes approach the left hand/right hand fingers in playing, begin to use your peripheral vision and notice what objects or colors are around the guitar.

5. Keep those objects in your awareness until you have competed the passage.

6. Note the difference as compared to the first time:
   a) Was your view wider?
b) Was your face wider (as opposed to marked with a frown)?

c) Were your eyes freed from staring?

7. Repeat the exercise, but notice several new items by moving your eyes around the room and outside the window.

8. As you keep repeating the exercise, always try to challenge yourself to add one extra piece of information that your tactile and auditory senses are sending you.79

4.5 The Laws of the Spine

The following list provides a quick summary/laws of the spine that should serve as an every-day agenda:

1. The head must lead spinal movement (as in all creatures); this is why the neck must be so free, so it doesn’t interfere.

2. The vertebrae must follow in sequence.

3. The spine must be free to lengthen and gather in spinal movement, not just bend and twist.

4. Spinal movement should be distributed across the whole spine, not concentrated in part of it.80

79 Johnson, 28.

80 Conable, 19.
CHAPTER 5
THE WHOLE BODY BALANCE IN GUITAR PLAYING

Balance is “an even distribution of the weight enabling someone or something to remain upright and steady.” Finding a whole body balance begins by experiencing and understanding the body’s core organization. When standing in balance, as shown in figure 5.1, a vertical line can be drawn through the front half of the spine (as the weight-delivering part) and all of major joints in the body. This line represents the core of our body and it consists of the six points referred to as places of balance. These are: the atlanto-occipital (A.O.) joint, arm balance, lumbar core, hip joint, knee joint, and ankle joint.

In order to sit and approach an instrument properly, guitarists must learn how to balance around the core. But before we start exploring the six key points necessary for the whole body balance, guitarist must be aware of the cultural myths that shaped our perception and meaning of the body balance. This awareness starts with a word “posture.”

The word posture comes from the Latin roots positura (“position”), and ponere (“to place” or “to put”). However, “to place” or “to put” implies holding or locking our
body in a certain place. This is why the words posture, position and pose (coming from the same root) impose rigidity, which in turn limits the body’s natural ability to move freely.

Figure 5.1. The places of balance

To obtain balance, our body has to move. As Alexander discovered, whole body balance depends on the dynamic relationship between our head, neck, and the rest of our
body. This relationship is never rigid, as each body part moves in relationship with one another and the rest of the body to achieve the body’s optimal freedom in movement.

Even more hazardous are the “good posture” disease and “relaxation” disease. At an early age children are often told to “sit straight and put your chin up,” because that is what the good posture means in our culture. Every guitarist should experience what the good posture and relaxation diseases do to our bodies:

a) Sit as straight as possible and pull your chin up. Do you feel pressure on the back part of the spine? As you know from earlier, straightening of the spine puts pressure on the nerves located at the back part of our spine.

b) Next, try to completely relax your body. Most likely, you will end up slouching, as that is what the word implies to many people.

The balance is, of course, found in the middle of these two extremes.

Guitarists should also be aware of the negative effects of teaching advice affected by the good posture disease and relaxation disease:

…While seated, try stretching your neck and spine upwards towards the ceiling, pulling your shoulders back slightly (just enough to keep them from dropping forward). Now, relax your muscles so that your body sort of freezes in that position.

Clearly, the first sentence can trigger the good posture disease, while the second sentence is an example how the word “relaxation” can be vague and misleading to a student: freezing your body in order to relax can only initiate a rigid body position and create more tension—which is far from relaxation. Students with excessive tension habits

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82 These terms are used by Body Mapping teachers. The word disease is used literally.

do not know how to relax; and in the worse case, the advice in the last sentence can encourage them to slouch.

Place of Balance 1: The A.O. joint

A joint is a place where two bones meet in order to provide a movement. The first and most important joint is the atlanto-occipital joint (A.O.). This is the place where the atlas or the top vertebrae meets with the occiput or the base of the skull (figure 5.2). Because this joint is what allows us to freely nod, we can refer to it to as the “nodding joint.” Try locating this joint yourself after nodding couple of times. Where does the top of your spine meet your head?

The most common mis-map of this joint is mapping the joint too far back of the central core. Students with this mis-map usually refer to the back part of their neck (which is a back part of the spine) as the A.O. joint. Another mis-map related to the previous one is mapping the A.O. joint too low. In this case, students focus on the front part of the neck as seen in the mirror and usually point to the place where the jaw meets the neck. If you have mis-mapped this joint in either or both ways, as most people do, observe figure 5.1 again. Notice the A.O. placement along the middle line (front part of the spine), and not the back part of the spine. The second mis-map can be clarified after noticing that the neck length goes behind the jaw, which is much higher than we usually think. Also, be aware that the jaw (with the lower teeth in it) is only an appendage to the skull, just like the arms are an appendage to the torso. If you mapped this wrong, you might be surprised to find out that the bottom of the skull is as high as the upper row of the teeth.
To find how far back the A.O. joint is, point the tip of your tongue to the back roof of your mouth. You should be touching your soft palate, which is directly in front of the A.O. joint. To find how high the joint is, point both index fingers into the wholes of your ears. Your A.O. joint is right in between (figure 5.3).
As Alexander discovered, maintaining our head balanced on the top of our spine, is essential for healthy functioning of all living organisms. The freedom at this joint, which affects our whole body balance, depends on the freedom of our neck muscles. As Alexander pointed out: “Let the neck be free, in order for the head to go forward and up.”

