BODILY KNOWLEDGE IN DANCE TRANSFERRED TO
THE CREATION OF SCULPTURE

by

Nazaré Feliciano

A Dissertation Submitted to the Faculty of
The Dorothy F. Schmidt College of Arts & Letters
In Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy

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This dissertation was prepared under the direction of the candidate’s dissertation advisor, Dr. Brian McConnell, Department of Visual Arts & Art History, and has been approved by the members of her supervisory committee. It was submitted to the faculty of the Dorothy F. Schmidt College of Arts and Letters and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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This dissertation was possible because of the help and support of many others. I want to express gratitude to those who inspired me and who showed me the way.

To begin, I want to express my gratitude to Mary Frank whose sculptures inspired me to write this dissertation and for her welcoming into her art studio.

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ABSTRACT

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The main focus of this dissertation is a discussion of how an artist uses her dance bodily knowledge to develop in a static art form a more bodily sense of movement. For this purpose this dissertation examines four clay sculptures by contemporary artist Mary Frank. The analysis suggests that the uncharacteristic sense of movement displayed in these works derives from her experiential knowledge of dance. This sense of movement is achieved through the considered assemblage and inextricable relationship between Frank’s dance bodily knowledge (body knowledge a dancer acquires through years of dance practice) and the manipulation of clay, the plastic medium she uses to create these forms. The study reveals that Frank’s ceramic assemblages of organic shapes resembling a figure could be related to somatic awareness of arms, legs, torso, hips, and head that dancers experience while dancing. Similarly, the fluid quality of her ceramic assemblages and their seamless coexistence with the environment can be correlated to the
proprioceptive sensibilities (the reception of stimuli produced within the organism by movement or tension) that a dancer’s body senses as it navigates through the air and across the ground managing the pull of gravity. These findings are developed through a discussion of the philosophic theories on bodily knowledge (knowing in and through the body) by Maurice Merleau-Ponty, Michael Polanyi, Edward Casey, Pierre Bourdieu, and Richard Shusterman, as well as the philosophic theories on dance bodily knowledge (my own term) developed by Barbara Mettler, Maxine Sheets-Johnstone, and Jaana Parviainen. In addition, Mary’s sculptures are compared to traditionally built sculptures to illustrate the bodily sensory quality of the sense of movement of her structures.

Although the scope of this study is limited to the application of dance bodily knowledge onto sculpture, perceived through the clay sculptures of Mary Frank, this research adds to the debate on the interrelationships between dance education and the arts, the body and institutions of learning, and the body and society. It suggests that dance practice and introspection of one’s body movement affects how one perceives the world around us and therefore how one reacts and expresses oneself on to the world.
DEDICATION

I dedicate this study to all the women and men who fight for humans rights.
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INTRODUCTION

My Interest on the Subject of Dance Bodily Knowledge

My interest in exploring the connection between *dance bodily knowledge* (my own term) and figurative sculpture developed a few years ago after I read an article in Dance Research Journal by Dianne Howe.¹ In the article Howe analyzed the dance works of German dancer, and choreographer Mary Wigman.² The article was about Wigman’s dances but it could have been about the clay sculptures by Mary Frank, an American visual artist. From my perspective, Howe accurately described the essence of a group of clay sculptures Mary (from here on I refer to Mary Frank as Mary per her preference) created from 1974 to 1985. These artworks have captivated my creative interest for a long time and as I read the article, I experienced *déjà-vu*. I knew what Howe was describing about Wigman’s dances through my own recollection of Mary’s sculptures. I became puzzled because Howe was analyzing a performance art form—dance—that expresses itself in body movement, yet I was equating her analyses to sculpture, traditionally, a static medium. I was motivated to revisit Mary’s work and investigate why her clay pieces seem to carry the energy described in Wigman’s dances. I was

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² Mary Wigman was a renowned dancer and choreographer during 1920-1935. She was born and raised in Germany but performed all over Europe and the United States. She studied dance under Rudolph Laban (1879-1958) one of the precursors of modern dance who developed a system of notation for dance. See *Beyond Dance: Laban’s Legacy of Movement Analysis*, by Eden Davis. 2001.
inspired to evaluate each of Mary’s clay works from a dancer’s sensory experience. I was prompted to question the type of art and dance education Mary received. I was challenged to look closer at Mary Wigman’s dances and consider the connection between Wigman’s dances and Mary’s clay sculptures. It doing so, I became aware of my own dance experience and my particular affinity with the clay medium.

