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**The Embodied Musician: Creating the Foundation for Interpretation and
Movement**

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Introduction

This paper provides a written summary of the workshop I presented at the Conference. The 90-minute session explored how the music itself is the catalyst for musicians' coordination.

Examining the parallel organization of musical structure and coordinate movement, I explained how music organizes in a layered way; the many details of the melodic/rhythmic "surface" of the music are organized and shaped by the deeper, slower-moving elements revealed by the harmonic rhythm and phrase structure. The musical "text" can be "translated" into movement which also organizes in a hierarchical manner. The slower-moving parts of our bodies (our legs and torso) organize and support the faster movements of arms, hands, and fingers.

The session combined lecture, explorations by the participants related to coordinate movement, and ongoing performance-demonstrations at the piano. While a written summary cannot thoroughly detail the participatory and performance aspects of the session, it is my intention to convey the main points.

As performers and teachers of music we have a truly complex job (I use the term, "job" in the most exalted sense). We must first consider a musical score as a kind of "text" and proceed to understand, through study and analysis, the relationships within that text. Yet, for all the importance of analysis in formulating an interpretation of a score, it is still foundational. A thorough grasp of the elements and relationships within the score is not enough for a performer. We must also confront the music as an expression of character and emotion, seeking to grasp the composer's expressive intention and proceed to cultivate our own emotional response to that intention. Analytic understanding and emotional response combine to form our interpretation. Our interpretation must then be translated into movement because music is ultimately expressed through movement.

We often hear the term "musical" used to describe someone who has a natural feeling for music. "Musical" people instinctively know how to handle timing and color and connect to the emotion of the music. Just as some people are naturally coordinated, knowing instinctively how to keep their parts in continuous relation to their whole body, "musical" people key in to the music's deeper forces and allow those deeper forces to organize and shape the surface details.

Part I: Music's Layers

Music (tonal music and the vast majority of contemporary music) is organized on multiple levels simultaneously with different levels or layers moving at different speeds. Most obvious when one first encounters a musical score are the notes and rhythms we see on the page, what I call the “surface structure.” The “surface” represents the fastest-moving, most obviously detailed aspect of the score. So how do we know how to organize all the pitches and rhythms we see on the page? It is helpful to think of them as prolongations or embellishments of a slower-moving, more fundamental structure. These longer and slower-moving units represent the music’s “core.” The deeper elements clarify the long-term, ultimate goals in the music, giving our performance a clear and powerful sense of direction. Tuning in to the more fundamental, slower-moving elements in the music enables one to handle the intricacies of rubato and create, for example, the excitement of insistent forward momentum as well as the transcendent, spiritual quality we may experience when momentum is delayed or suspended.

Musical structure can be exceedingly complex, often comprised of units within units. In order to organize and articulate (express) all these units we must strive to understand them in relation to the organic whole, bringing attention to them more or less depending on their importance within the context of the whole piece. Understanding and ongoing awareness of the musical structure gives us greater choice and control in our handling of the rhythmic and melodic aspects of the music.

Discovering the “Core” of the Music: Rhythm and Harmonic Rhythm

In order to command the rhythmic structure of a piece of music we must learn to coordinate relationships that exist on several levels simultaneously. These include beats and their subdivisions, beats within a bar, possible two-bar units as well as longer segments (phrases) that may consist of four bars or more. Rhythmic structure in tonal music tends to be symmetrical but the principles of hierarchical organization exist in most atonal music as well. As we begin to interpret the rhythmic structure we must understand the natural organization of rhythm, how smaller values flow out of a primary impulse (four 16th-notes flowing out of a quarter-note beat, for example). At a deeper level, in 4/4 time, four quarter notes flow out of each measure with the measure represented by a whole note. Going even deeper, four measures might comprise a single phrase and the measure unit (a whole note) will become a sort of mega-beat. What a challenge for the performer controlling the relationships at each of these three levels simultaneously and coordinating them all in relation to a longer four-measure phrase! In addition, we must also consider how rhythm, especially at the deeper levels, is organized and shaped by the harmony.