To experience the difference between a free and a tight neck, tighten your neck muscles by pulling the head back and down. Observe what it does to the rest of your body. Then slowly release the tension, allowing the head to move forward and up. Next, observe the tight neck muscles in figure 5.4. Notice how the line shifts away from the body’s core to the back part of the spine/neck where all the nerves are. Free neck muscles, on the contrary, allow your head to move forward and up.

Figure 5.4. Free and tight neck

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84 Johnson, 48.
Place of Balance 2: The Whole Arm

A whole arm consists of a collarbone, shoulder blade, one upper arm bone and two lower arm bones, a wrist and a hand. Because most people don’t realize that the collarbone and shoulder blade are part of their whole arm structure, they can easily develop pain and restrictions in the upper torso. The whole arm structure and movement can be discovered while swimming.

Swimming exercise:

1. Palpate (examine by touch) your collarbones, and then place your left hand on the left collarbone and right hand to the right collarbone.

2. Make a slow, continuous front-crawl motion with both arms.

3. Examine all the directions your collarbone can move such as up, down, forward, back. The collarbone can also rotate.

4. As you continue with the swimming motion, notice that your shoulder blades (on the back) move too.

5. Next, try the front crawl motion while allowing no movement in the collarbones or the shoulder blades. Your arm motion will be very restricted. The same happens in playing: if you don’t allow a free range of motion in either the collarbone or your shoulder blades, your technical and musical abilities will be diminished.

Because the whole arm movement is crucial in developing a healthy technique, the following chapter will entirely focus on mapping the arms and the hands.
Place of Balance 3: Lumbar core

When studying the spine in Chapter Four, we examined how the vertebrae’s size increase towards the lumbar part of the spine (figure 5.5). These five vertebrae of lumbar part of the spine are the most massive because they are responsible for bearing most of the weight. Notice how they curve forward towards the center (core), so the head and torso can balance over them. Guitarists who chronically throw their weight into the back part of the spine can learn to shift this weight forward onto the front part of the lumbar spine.

Figure 5.5. The lumbar spine

Place of Balance 4: Hip Joint

One of the most common mis-mappings that can cause losing the balance off the lumbar core is the notion of a waist. The waist is not an anatomical unit; it’s a cultural myth we adopted as children when we were told to put our hands on our waist. This is
why we need to become aware that we don’t have waists like clothes do, meaning that our torso is actually longer than we might have perceived it.

The body’s mid-point (from the top to the bottom) is not the waist: it’s the place where we make contact with the chair, when we are sitting. This midpoint is at our hip joint (figure 5.1). This is crucial for every guitarist because moving from the hip joints (and not the waist) is essential in approaching and supporting the instrument freely.

Another mis-map guitarists commonly face is the notion that we sit on our legs. Instead, we sit on our rockers (seating bones). The rockers are designed in such a way that we can rock back and forth or side to side with our instrument for maximum stability (figure 5.6).

Figure 5.6. Sitting on the rockers
To explore the location of the hip joint, take a look at the figure 5.7. Most musicians mis-map the top of their iliac crest (the bony parts on our sides that we can easily palpate) as the top of their leg. Instead the place where your thigh bones meets your pelvis is much lower and not as much on the side of your torso.

Exercise:

1. Palpate your iliac crest, then move your fingers lower and further in to find the hip joint.
2. Next, keep your fingers on the hip joint while trying to sit. You will experience that the only way to sit is to move from the hip joint!
3. As you keep practicing going into sitting, observe where the weight of your torso is delivered. You will notice that it is delivered downward through your hip joints and into your rockers.
4. The hip joint is also our bowing joint, so make sure to practice some bowing to explore the movement from the hip joint.

Figure 5.7. The Hip Joint
Place of Balance 5: Knee Joint

The knee is the place where the thigh meets the lower leg. The knee can be in a locked, balanced and bent condition (figure 5.8). Musicians who chronically lock their knees when standing are the ones who throw the weight of their torso on the back part of the spine, whether standing or sitting. To return your knees into balance, practice balancing your head over the lumbar spine.

Figure 5.8. Knee locked, balanced and bent

Guitarists should also be aware that the most common mis-map of the knee is confusing the actual joint with the kneecap. Notice how the kneecap is in front and above the joint, then enjoy bending the knee from an actual joint.