A key element of my working theory is that the artist, Mary, trained to be a dancer for many years, and that her dance bodily knowledge, or her body’s dance sensory skills, enabled her to imbue her work with a unique sense of movement. As her dance training prepared her to create her own unique work; likewise, my own dance education prepared me to study her sculptures from a dancers’ perception.3

My sensory relation to dance developed during my college years, 1982-87. I studied modern dance at Marymount Manhattan College in New York City, and dabbled in jazz-dance and ballet at private dance studios. With dance movement I have experienced the feeling of being totally immersed in the persona I am portraying while dancing, like an actor who embodies a character’s role. During a specific dance episode, in a dance class, I felt as if I were someone else. As I moved on the dance floor I could also see my own body dancing. I could feel myself move from one position to the next, extending my arms, convulsing onto the floor, crawling and heaving up and down with my torso and arms, until the sound in the room changed—there was a silence. The whole class had stopped their individual choreographies and everyone was watching me. I stopped. I had awoken. I could dance no further. When the instructor asked me to retrace

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3 I intentionally use the word ‘perception’ instead of ‘perspective’ because perception is more encompassing. It implies perceiving through the whole body.
my steps, I could not. The spell was over. My dance was not a choreography that I had prepared in advance. It was a dance improvised on the spot, arrived at by the professor’s request that each individual student develop a dance on their own, through improvisation. I realized years later that one can only immerse oneself into such emotional state while dancing if one is moving with the breath, pushing the emotion of the character physically from within to the outer-layers of the body: the torso, head, arms, legs, and hands.

A dancer’s breath is not something most viewers are aware of during a dance performance. At a dance performance, what the viewer sees are the dancers’ moving gestures, but up close, sharing the same floor space, my audience was able to perceive my total body engagement in the performance, similar to how a viewer observes sculptural forms in an art gallery or a museum. I was not exhibiting leaps or pirouettes, the dance gestures that can be observed from an audience in a concert hall; my whole body moved through the dance floor. My dance was more intimate; it had a slow tempo. I was consciously aware of my arms, legs and torso movements. I moved with the breath. The breath was what propelled me to continue dancing. I experienced total body engagement in expressing a lift by filling my lungs followed by dropping the torso and arms as I exhaled performing the ‘Bum’ or ‘down in the dumps’ theme I chose to create.

This dance experience, in particular, enables me to perceive Mary’s clay works from an experiential context. The syncopation of the breath is visible in her clay pieces, not only by the parting of the lips shown in most of the faces she creates, but also by the expansion and contraction expressed throughout the figures. I can imagine her creating figurative forms with clay, well aware of the breath rhythm of a dancer, transferring
breath, i.e. life, into the clay with her hands, expanding and contracting the malleable clay material into a life-like breathing sculpture.

My interest in dance movement also led me to explore other facets of the body, both as a means of expression and sensory delight. Dance is a form of expression that uses the human body to inhabit actual space. The dancing body experiences space not only vertically and horizontally but also diagonally, airborne and in a wheel-like manner. With the execution of dance movements, the dancing body is in constant awareness of the equilibrium and balance within itself and with earth’s gravity. The body is constantly seeking equilibrium by sensing and moving according to its own center of gravity or axis—the hip joints, gut, and chest area. At the same time, the dancing body resists and gives in to earth’s magnetic pull—gravity. The physical body is thoroughly engaged with the atmosphere and the ground while dancing because of one’s proprioception. The combination of sensory information our body acquires as our own body is in motion via receptors in the joints, tendons, ligaments, muscles and skin. Dance training allows one to distinguish the subtle physical changes that occur within the body, inside and out, as it jumps, extends, leaps, rotates, or descends to the ground. With dance practice, a dancer learns to listen to her or his body’s sensory information. Because of this bodily knowledge, a dancer is ultimately able to create aesthetic movement.

Knowing that Mary trained to be a dancer during her young adult years, and that ultimately she created sculptural forms in clay, gives me confidence that my own experiential practice, both in dance and clay, grants me insider status on the subject, and therefore, a better understanding of dance bodily knowledge and its effect in the creation of art forms. Using my own experience with dance and with clay is not enough
justification to form a theory that the sense of movement in Mary’s sculpture is derived from her dance knowledge. Therefore, I evaluate my hypotheses by examining the kind of artistic training Mary had that allowed her a unique perception of the figure in space. In addition, I rely on other dancers’ knowledge of dance and their philosophies of dance knowledge to support my argument.