What is harmony, exactly? Without an explicit material existence, but rather, implied by a certain combination of pitches, harmony provides a sense of place, a relative state of stability or

instability, of increased or decreased tension. Harmony is implied by the notes; it is prolonged or extended by the notes. The term “harmonic rhythm” refers to how long a single essential harmony lasts and its rate of change. For example, if each of two measures in a piece is organized around the same underlying harmony (say a C major chord), followed by two measures built over a G major chord, then the “harmonic rhythm” imposes a two-bar pattern on the music. The performer must then organize all the other rhythmic relationships (beats and their subdivisions, beats within a measure, etc) in relation to the units created by the more foundational harmonic structure. Complex? Yes, but a delicious challenge! When one is connected to the deeper harmonic structure, the details of the music’s “surface” feel like embellishments of simpler ideas. Playing becomes easier, more buoyant and more fluid...like an improvisation over a slower-moving chordal structure.

Part II: The Importance of Movement

Performing music is a whole-body activity.

Our movement must be absolutely married to the music.

Our movement will be as complex and nuanced as the music.

The layered structure of the music will be mirrored in the organization of our movement.

The point of emphasis here is that movement depends on each particular passage in the music. We are not seeking movement that is stereotyped or formulaic. Our goal is to develop a movement vocabulary that can match the musical vocabulary of the composers we perform. To accomplish this we must learn about the structures in our bodies that pertain to human movement and the principles of coordinate movement that will give us the endless array of choices we need to fully embody the music we perform.

There are three basic categories of movement:

1. Movement that turns directly into sound, i.e. the movements necessary to control the keys, pedals, bow, strings, reed, etc.
2. Movement that expresses the artistic temperament of the performer, not required for producing sound but expressing emotion without interfering with what is needed to produce sound.
3. Movement that is extraneous, often unconscious and habitual that limits the ability to control one’s instrument and could be injurious to the performer. This type of movement will be weeded out as the performer begins to make conscious, productive, coordinated movement choices.

In order to make appropriate movement choices, it is crucial that performers develop an ongoing, whole-body awareness. Just as composers want to exploit every musical element available to them, performers need their whole bodies available. To this end, performers need two basic categories of information related to movement: anatomical information about the body in movement and enhanced perception through the tactile and kinesthetic senses. Performers need to perceive themselves and their movement at all times. Performers need to be able to make movement choices based on anatomical truth that keep the parts in continuous and productive relation to the whole.

Let's now make the connection to the first part of this paper on musical structure. Just as we learn to distinguish the deep structure of the music (core) from the notes and rhythms of the surface (periphery) we can understand the structure and movement of our bodies in a parallel way as illustrated below:

<u>Music:</u>	CORE	PERIPHERY
	slower moving	faster moving
	harmonic rhythm/phrase structure	embellishing notes/rhythms
<u>Body:</u>	CORE	PERIPHERY
	legs/torso/head	arms/hands/fingers

Learning to Fully Embody the Music

First, we must accept the following statement: Performing music is a whole-body activity during which the various parts of us must function in continuous and productive relation to the whole. In order to accomplish this, a first step is to enhance the perception of ourselves through our tactile and kinesthetic senses, the senses most directly involved when we physically engage with our instruments and our immediate environment. Secondly, we must correct and refine our body maps so that we organize ourselves and move in accordance with anatomical truth to the end of gaining maximum freedom and choice in relation to our movement.

Training the Tactile and Kinesthetic Senses

Our tactile sense is our sense of touch perceived through sense receptors in the skin. It gives us important information about objects we touch such as degrees of hot and cold, pressure and vibration, and texture (soft, hard, smooth, bumpy, etc). Our tactile sense also defines our boundaries with the environment. It tells us where we end and the environment begins. This is so important for musicians who must have intimate, conscious contact with their instruments and with their chair or the floor. Musicians must manipulate their instruments in a precise and highly nuanced way in order to fully exploit the instrument's possibilities and enhance control at all times. As a pianist, for example, I will employ my tactile sense to perceive the relationship of my left foot to the floor, my right foot to the floor and the surface of the pedal, my sitting bones to the bench and my fingers to both the surface of the key (at rest) and the key bed when keys are fully depressed. A string player must consciously feel the bow and the string, a wind player the keys and the mouthpiece, and a singer the floor that supports her. When information from our tactile sense is available in an ongoing way, we discover more choices related to playing our instruments and relating to the floor or the chair. Have you ever found yourself gripping the wheel of your car with more effort than you need? The over-gripping of a steering wheel (often combined with tensing of the neck) does nothing to help us control it. We can use our refined tactile sense to find just what is needed to manipulate the steering wheel, practicing the refined tactile awareness we need for performing music.