Place of Balance 6: Ankle Joint

The ankle joint is the place where the lower leg meets the foot. Like the previous leg joints (hip joint and knee joint), the ankle joint can also become locked when compensating for the loss of balance. When standing in balance, weight is delivered through the front leg bone into the arch (figure 5.9). The arch then acts as a tripod in weight delivery by pivoting at its center. In other words, it transfers the weight from its center backward into the heel and forward into the ball of the foot (not including the
toes). To achieve better balance, every guitarist should explore this arch, as a key of securing a good support at the floor while sitting and playing.

Figure 5.9. Ankle joint
CHAPTER 6
WHAT YOU NEED TO KNOW ABOUT
THE ARMS AND HANDS

Mapping the arms and hands correctly is essential for achieving effortless technique. While some guitarists isolate their fingers as a main cause of certain technical deficiencies, the actual causes may be rooted or mis-mapped somewhere else in the body. Healthy hands depend on our whole arm movement, while the whole arm movement depends on the freedom at our A.O. joint, which governs the rest of our body. In other words, if we sit off balance while playing, our arms and fingers will immediately feel restricted, further limiting our sound, technique and musical expression.

As discussed in the previous chapter, the whole arm consists of the collarbone, shoulder blade, upper arm, lower arm, wrist and the hand (figure 6.1). This would be a good time to go over the swimming exercise and explore the movements from the collarbones and shoulder blades. Because the word “shoulder” is clearly distinguished from the word “arm” in English, the notion of what constitutes a shoulder may be different for each person. The “shoulder” itself is not an anatomical unit; it is best used as an adjective as in shoulder blade, shoulder joint, and a shoulder area.
6.1 Mapping the Four Arm Joints

1. Sterno-Clavicular (S.C.) Joint

If you haven’t correctly mapped the collarbone or shoulder blades as a part of your whole arm, you may be surprised to discover that the arm has four and not three joints. The first arm joint (where sternum and collarbone /clavica meet) is the only joint the arm forms with the torso (figure 6.2). Its function is to take the rest of the arm with it. This means that the whole arm motion in playing is dependent on the free range of movement coming from this joint.

Figure 6.1. The whole arm
To experience the full range of collarbone movement at this joint, palpate (examine by touch) your collarbone first. Start with the bump where it meets the sternum and continue all the way until you run into a joint with a shoulder blade. Then, with the fingers on the collarbone, explore the full range of motion, as in figure 6.3: move up and down, back and forward, and rotate.
2. Humero-Scapular Joint

The second arm joint, commonly referred to as the shoulder joint, is formed in between the upper arm bone/humerus and the scapula/shoulder blade (figure 6.4). Contrary to the belief that this joint is separated from the shoulder blade, the socket for the upper arm is located in the side of the shoulder blade (figure 6.5). Observe figure 6.5 and notice the size of the socket: unlike the common belief, it is small and very shallow. The function of this joint is the three basic movements: up and down, back and forth and rotation.
The shoulder blades are attached to the skeleton only by a muscle. To clarify further, shoulder blades are not attached to the ribs, or spine, or each other, so they can freely move up and down, back and forth and rotate. Take a moment to experience their full range motion (figure 6.6). As you do, don’t forget that in the front you move from your S.C. joint.

Guitarists frequently suffer from restricted arm movement due to the lack of motion awareness in the shoulder blades. A teacher’s advice such as “bring/pull your shoulders down” when playing, can initiate a habit of holding this unit back and down.
As a consequence, the movement from the first arm joint will suffer too. To experience these limits, pull your shoulders intentionally back and down and notice the restrictions when playing your instrument. You can practice bringing movement awareness to your shoulder blades by focusing on some of the following situations in playing (these are just a few among many others):

a) Bring your right hand in front of the instrument (as you are about to play) by letting your shoulder blade move (rotate).

b) In string crossing, allow the slight and gradual shoulder blade movements:
   forward to cross from strings 6–1, and backwards when crossing from strings 1–6.

c) Change from *tasto* to *ponticello* (back and forth) while being aware of the shoulder blade.

d) Pick a large shift in the left hand, and let your humerus lead while shoulder blade follows.

Again, as you keep bringing awareness to your shoulder blades, don’t forget that in the front you move from your S.C. joint. Shoulder joint movement is organized in a way that the humerus leads, and the scapula follows.

3. Elbow Joint

The elbow is often mis-mapped as one discrete entity, rather than a joint where three bones (humerus, ulna, and radius) come together (figure 6.7). The ulna is the bone on the pinky side of the forearm, while the radius is on the thumb side of the forearm. The function of this joint is bending/unbending and rotation.
Elbow rotation is one of the most frequent mis-maps, causing excessive pain and discomfort in guitar playing. Guitarists often think this rotation happens at the wrist, which in turn causes strain in their left hand technique. This mis-map becomes even more evident in the first-position left hand, when a guitarist rotates and deviates (on the sides) from the wrist in order to bring pinky finger closer to the fretboard.