**Background on Mary Frank**

Mary was born in 1933 in London. Her mother, Eleonore Lockspeiser, was an American painter. Her father was an English musicologist and music critic. Her parents were professionally engaged most of the time, consequently, Mary was cared for by a Scottish nanny. In 1939, she was, like most children in London during WWII, evacuated to the English countryside to escape the Nazi bombing of the city. She was only six years old and felt lost and abandoned. She was deposited in a Christian environment, which was quite foreign to her, since her parents were of Jewish heritage and also atheists.\(^4\) In 1940, she and her mother left London for the United States. She felt displaced in America. At school, students made fun of her English accent. She changed schools often. The only constant and continued schooling she had was dance. Mary loved dance and from the age of 12 to 17, she studied dance at the Professional Children’s School, a school in New York City created for students who were child actors, dancers, musicians who could not attend the schedule of a regular school. She also took dance classes with Martha Graham, José Limon and others, but it was the dance lessons with Graham that affected Mary the most.\(^5\) Although she loved dance, Mary quit when she realized she

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\(^5\) Ibid.
could not live the life of a dancer or be a choreographer. Such a choice demanded a commitment that was too great. She could not see herself fulfilled just being a dancer in a dance company where one had to pledge one’s body and personal life to the company. Mary wanted to be the master of her body; she wanted to be a mother and the choreographer of her art and life. At seventeen, Mary was aware of the sacrifices dancers made to become professional dancers. Although she admits she probably was not ‘good enough’ as a dancer, she commented that only one dancer in Graham’s dance company was permitted by Graham to have a child. She recalls all the other dancers were not allowed to have children.  


Directly out of high school, Mary married Robert Frank, a New York professional photographer who was nine years her senior. They had two children together. At 21, Mary was a mother of two. With two children, Mary split her time between creating her art and child-care. Because of her husband’s job as an established photographer employed by Harper’s Bazaar, Vogue and other publishing houses, she had the opportunity to travel to culturally engaging European centers such as Paris, London, and Madrid. 7 In Europe, she visited the Louvre, the British Museum and the Prado. In America, she took in its vast landscape. She traveled by car through Texas, Arizona, New Mexico, Nevada and California. During those years, Mary created wood sculpture but her work was not considered as relevant as her husband’s art was by her family and friends.

Mary quit traveling with her husband and moved back to New York, settling into a studio, at 3rd Avenue, between 9th and 10th streets, where she continued to work in wood sculpture. Mary drew inspiration from ancient art, including early Japanese clay sculpture and early Greek stone sculpture. She admired the works of Henry Moore and Constantin Brancusi. Her wood sculptures (her early works) have some commonalities with the latter artists, although she lived and worked surrounded by avant-garde artists of her time and place, New York City during the 60s and 70s. She worked mostly alone and was not swayed by the art or the art groups around her. She had her own vision, but she was also a part of the artistic milieu in the East Village, N.Y. The art galleries were on 10th street and many artists lived on 9th street. Willem DeKooning was her neighbor. She mingled with Milton Resnik, Al Held, Phillip Guston, Estaban Vincente, Jack Tworkov and Grace Artigan. She associated with the writers Allen Ginsberg and Jack Kerouac. Artists’ parties and art receptions were a magnet for all artistic types. She speaks fondly of Jan Müeller’s and Bob Thompson’s art. Both had short artistic careers, because they died of drug abuse. But most of all she admired the artwork of Margaret Ponce Israel, an artist who introduced Mary to the clay medium. It was in the mist of New York’s art intelligentsia that Mary’s art flourished.

Mary was always encouraged to be an artist by her mother—and even by her husband. But it wasn’t until she divorced Robert Frank in 1969, that her work developed a more individual style. The 1970s was an era of heightened feminist activity and the art

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8 Herrera, Mary Frank, 27.
10 Herrera, Mary Frank, 41.
world was in flux: feminist/women artists protested against the male dominated art establishment; they wanted success and recognition and fought to be recognized as professional artists and to be included in art exhibitions at major museums. Some women artists abandoned the academically established traditional media of art such as metal, stone, and wood, to create artworks with media considered to be ‘craft’ or ‘by women’ (which most of the time meant the same thing) such as ceramics, cloth, and yarn.11

Mary Frank followed this new path in art. She searched for a different medium to make sculpture. She was open to experimenting with new materials used to create art. Wood, the medium she had worked with for so many years, became too restrictive. It did not allow her to create with spontaneity. She began to work in clay. Ceramic stoneware (fired clay) proved to be the medium that best expressed Mary’s ideas during the 70s and 80s. Unlike wood, where she had to figure out the details of shapes and forms in advance because of the rigidity of the material, clay freed her artistic impulses. Moreover, when building a form using clay, she was able to add clay to a form, remove clay, and then add clay again if necessary. Most significantly the malleability of clay allowed her the improvisational quality that she might have experienced when dancing.