Our kinesthetic sense is our movement sense, perceived through sense receptors located in muscles and connective tissue at our joints. This is our sixth sense, and sadly, the crucial sense that is too-often left out of the five-sense package taught to us as children. Our kinesthetic sense tells us when we are moving, where we are moving from, and tells us about the quality of our movement, whether we are tense or free. A simple experiment to verify this sense as independent from the other senses can be made by holding one hand behind your head, out of sight and not touching your body. When you wiggle your fingers you know that you are moving. When you accept the injunction that *playing music is a whole-body activity*, you will become aware of just how much perceivable movement is happening throughout the body in any given moment. For example, with every inhalation and exhalation of our breath, the vertebrae of the segmented spine move slightly closer together (inhalation) and slightly apart (exhalation). When we are free enough in the muscles we call our "neck," our head rocks slightly forward and back with every breath. When we speak, our tongue, facial muscles and jaw move in complex ways to form our words. The quality of every activity we do will depend on the level of coordination of the entire body at every moment.

It may be helpful to consider the enormous potential range of our movement. We are usually aware when we make large movements but we want to be equally aware of small, even miniscule, micro-movements. Small adjustments can make a huge difference in our relationship to a key or string or the way we balance over our feet when standing. Small productive

movements might be practically invisible to the eye, felt by the performer as a freeing or a shimmer in the body. As we continue to hone our kinesthetic perception, we begin to perceive the micro-movements (the initial freeing into movement) from which larger movements grow. Each tiny initial impulse toward movement could, if we chose to follow it all the way, develop into a larger, more dramatic movement.

Correcting and Refining Our Body Maps

Our body map is our self-representation of our body in our brain. It is our personal idea about our size, the structure of our various parts and their location and function. We can access our understanding of our body map by drawing, pointing to, or describing a part. Body Mapping is a method for correcting this self-representation through accurate anatomical information about the body in movement. When our body map is inaccurate or inadequate (not sufficiently detailed for a particular task) movement can be inefficient and even injury-producing.

Body Mapping is an active process that goes beyond learning anatomical facts. Body Mapping uses relevant anatomical information to effect real and lasting change in the way we organize and move ourselves.

When I present workshops that include Body Mapping, I come armed with anatomical models and illustrations. Since this paper is meant to provide a more general summary of the larger topics addressed in my Irvine Conference session, I am providing a link to the website of Andover Educators, an organization devoted to the somatic education of music teachers and performers by providing accurate information about the body as it pertains to coordinate movement. The website provides a list of certified teachers of Body Mapping as well as a list of books, videos and other resources on the topic. I am particularly indebted to Barbara Conable, renowned teacher of the Alexander Technique, co-founder of the method called Body Mapping and founder of the organization, Andover Educators. I am also indebted to my colleagues in Andover Educators for their profound work as teachers, researchers, and performing musicians. <http://www.bodymap.org/>

I will take a few paragraphs to introduce the subject matter of Body Mapping to give a sense of its importance in regaining or enhancing coordination. The method of Body Mapping teaches anatomical information that results in more movement choices and a means to avoid distortions in our bodies (compressions, narrow/shortening) that interfere with our well being and coordination.

Once we learn to better perceive ourselves with the help of our tactile and kinesthetic senses, we may notice tendencies to tense and compress ourselves. For example, we may find ourselves chronically slumping, a condition that puts pressure on the spine creating a specific kind of distortion. When we slump, our heads are pulled back of their optimal balance point atop of the spine, our pelvis rocks backward off our sitting bones and our torso narrows in front, pulling the

collar bones inward. Slumping compresses our spine, putting pressure on the cartilage discs that allow movement between each vertebra. As we proceed to understand our structure through Body Mapping or other means, we learn how the act of “slumping” violates the potential healthy organization of our body, setting us up for injury and reducing our movement choices.

A healthy alternative to slumping is balance. When we are balanced in sitting, for example, we allow the muscles surrounding the seven vertebrae of our cervical spine (neck) to remain free so that our 12-14 lb head can balance easily atop the atlas (the top vertebra of the spine) and rock freely and gently at its joint (a condyle joint that allows rocking motion similar to the motion at our knees and elbows). At balance, the weight of our head can deliver easily through the bodies of the thirty-four vertebrae of the segmented spine; the “bodies” are the cylindrical, massive, weight-bearing front parts of the vertebrae versus the three-pronged spinous processes that form the back of each vertebra. When we are at balance in sitting, the weight of the head and torso can be fully delivered into and through the two sitting bones that form the bottom of our pelvis and into our chair.