To decrease the risk of injury caused by unhealthy rotation, every guitarist needs to devote special attention to studying healthy rotation of the elbow. Observe the rotation in figure 6.8: when the palm is up, the radius and the ulna are parallel to each other (supination). When the palm is down, the radius crosses the ulna (pronation).
To practice healthy rotation:

1. Put your forearm (from the elbow down) on the desk in front of you with the palm up.
2. Palpate/locate the radius and the ulna while in supination (reminder: the ulna is on the pinky side, the radius on the thumb side of the forearm).
3. Bring your forearm into pronation and notice how the ulna serves as an axis while the radius crosses over it. Unless you are rotating from the wrist or forcing your ulna to cross over instead of the radius, the movement should feel and appear easy. The same goes in playing.
4. Next, explore pronation and supination in guitar playing. These movements will be much slighter in guitar playing. Pronation in our case means slightly rotating towards the index side of the arm while supination means slightly rotating towards the pinky side of the forearm. Notice how the third and the fourth fingers
are far away from the fingerboard when you pronate. Then, explore slight supination to bring them closer. If you have always felt uncomfortable reaching with these fingers, the chances are you haven’t used this subtle rotation to its advantage in your technique. Another reason for strain could be the wrist rotation/deviation, as already mentioned.

Every guitarist should also know that the healthy forearm rotation is supported from the shoulder joint. The movement that is initiated from this joint allows our elbow to shift in (towards the body) and out (away from the body) in order to securely support our forearm rotation. Guitarists who lock their left elbow in one place or reverse the direction of elbow movement (i.e., move in for pronation and move out for supination) are the ones who most frequently suffer from unhealthy forearm rotation and compensatory arm/wrist deviations (wrist extremely in/out, deviating left/right,) in order to reach the strings.

Pronation and supination also need to be utilized in our right hand technique. By tilting the hand in (towards our body) and out (away from the body), guitarists can adjust the angle of their fingers in relationship to the strings. The most advantageous angle is found in between these two extremes.

4. Wrist Joint

Guitarists, among other musicians, often believe that a “wrist is like a hinge” indicating that their wrist movement is restricted to one as opposed to the three-joints (as in figure 6.9). The eight carpal bones are designed to freely move in relationship to each other, making the wrist incredibly mobile in movement. The first joint is in between the
lower arm and the wrist bones; the second is among the wrist bones, and the third is between the hand bones and the wrist bones (figure 6.9).

![Figure 6.9. The three-jointed wrist](image)

To map the wrist correctly, you need to locate both of its ends (where the first and third joint are). Often, guitarists are surprised to find out that the wrist is not just the crease in the skin:

1. Flex your wrist as much as possible. In this position, you will be able to see or feel (palpate with other hand fingers) the bumps of the wrist bones on the back of the hand. By finding the end of these bumps, you have found one end of the wrist.
2. Then walk your fingers until you find the large bony bump on the pinky side of forearm. This bump is part of your ulna, and the wrist ends right before it.
3. Mark these ends with stickers, then put your index finger in the mid-wrist joint (in between the ends). With the finger on mid-joint, bend your hand extremely as you
can as seen in figure 6.10; and experience the movement shared across all three joints.\textsuperscript{85}

![Diagram of hand and wrist bones]

Figure 6.10. Bending from the three-jointed wrist

Many inexperienced guitar students suffer from the belief that the wrist should be flat. This can easily be observed in the right hand technique of poorly trained guitarists. Contrary to this belief, the eight carpal bones are curved in such a way to form a slight arch—carpal tunnel. In order to maintain a full capacity of the finger movements in playing, this slight arch of the wrist needs to be preserved at all times. The preservation of arch is also essential for protecting many nerves, tendons and blood vessels that run through the carpal tunnel. The chronically jammed wrist bones, as a consequence of a flat wrist, can sometimes lead to the development of a carpal tunnel syndrome. It can also lead to the formation of ganglion cysts as the body’s way of protecting against injury. On the other hand, extreme flexion (over-arching) of the wrist has the same effect: the wrist

\textsuperscript{85} Conable, 106.
bones overcrowd the tendons and nerves in the carpal tunnel, and therefore increase the risk of injury.

Guitarists should also be aware of the harmful wrist deviations (right or left) that can increase the risk of injury. In ulnar deviation, the wrist/hand deviates towards the ulna (on the pinky side; see figure 6.15). This is one of the most frequently seen malfunctions in guitar playing, and similar to a flat wrist, it is often manifested in the right hand technique by many poorly trained guitarists. The reasons for this may stem from the technique of Segovia (who was self-taught) and his followers, which has often been imitated by other players. Another reason for ulnar deviation can be caused by improper instrument placement. In this case, a guitar support can be adjusted so it lowers the side where the right arm contacts the instrument, which in turn encourages the healthy wrist alignment (figure 6.16).