Mary voiced her opinion about the clay medium this way: “It is direct like drawing. It is gravity seeking. There are moments it seems analogous to flesh.”12 Her analysis of the clay medium as gravity seeking and analogous to flesh makes it seem as though she were describing the feeling of a dancing body—the temporal quality of dance

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12 Herrera, Mary Frank, 42.
gesture, the earth’s magnetic field pulling one down, the pinching quality of flesh. When I asked her, in November 2012, what she meant when she said, “sometimes clay is analogous to flesh” she said, “there is really nothing more to say. It is.”

In amplification, what she means is that clay can be stretched and extended like flesh. It is pliable like a dancer’s body. But, like a dancer’s body, clay can only stretch so far before it bends or drops. Dance movement and shaping clay figures with movement obey the same laws of gravity and equilibrium.

Mary’s first pieces in clay were small in scale. She has countless small clay works she uses today in imaginary scenes, in combination with other media. As her clay technique and firing skills developed, she made larger figures, many of which are exhibited in natural landscapes. Some of these figures were purposely designed to engage with plants, bushes, grass, weeds and the occasional butterfly. Some are still part of Mary’s life in her garden in Woodstock, New York.

From 1970 to approximately 1985, Mary built life-size clay sculptures, all of which were assembled from separate slabs of clay. It was with these clay figures that she gained notoriety in the world of art. In 1970, New York Times’ art critic Hilton Kramer wrote about Mary Frank’s ceramic work:

> Is there a place nowadays for an art of this quality and character? Of course there is. At the margins of our culture, where we are still free to follow our freest, least anxious, esthetic instincts such work will continue to be recognized for its fine achievement.

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13 Mary Frank, interview by author, November 26, 2012.

14 To see some of these ceramics pieces in Mary’s photographs visit Elena Zang gallery, www.elenazang.com.
In 1978, Robert Hughes the art critic for Time Magazine, acknowledged that Mary’s clay works “recomplicate sculpture: to make objects that cannot be taken in at a glance, that demand thought and gradual digestion.”

Kramer’s comments keenly illustrate that Mary’s art did not follow a trend but held true to her instincts and imagination, and Hughes elaborates on the multi-layered meanings of her figures. Mary’s work always has been at the margins of the glitz of New York’s art world. She purposely avoided art that was too large because it lacked the possibility of intimacy and art that simply was meant to shock the viewer. And those were the prevailing trends in the art world during the 70s and 80s.

After 1985, Mary discontinued making life-size works in clay. The process of firing the clay work into ceramic ware yielded a large number of damaged pieces that she did not care to bear any longer. She continues to be a prolific artist: painting with oils, pastels, paper collage, ink, encaustic, and most recently photography. Her photographic works are scenes, or visions, put together with direct drawing or painting, paper cuts, natural elements, and clay objects. Sometimes she uses cut-out paper and light through a window; other times she uses pastels drawings on the floor of her studio combined with small clay forms that she held onto throughout her artistic life, and then photographs it. Her color photographs are enigmatic and true to Mary’s artistic method of creating

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metaphor and illusion. Although photography is a new medium for her aesthetic expression, with it she continues to be true to her core vision that art should be experienced with intimacy.

**The Argument**

This dissertation examines the possibility that *dance bodily knowledge* can be transferred to the creation of sculpture and that it can greatly improve the illusion of the sense of movement in three-dimensional forms. I argue this subject by focusing on the corporeal sensory skills that set dancers apart from those without dance experience. This is a challenge to the status quo of how we are taught to perceive and create objects of art because how we are taught to make and evaluate visual art forms hinges mainly on the sense of sight. Vision has been the primary sense used by man to create, judge, and critique art.18 Throughout the centuries, artists have used vision to mimic the real or imaginary world in drawings, paintings and sculpture. Aspiring artists today are still being taught to rely on visual cues and the visual color spectrum, to develop and create two-dimensional and three-dimensional artworks.19

This dissertation explores the notion that *dance bodily knowledge* can be transferred to the creation of sculpture. It asserts that a heightened sense of spatial awareness and somatic perception developed with dance education and practice affects the art one creates. Research shows that we do not perceive the world and the things in it

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18 For more on this subject read *Modernity and Hegemony of Vision* by Michael Levin, 1993.