We also learn that our collar bone and shoulder blade connect to each other to form a yoke-like structure that floats over the torso, attaching to the torso at a joint of the collar bone with the sternum (the sterno-clavicular joint). Many people do not realize that the collar bone and shoulder blade form the upper part of the arm structure. Thus, many musicians are attempting to play their instruments with only about $\frac{3}{4}$ of an arm! The following exercise will clarify the location of the sterno-clavicular joint and the movements available:

- Stand with arms hanging at your sides. Lay the index finger of your right hand gently on your left collar bone so that your finger lies on top of the collar bone. With your finger still resting, move your collar bone up towards your ear. Notice that your entire arm also raises.
- Now stand again with both arms hanging at your sides. Move both collarbones up as high as you can comfortably go up towards your ears and hold the position for a few seconds, feeling the effort involved. Now gently, very slowly, lower your collar bones to a point that feels like no work.
- After a few seconds, lower your collarbones to their lowest possible place. This should also feel like work. Allow your collarbones to float up to the place of no work.
- Now move your collar bones inward as if giving yourself a hug. Hold the position and notice the work involved (even though it probably feels good!). Slowly release your hug allowing the collarbones to move apart until it feels like no work.

- Now move your shoulder blades toward each other in back until it feels like work. Hold a bit and then slowly allow the shoulder blades to move apart until it feels like no work. You have just clarified the four directions of movement available at the joint of the collarbone with the sternum. You can also combine these movements into circular motions.

When we slump, we are no longer able to take advantage of the weight delivery capacity of our skeletal system (spine and pelvis). The concomitant narrowing of our upper torso in front, pulls the collar bones inward, severely reducing their ability to move freely. Slumping reduces the movement capacity of our torso (head, spine and pelvis) and our arms!

The other habitual condition often seen instead of “balance” in sitting and standing is a kind of “sitting up straight,” “chest up and out” organization we Andover Educators call “posture.” This condition usually brings an over-arching in the lumbar curve of the spine (lower back) and an upward thrust of the ribs that actually throws everything above the five lumbar vertebrae back and off of the weight bearing spine. Since there are only small delicate muscles under a large swath of connective tissue that covers the lumbar area in back, this way of organizing the body, when chronic, can lead to lower back pain. In addition, the torso will narrow in back, pulling the shoulder blades back and together, again severely reducing movement potential in the upper arm structure, e.g. the collar bones and shoulder blades.

This is a lot of information to process in a few paragraphs and is meant to give an impression of the ways in which information, or the lack thereof, can impact our ability to move freely. Since movement quality effects artistic quality, the stakes are high and even small, nuanced changes in the direction of enhanced coordination can make a significant difference.

Part III: Making a Movement Translation

This portion of the workshop is based on actual demonstrations at the piano and will be difficult to thoroughly convey through words. However, I will give it a go in the hopes that the larger principles will come through clearly enough to inspire the reader to reflect and experiment. For the sake of pedagogy I have devised several categories of ways to go about translating a musical score into movement. The larger purpose is to connect fully to the movement possibilities in our bodies and to continuously strive to fully embody the music in relationship to its larger structural units as well as its faster-moving elements. I introduce the various categories separately, a process analogous to composers’ assiduous study of counterpoint exercises in order to gain a foundation for their creative work.

Use movements we might make away from our instruments as models for expressing the music with our whole bodies

Examples are walking or dancing in relation to the large rhythmic impulses of the music or finding improvised movements that initiate from the legs and torso. The legs and torso can usually judge the distance (time) between rhythmic goals more accurately than the arms, hands, or fingers. In fact, arms, hands, and fingers too often move in isolation from the rest of the body. Look first to the legs and torso to feel the larger rhythmic impulses. Notice that in these contexts, the arms will follow the torso's lead, fitting in after movement has been initiated.

Walking or freely moving to the music away from the instrument can help us feel the fullest range of musical expression. At our instruments we must translate these larger movements into the smaller movements needed to control the instruments without reducing our emotional responses to the music. I often have my students follow a movement-gesture at the piano into standing. This insures that their legs are fully available to them and also reinforces the point that large, expressive gestures start as smaller movements.