Guitarists who suffer from tendonitis or carpal tunnel syndrome, need to study and map in detail their elbows and wrists to find the possible causes of the injury.
6.2 Mapping the Finger Joints and the Bones of the Hand

<table>
<thead>
<tr>
<th>LEGEND</th>
<th>NUMBERING SYSTEM</th>
<th>LATIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB</td>
<td>FJ4, TB3</td>
<td>DU = Distal Interphalangeal Joints</td>
</tr>
<tr>
<td>TB</td>
<td>FJ3, TB2</td>
<td>PJ = Proximal Interphalangeal Joints</td>
</tr>
<tr>
<td>FJ</td>
<td>FJ2, TB1</td>
<td>MPJ = Metacarpo-Phalangeal Joints</td>
</tr>
<tr>
<td>TJ</td>
<td>FJ1</td>
<td>CMJ = Carpo-Metacarpal Joints</td>
</tr>
</tbody>
</table>

Figure 6.11. Finger joints and bones

Figure 6.10 provides numbering system for finger joints (FJ 1-4), thumb joints (TJ 1-3), finger bones, (FB) thumb bones (TB), as well as the Latin names for the bones. Observe the figure and notice how each finger extends all the way down until it meets the wrist bones. This is the first finger joint (FJ1). To make the best use of the fingers in playing, guitarists need to learn where the location of this joint is:

1. Flex your left hand to its extreme (by over-arching your wrist), then use the right hand fingers to palpate the metacarpal bones on the back of your hand.
2. Walk your fingers along each metacarpal individually, starting from the FJ2 (knuckle joint) all the way until you run into bony bumps, which is where the metacarpal bone meets your wrist bones. This is your FJ1.

3. Be clear about the location of this joint for each one of your fingers.

   To map the FJ2 (knuckle joint) locate it on the back of the hand first. Then point to the joints on the palm-up side of the hand. Have you pointed towards the cease of the skin? If so, you are among many others who have mis-mapped the location of this joint. In this case, re-locate the joint on the back part of the hand. This time draw a line with your index finger across these joints and continue the line while turning the hand face up. Keep your index finger at this newly mapped location, and try bending (flexing) all of your fingers at once. This movement should feel entirely different than bending from the imaginary cease joint (figure 6.12).

Figure 6.12. The hand outlines, photo courtesy by Jack Paulus
Consequences of these mis-maps affect guitar technique in both hands. When the FJ2 (knuckle joint) collapses, as seen when knuckles form a straight line on the back of the hand, both FJ1 and FJ2 have decreased function in playing. As a result, the mid-joint and tip-joint (FJ3 and FJ4) overcompensate by curling the fingers in more drastically. The wrist accompanies this malfunction by either sticking in or out, or deviating on the sides, making all of the muscles and tendons work harder than necessary. In some cases, the collapse of the left hand knuckle joint is seen at the index finger only, but in the most cases it happens for all fingers across. Similarly to this, the collapse of the knuckle joints in the right hand immediately affects the sound quality. In this case, the fingers often counteract by pulling the strings up instead of pushing in towards the soundboard for the best tone production.

These mis-maps (at FJ1 and FJ2) are often based on the false notion that the palm is a flat, solid plate. In this regard, it is necessary to understand that there is an additional forward movement coming from the FJ1. This movement (best observed in the metacarpal bones coming forward), allows your left hand 3rd and 4th finger to reach the neck/frets easier, and that way compensate for their shorter size.

6. 3 The Thumb

Mis-mapping of thumb joints, can often lead to the right hand instability in playing. Similarly to previous FJ mis-mappings, most guitarists are unaware that the thumb has three and not two joints. Thinking of a thumb as a two-jointed unit can only restricts the right hand thumb from freely reaching the bass strings. If you suffer from this restriction, observe the figures 6.11 and 6.13, then make sure to locate and explore moving from this missing TJ1. When practicing, focus on open-string thumb exercises by
pulling from all three joints (i.e., using your whole thumb). It will bring more stability to your playing, and your hand won’t need to move around drastically to compensate for the thumb’s reaching limit.

![Thumb bones](image1)

Figure 6.13. Thumb bones

Another important function of the thumb is its ability to oppose the other fingers, as seen in figure 6.14.

![Opposable thumb](image2)

Figure 6.14. Opposable thumb

In ulnar deviation, the thumb moves on the side with the rest of the fingers and loses its ability as an opposable digit (figure 6.15).
On the other hand, the rest relationship of the hand and the forearm happens when the pinky is aligned with the ulna, and not the thumb (figure 6.16). When the hand resides in this rest-relationship, it is the opposable thumb that makes it possible to securely approach the guitar neck so the fingers can depress the strings. If you explore dropping your hand down, as in walking, you’ll notice how this rest-relationship happens naturally. Preserving this alignment as much as possible in both hands is essential for injury-free technique. While some guitar playing (mainly in the left hand) requires getting the hand out of this neutral/rest relationship, the hand should always return to this neutral state.
6.4 The Pinky

The importance of aligning the arm with the pinky side of the hand raises an important question: is the arm organized around the pinky or the thumb? To help answer this question, explore the following kinesthetic exercise:

1. Walk your left hand fingers along the thumb side of the right arm. While doing so, slowly extend your arm towards the ceiling. Start at the thumb, and then move up the radius, the biceps, along the collarbone, until you reach the sterno-clavicular joint (the S.C. joint). This is the thumb-orientation and the movement should feel stiff and heavy.