19 Textbooks on figure drawing and sculpting of the human body emphasize using the visual sense to capture the form. For example: Brown’s and McLean’s *Drawing from Life*, 2004, and Lanteri’s *Modelling and Sculpting the Human Figure*, 1985.
only visually but also through our body’s sensory system, such as the reception of stimuli through the sense of touch and produced within the organism by movement and tension to feel one’s muscles, bones, heart beat, and breath.\textsuperscript{20} Our somatic perception of the world encompasses all our senses and makes use of all our sensory abilities. Therefore it stands to reason that our projections onto the world including the art that we create be fabricated using one’s bodily knowledge—the knowledge we acquire through our own bodily experience within that world.

One way to articulate the means of seeing bodily knowledge in a visual art context is through dance. I explore this idea through a close examination of a few of Mary’s figurative works. I focus on the experiential body knowledge of dance movement and its effect on the creation of three-dimensional forms with a sense of movement that is felt rather than visually perceived. I rely on four of her clay sculptures to demonstrate my thesis. I contend that the works she created between 1974 and 1984 embody a dancer’s sensibility beyond an artist’s mere observation of dance performances or dance rehearsals. By examining these clay sculptures: \textit{Horse and Rider}, \textit{Persephone}, \textit{Swimmer}, and \textit{Three Dancers}, I open up for discussion the potential of \textit{dance bodily knowledge} in the creation of figurative sculpture based on corporeal dance movement experience.

The concept that a dancer develops his or her dance style through dance work is of importance to my argument. It is one way of explaining how Mary Frank developed her sculptural style. In Mary’s case, I argue that even if she did not continue to develop her dance knowledge after her formal dance education, it is nevertheless highly plausible

\textsuperscript{20} For more information on this subject read the book, \textit{Touching: The Human significance of the Skin} by Ashley Montagu, 1971, and \textit{The Primacy of Movement} by Maxine Sheets-Johnston, 2011.
that she developed her sculptural style by making use of her *dance bodily knowledge*. The inner and outer energy displayed in *Persephone*, *Swimmer* and *Three Dancers* suggest an awareness of bodily dancing sensibilities.

I begin the discussion of *dance bodily knowledge* with a synopsis of major philosophic tenets of human knowledge from the Greek philosopher Plato in 300-B.C.E, to the French philosopher René Descartes during the 1700s, to the phenomenological theories of German philosophers Edmund Husserl, and Edith Stein during the 1900-50s. This is followed by a critical response to the inherent bias of these theories of knowledge. The critique of these theories is focused on a female vs. a male perception of the world elaborated through the ideas of French feminist Luce Irigaray, specifically her explicit views on a woman’s perception of the world *vis-à-vis* a man’s perception of the world. This leads into a discussion of the preponderant role given to visual perception by philosophers to develop philosophic ideas, to the detriment of the haptic senses.

I support my argument by first discussing the prevailing rhetoric on bodily knowledge (knowing in and through the body) brought to the forefront of philosophic arguments by well-known philosophers such as French philosopher Maurice Merleau-Ponty, English philosopher Michael Polanyi, French sociologist and philosopher Pierre Bourdieu, as well as American philosophers Edward Casey, and Richard Shusterman. The aim is to consider their theories on somatic knowledge and the role of the body as a knowledgeable entity that is actively involved in the creations of its own world. I follow a chronological progression of the relevant phenomenological theories pertaining to the concept of corporeal knowledge, for it is clear that each theory was developed by each scholar with the full knowledge of precedent theories on the subject. I begin with
Merleau-Ponty because he has been the most acknowledged philosopher on the subject of phenomenology (the study of things as they are perceived by the body). I specifically explore his ideas on the body’s acquisition of a habit and how it can be transferred into visual art forms. I examine Polanyi’s ideas on how the body acquires and cements knowledge and discuss at length his distinctive but complementary dimensions of focal knowledge (knowledge that we pay attention to in the present) and tacit knowledge (knowledge that is part of the body schema and aids in the acquisition of new knowledge). I discuss Bourdieu’s habitus theory which posits that our bodies acquire specific habits akin to the social strata and cultural milieu in which we live, and Bourdieu’s concept of practical reflection that claims that a heightened body awareness has the potential to trigger an evaluation of one’s body in situation and action. I explore Casey’s body memories theory that elaborates on the long-term ability of the body to recollect through motion (muscle memory) bodily knowledge not used for many years (such as driving a car with a manual transmission although one has not driven this type of vehicle for some time). Finally, I discuss Shusterman’s concept of somaesthetics (body awareness), which presupposes the body is all knowing. It informs all that we know