Cultivate perception and movement of the whole spine

When we look at an anatomical model of the segmented part of the human spine we see twenty-four vertebrae (bodies in front, spinous processes in back with the spinal cord running from top to bottom through the space in between). That the spinal column is one entity must be reflected in our movement. There are two primary ways we might interfere with movement of our spine as a fluid whole. The first is to drag the seven cervical vertebrae (the neck vertebrae) forward relative to the rest of the spine. A common catalyst for this is straining to read music. There is often a simultaneous tensing of the neck muscles, pulling the head back and down in relation to its balance point atop the spine, and thrusting the chin and cervical vertebrae forward making a sort of "head-neck unit." A remedy for this is seeking other means to move closer to the score, moving the whole spine forward on the sitting bones, for example.

The lower section of the segmented spine, the five lumbar vertebrae, is another place where unhealthy torso division may occur. When we over-arch our lumbar curve (a movement associated with the condition I am calling "posture"), we fix and isolate the lower part of our torso. A remedy for this is learning to attend to the entire range of movement possible in the lumbar area. Many of you will be familiar with the "cat/cow" exercise practiced in yoga.

- Kneeling on all fours, arch the lumbar area as if a cow is standing on your back. Then, after moving slowly back to a more level position, round the lumbar spine upward like a cat stretching its spine.

This exercise helps us move through the entire lumbar range. The ability to continuously move the lumbar spine through its entire range is crucial for musicians who sit to perform. However,

I've even had singers who were standing report that engaging lumbar movement that is the opposite of arching gave them noticeable release in that area and enhanced support for their breathing.

Another exercise for organizing the spine as a whole follows:

- Sitting in the middle of a chair (not leaning back), allow your torso to drape forward between your legs so that your hands are touching the ground and your entire torso is lengthening out toward the floor. Release the muscles of your neck so your head can hang down. Without changing anything in your draping torso, slowly rock your pelvis back until the sitting bones securely find the seat of the chair. Slowly, with great attention to your movement, allow the vertebrae of your spine to stack up in a sequential way over your sitting bones. Your neck muscles should stay free and your head will be the last to come up.

Cultivate a wide repertoire of torso movements

The torso consists of the bones of the spine and pelvis and the muscles and connective tissue that surround them, independent of the head and limbs. Begin to cultivate a large repertoire of torso movements that include and combine the following:

- The torso can negotiate movement in four directions on the sitting bones (side to side, forward and back and combinations of these movements).
- The torso can spiral, turning as a whole towards the back in either direction.
- The torso can curl towards the piano (or in relation to any space) and the pelvis can simultaneously push back (a feeling of deepening as if one is curving over a very large ball).

Important in all this is noticing how torso movement will precede arm movement. Torso (and legs) respond first to the expressive impulses in the music and then organize to move in a way that delivers the arms to the appropriate place in relation to the instrument. For singers, arm movements will flow as expressive gestures out of initiating leg and torso movements.

Embody the music on all levels

Fully embodying the music we perform requires the synthesis of music analysis aimed at clarifying the music's layered structure with an understanding of the structure of the body and the principles of coordinate movement. In general, the movement of the legs and torso will relate to the harmonic rhythm and phrase structure, music's slower-moving core. We must identify the length of each unit we want to embody and then go on a search for a movement trajectory in the legs and torso that will go the distance. There is no simple formula for this. Often, smaller bits of

movement that embody segments of a larger phrase will be imbedded in a longer, overarching movement trajectory. The point is that we, as performers, must conceive the music in a way that illuminates and integrates the various structural levels operating simultaneously. Daunting, yes! Complex, yes! But working in this way creates a type of virtuous circle that strengthens both our awareness of our movement and our understanding of the music we perform. I have reached a point, after decades of learning, training and searching, where I no longer conceive of music and movement separately. I won't know how to move unless I have the clearest conception of the music I want to play. I can't adequately express the music in its nuance and detail without discovering the movements that will make it audible.

And finally, I want to thank my intrepid, endlessly curious friend and colleague, Nina Scolnik, piano professor and Associate Chair for Performance at U.C. Irvine, who first introduced me to the Taubman Technique in 1988, giving me my first in-depth exposure to a somatic discipline. In 1998, she also led me to the discovery of the Alexander Technique, a method in which I have been immersed since that time and along with Body Mapping, form the core of my integrated approach. In relation to the music and our bodies, the quest to keep the parts in continuous relation to the whole never grows old.

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