2. Now try the opposite. As you are slowly extending your arm towards the ceiling, run your fingers on the pinky side of the arm; start with the pinky, move along the...
wrist, down the ulna and humerus, through the back rim of the underarm, and end on the tip of the shoulder blade. This time, the movement should feel light and free. This is the pinky-orientation.

To experience the optimal freedom and strength for the arms, guitarists need to develop kinesthetic awareness on the pinky side of the arm. Contrary to the myth that the pinky is the weakest finger, our pinky is made strong and pivotal by its relationship to the ulna. Since the ulna is thicker and stronger than the radius, it can be inferred that our hand is organized around the pinky.

Examples of this orientation can be seen in babies crawling or gripping their mother’s fingers, hanging by one arm (figure 6.17), or just watching a karate master breaking a brick with the pinky side of the hand.

Figure 6.17. Hanging by one arm
6. 5 Muscles of the Forearm/Hand

So far we have studied the joints and the bones of the hand, but it should be noted that muscles and tendons are the ones that control and coordinate the finger movements. While there are some muscles in the hand, most muscles that flex and extend the fingers are located in the forearm. The flexors are located on the underside of arm, and when contracted, they bend the fingers. The extensors are located on the top of the arm, and when contracted, their function is to straighten the fingers. Because they move fingers in opposite direction, their function is to oppose each other. Movement remains free as long as one of these muscle groups is releasing the tension while the other is contracting. However, if both flexors and extensors are contracting simultaneously, there will be strain in the hand, and the fingers won’t be able to quickly respond to technical demands. This is called co-contraction.

Guitar teachers should be aware that the advice often given to their students to play “directly on their fingertips,” can result in left-hand co-contraction. In this case, students curl more from the tip and mid joint (contraction), while simultaneously collapsing the knuckle joint (extension). However, this over-curvature shouldn’t be confused with the natural curvature of the fingers. To explore the difference, hang your left hand on the side, as in walking. Observe that when the hand is in its rest-relationship, the fingers are naturally curved. After observation, bring your hand back to the neck and note the difference in the curvatures when the hand is in its rest-state as opposed to when you depress the strings. Preserving the natural curvature of fingers encourages more effortless technique. On the other hand, if you discovered that you suffer from co-contraction, you might want to note that co-contraction occurs as a consequence of a mis-
mapped knuckle joint and omission of a first joint (FJ1) in the map, as studied earlier in this chapter.

The interosseous (“between the bones”) muscles of the hand help bend the fingers from the knuckle joint (FJ2). Another important function of these muscles is to spread the fingers from side to side. Guitarists should know that the stretching span of the fingers increases only when the fingers are extended. Those who try to stretch their left hand fingers apart while actively bending (over-curving) the tip and the mid joint are increasing the risk of pain and injury. This is especially evident in the index finger, which most often (out of four fingers) needs to straighten/extend back in order to reach (e.g., reaching the 6th string while fixing the other fingers on the trebles). Explore actively bending (over-curving) the tip and mid joint in all fingers, and note how your fingers lose their ability to stretch apart.
CHAPTER 7

FUNDAMENTALS OF GUITAR PLAYING

Good movement habits should be of primary importance to every guitar player. As one constantly examines their relationship with the instrument and reconsiders the most fundamental aspects of their playing, such as sitting and holding the instrument, one can become more sensitive towards unwanted habits. Visual aids such as videotaping or simply observing yourself in a mirror can help in this process. As one’s level of consciousness increases, one will also be able to control his/her habits by using the mind-body concepts, as discussed in earlier chapters.

Unwanted habits keep our body out of balance. Therefore, much focus needs to be directed to the realignment of the spine, or going back to the places of balance. Maintaining balanced body structure while sitting and approaching an instrument is essential for effortless technique.

The most common problems guitarists face are choosing an appropriate chair and deciding between a footstool and the numerous guitar supports available. Even though the appropriate chair and guitar support are important factors in approaching and securing the instrument, this does not mean that they should be viewed as a primary solution to a poor use of self.
Maintaining a balanced body structure depends on four important factors that will be explored in the next units:

1. Sitting habits
2. Appropriate chair
3. Guitar support/footstool
4. Primary control/maintaining a balance

7.1 Sitting and a Choice of Chair

While the Alexander Technique and Body Mapping method provide long-term solutions for maintaining balanced body structure, ergonomics must be considered in order to find a chair and guitar support that will encourage this same healthy approach to an instrument. Galen Cranz, a certified Alexander Technique teacher, describes “the mechanical advantage,” which according to Alexander, is halfway between standing and sitting. Since standing tires the legs and sitting tires the back, the advantage of this halfway location called “perching” is that it evenly distributes the work of upright sitting throughout the whole body.\(^{86}\) Perching creates a 135-degree leg-spine relationship, an angle that will serve as a model for building an appropriate chair. Chairs that encourage this angle are called “perching” chairs.