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and allows us the power to change our habits and hence our lives, through body awareness.

After examining the philosophic arguments on bodily knowledge by the philosophers mentioned in the previous paragraph, I continue to develop and support my argument with a discussion of contemporary philosophic and scholarly theories on dance bodily knowledge. For a general understanding of the connection between dance knowledge and the visual arts, I introduce dancer and scholar Barbara Mettler’s ideas on dance knowledge and the arts articulated in her paper *The Relation of Dance to the Visual Arts*, (1957). I follow Mettler’s articulation of the connection between dance education and art with a discussion of the ideas of dance scholar and philosopher Maxine Sheets-Johnstone and Finish dancer and scholar Jaana Parviainen’s ideas on dance knowledge being a living knowledge.

Mettler argues that dance knowledge enlarges and refines the scope of an artist’s sensibilities to create art because dance enhances the human body’s range of perception. She emphasizes human motor activity as the primary mode of perception, and articulates that we learn about the world around us by moving and sensing with our body. In addition, because dance is a moving activity that involves physical coordination that expands our bodies’ range of movement beyond ‘regular’ body movement, learning to dance can make us more consciously aware of our primary sensory modes.

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These primary sensory modes are the kinesthetic and tactile senses. The kinesthetic sense records pressures from within through the muscles, sinew, bones, and nerves (today we call this body awareness proprioception). The sense of touch perceives that which is outside the body through the skin. It is in the awareness of our primary sensory modes vis-à-vis our world that Mettler sees as a benefit to the creation of art. In other words, a dancer’s physical span of movement and the body awareness within that somatic dance relation has the propensity to yield more insightful artworks.

Sheets-Johnstone’s ideas about bodily knowledge expand on the cognitive abilities of dance coordination (2011). They are similar to Mettler’s concept that body movement is our primary mode of perception. Sheets-Johnstone reiterates that one’s primary way of learning about the world is through movement. But her concept of thinking in movement, which she defines as a dancer’s ability to create a dance on the spot, without prior choreographic planning, establishes dance bodily knowledge as knowledge that is articulated through dance movement. This leads me to infer that if a dancer could create a dance, a performance, an aesthetic art piece that communicates with a viewer in an act of improvisation, then a dancer who becomes a visual artist could also take her/his dance knowledge to create sculptural forms that embody the sensual motor bodily knowledge ascribed to a dancer.

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27 Mettler. 197.


Sheets-Johnstone’s concept of dance knowledge is further explored by Jaana Parviainen’s studies on bodily knowledge. Parviainen’s synthesis on bodily knowledge is the crux that fits squarely into my argument that Mary’s clay sculptures are embodied with a sense of movement that is derived from *dance bodily knowledge* because she clearly reasons from past body knowledge theories that bodily knowledge is in the body and is articulated with the body.

The term body knowledge is most often used by philosophers up to the development of the new term bodily knowledge (knowing in and through the body), conceived by Pierre Bourdieu, in 1997. Therefore, in this text I use the term body knowledge when I am addressing theories prior to Bourdieu’s introduction of the term bodily knowledge. Each philosopher’s definition of the term, body knowledge or bodily knowledge, is addressed respectively when I discuss each theory in more detail. For the purpose of this dissertation, the terms are interchangeable: body knowledge or bodily knowledge indicates that knowledge is in the body’s fibers. For example, the act of sneezing exhibits bodily knowledge.

Parviainen’s considerations on theories of body knowledge and her experiential dance knowledge support a compelling and rational philosophy on bodily knowledge. Parviainen makes the argument that dance knowledge is activated in the design of dance. For this reason, I avail myself of her research and insights on bodily knowledge to make a parallel reasoning on how *dance bodily knowledge* is activated and used in the design of sculpture.