Perching chairs would be an ideal solution for maintaining a healthy body use while sitting and holding an instrument. But the reality is that these chairs are not as easily accessible as conventional chairs. When choosing a conventional chair for playing, guitarists should pay attention to the seat height, which should be no greater than

the top of knee minus two inches. The chair should also have a firm-textured surface and a flat, uncontoured seat. When the proper chair is chosen, Cranz suggests using it properly in a way that:

1. Both feet should be flat on the floor (helps organize the spine upward)
2. The knees should be lower than the hip sockets (takes strain of lower back)
3. The pelvis should not be rolled back
4. The spine should retain its natural curves
5. The chest should be more open than collapsed
6. The head should be balanced on the top of spine (not resting back and down on it)
7. The eyes should be able to look at work or people within 15 degree zone (not forced to look too far up and down)

To make the knees lower than the hip sockets, I recommend putting a pillow on a chair.

Besides Cranz’s suggestions for how to chose and use a proper chair, every guitarist needs to learn how to properly sit and approach the instrument. By learning how to sit on the rockers or “sit bones,” a player will avoid letting the pelvis roll backward and secure the instrument by moving from the hip joint. The best way to find the rockers is to sit on your own hands and explore rocking back and forth, or side to side.

The next step is to bring the instrument towards the torso at a height that will retain the body’s natural balance. The height is ideal when a player can play in both lower and upper positions of the fingerboard without twisting on the side (usually left) or clenching the shoulders. Aaron Shearer suggests five ways of moving the guitar in

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87 Ibid., 156.
88 Ibid.
relationship to torso. Each one should be explored and adjusted accordingly so that the body doesn’t have to compensate for the instrument’s misplacement:

1. Moving the guitar head forward and back
2. Tilting the bottom of the guitar in or out on your left thigh
3. Raising or lowering the guitar head
4. Raising or lowering the guitar in relation to your torso
5. Moving the entire guitar to the right or left in relation to your torso

And finally, after all this exploration, your instrument should be approached securely so your whole body can freely move with it.

7.2 Guitar Support vs. Footstool

In order to keep a dynamic, balanced body structure in playing, a guitar support should be encouraged instead of a footstool. Keeping both feet flat on the floor, as suggested by Cranz, provides better support for the spine and its movement (forward and up) thus making a guitar support a healthier long-term solution for obtaining balance. Using a footstool, on the other hand, not only upsets the equilibrium of the entire body by adding extra tension to the left side of the body, but also destroys the 135-degree relationship between the left leg and the spine. This asymmetrical approach to an instrument often encourages the body to lean towards the left side in order to reach the guitar neck, or even worse: it can encourage both good posture and relaxation diseases.

Numerous guitar supports exist, and there is the potential hazard of choosing a support that can bring only one side of the instrument to the appropriate height. The

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Ergo-Play is a solution to this problem as it can be adjusted to raise an instrument to optimal height on both sides, and therefore keep the advantageous body organization. Another reason for favoring guitar support is that a footstool and an inappropriate chair can both interfere with the balanced relationship between the head, the neck, and the spine—a relationship that is of fundamental importance for all human movement.

7.3 Head-Neck-Spine Relationship in Guitar Playing

Alexander’s experience taught him that the relationship of the head-neck-spine or “primary control” was of fundamental importance in his functioning as a coordinated whole and furthermore in the functioning of all of the human organisms. The concept of primary control provides a “focal point of the system.” It is attained by freeing the pressure between the head and the neck at the A.O. joint (place of balance 1) that initiates balancing around the core of the body.

The interference of the primary control is what causes problems for many guitarists. As Cranz concludes, many chair designs can interfere with the primary control, but a balanced body structure in playing can only be attained through a proper use of the primary control. Frank Pierce Jones (1976) describes the proper use and misuse of the primary control:

When the primary control is functioning as it should, it is sensed as an integrating force that preserves freedom of movement throughout the system, so that energy can be directed to the place where it is wanted without developing strain either there or elsewhere. Misuse of the primary control, on the other hand, is always reflected by misuses somewhere else; this appears in the form of awkwardness, fatigue, and what Wilfred Barlow, a London physician and pupil of Alexander, calls ‘maldistributed muscle tension,’ or overtension at one place accompanied by undertension (lack of tone) at another.

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90 Alexander, as cited in Cranz, 92.

It is important for every guitar player to understand that “the optimal relationship of the head to the neck is not a fixed position, but a dynamic balance by which the weight of the head is balanced under the changing conditions of the body in activity.” Simply by keeping the neck in one position while playing, the head-neck relationship will be disturbed.

According to physiologist David Garlick, the suboccipital muscles at the base of the skull (the neck muscles) have more nerve receptors than any other muscles. Sensory input is important physiologically since sensory nerves from the neck muscles have an affect on the brain control of muscle. He explains how neck muscles have an affect on the control of the muscles in movement. Turning the head inappropriately, contracts the neck muscles, and prepares the other muscles (trunk and limb muscles) for action. Jones refers to this as a paradigm of “malposture” in general:

In malposture, muscles in various combinations and degrees of tension have shortened, displacing the head or holding it in a fixed position. Head displacement would have an adverse effect on the rest of the body partly because of the added weight and strain put on muscles and ligaments, but largely, I believe, because of the interference in the righting reflexes by abnormal pressure on the joints of the neck.

The use of a footstool, as discussed earlier, is a common problem that can contribute to the development of mal-posture. Putting pressure on the joints of the neck displaces a head and creates strain on the back muscles and ligaments, which leads to misalignment of the spine and the body. On the other hand, the use of a guitar support encourages the idea of whole body balance by reducing the effects of asymmetrical

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92 McCullough, 1.
93 Garlick, as cited in McCullough, 2.
94 Ibid.
95 Jones, as cited in McCullough, 3.
posture while holding an instrument and thereby lessening the pressure on the nerves in the spine.

Another habit that upsets the relationship between the head and the neck in guitar playing is sticking the head/neck towards the guitar neck. This simple act can also stimulate a faulty reflex pattern that Jones (1976) calls a “startle pattern” and describes as follows: “… the chin thrusts forward as the neck muscles contract. The shoulders are lifted and the arms extended, the chest is flattened and the knees are fixed.”96 This position is a common reaction to stress and can be triggered by the stage fright, especially among inexperienced players.

When obtaining balance, the skeletal structure counteracts the pull of gravity—a constant which one responds to habitually.97 McCullough describes the antigravity response of the human structure as the upward thrust from the ground counteracted by the use of the extensor muscles. When the antigravity response is fully functioning, as McCullough states, there is no sense of effort needed to achieve the lengthening of the back.98 In other words, if a player’s spine is in full function, there will be no sense of effort for holding and playing an instrument.

Understanding gravity and the antigravity response can help on many levels of playing. For example, a gravity force is very helpful in releasing the unnecessary tension in the left hand technique. When the left hand is organized well, gravity works on player’s behalf, and unnecessary finger pressure is decreased. Contrary to this, when the

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96 Jones, as cited in McCullough, 2-3.
97 Feldenkrais, as cited in Royle and Calf, 2.
98 McCullough, 5.
left hand is working against gravity, excessive force in pressing of the strings is inevitable.

7.5 Technique Redefined\textsuperscript{99}

While every guitarist focuses on numerous exercises for building their technical efficiency, very few of them pay attention to the proper use of the self in this process. After studying and examining materials in this document, it should be clear that technique, whether good or bad, is a manifestation of the continuous “use of the self.” From this perspective, technique can be redefined as an “implied use of the self.”\textsuperscript{100} As Pedro Alcantara concludes: “Use affects functioning (technique) and to change functioning (technique) you must change use.”\textsuperscript{101} [Italics mine]. Simply put, to improve your technique you must improve the “use of the self.”

\textsuperscript{99} Alcantara redefines technique.

\textsuperscript{100} Ibid., 175.

\textsuperscript{101} Ibid., 176.
CHAPTER 8

THE SELF-ACCOMPLISHED
CONSCIOUS GUITARIST

A journey of self-discovery and change never ends. At the end of Alexander’s life, he was asked if he ever stopped working on himself. He replied: “I dare not!”

Guitar students, too, should never stop working on themselves. If one follows Alexander’s example, sound, technique, consciousness, musicality and artistry will constantly evolve, and learning will become a life-long journey.

The following summary-points are meant to serve as a daily/life-long agenda in the use of the self:

• The CG re-trains his/her movement by cultivating an adequate body map
• The CG re-trains his/her kinesthetic sense along with the other senses
• The CG is inclusively aware and is able to shift attention to whatever is particularly relevant at the moment
• The CG is kinesthetically aware of the six places of balance
• The CG is aware of the whole body movement in playing
• The CG cultivates the whole arm movement for greater freedom in playing

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102 Alcantara, 276.
• The CG maintains a balance by allowing the dynamic head-neck-spine relationship

• The CG follows the laws of the spine

• The CG is aware of the “good posture” and “relaxation” disease in playing and teaching

• The CG provides correct information on the body in movement when teaching

• The CG practices the principles of “good use” and sets up an example for his/her students
BIBLIOGRAPHY


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“How Does The Acquisition of a Skill Affect Performance,”


   *Soundboard* vol. 34, no. 4.