Parviainen was introduced to dance by studying Graham’s modern dance techniques just as Mary did earlier on. This is significant because it offers an
extraordinary insight into the institutional habits of modern dance techniques acquired by the bodies of Graham’s dance disciples, particularly its focus on body awareness which teaches dancers to know their physical strengths and weaknesses through self-body analysis. Mary and Parviainen have Graham’s modern dance technical body awareness in common. I suggest that Mary expresses this dance-born body awareness through three-dimensional form. Likewise Parviainen expresses dance-born body awareness through dance performance and philosophical arguments, such as: that dance knowledge is in the body, and, it can be articulated through dance performance or the teaching of dance.

Parviainen’s argument states that dance knowledge is acquired through the practice of dance movement and expressed through dance, a form of communication as valid as speaking or writing. Dance communicates meaning and emotions through body movement and body expressions and as such, it’s a form of knowledge. In the creation of sculpture, the body is fundamentally involved in the creative process as well, except that the expressive objective is a form, a sculpture, not a performance. My premise is that if dance knowledge is embodied in a dancer’s body, and is part of her/his being, then it can be articulated through plastic art forms, not just kinetic dance, consciously or unconsciously. I propose that the transference of dance bodily knowledge is present in a group of clay figures by Mary Frank, a plastic artist with a dancer’s bodily knowledge.  

I further support my argument that Mary’s clay works embody dance bodily knowledge with the accounts of visual artists who have articulated the idea that they


31 The term plastic artist is more appropriate than ‘visual artist’ because the bodily knowledge transferred to Mary’s clay forms relates more to haptic senses than visual observation.
project their body knowledge into their art works. French painter Paul Cézanne said that the painter in the face of his “motif” is about to join the aimless hands of nature.\(^{32}\) English sculptor Henry Moore explained that he identifies “with the center of gravity, its mass; its weight; he realizes its volume; and the space that the shape displaces in the air.”\(^{33}\) Belgian painter Michael Borremans said, “I project myself in the work. Even if I don’t want to.”\(^{34}\) And Finish architect Juhan Pallasmaa stated, “We are inside and outside of the [created] object at the same time.”\(^{35}\) All the above artists have expressed in words or in writing that they project their body knowledge onto their artwork. Their statements are a compelling reason for one to consider that Mary’s art is the recipient of her body’s experiential dance awareness, especially since her *dance bodily knowledge* adds an expertise that is unique, and, I suggest, more evident in her artwork. Moreover, the type of *dance bodily knowledge* I connect Mary’s sculptures with is similar to a series of photographs exhibited in 2012, by the emeritus ballet dancer (now a photographer) Mikhail Baryshnikov.\(^{36}\) Baryshnikov’s photographs illustrate visually the energy felt by the dancer while dancing. It is as if he were photographing himself dancing, because the individual dancer is not recognizable, but the energetic movement is. I end the chapter


\(^{34}\) Ted Loos, “Depth Perception,” Architectural Digest, Nov. 2011, 94


\(^{36}\) I decided to use the images of Mikhail Baryshnikov to support my thesis because they illustrate in a two-dimensional format the dancer sensibilities I perceive in Mary’s sculptures. In this manner, my argument is better understood. However, these images only became part of the public domain recently. I was not aware of them when I began this dissertation and they play no bearing on my own perception of dance sensibilities in Mary’s works.
with an account of how I project my body into my own clay work. My testimony is relevant to this dissertation because I have spent the last seven years researching bodily knowledge and its various theories and I have to acknowledge that it has affected me somatically and consequently: it has affected the clay pieces I am creating now.

Artists, including myself, may say they transfer their bodily knowledge onto their artistic expressions, but when it comes to representing a body in movement on a static medium most artists rely on their visual perception of movement for that representation. Except for those few artists, Mary Frank is one, who consciously or unconsciously rely mostly on somatic knowledge to activate the sense of movement in their artworks.

The illusion of movement has been executed on two dimensions, drawings and paintings, and three-dimensionally—sculptural forms—by artists throughout the centuries countless times, but Mary’s sculptures portray a specific sense of movement that is different. Mary has not articulated directly that her dance experience is projected into her artwork. She says, “It’s everything,” meaning all her life experiences affect the art she creates.37 But in the film Visions of Mary Frank, not yet released, by John Cohen, she makes a dance gesture with her arm and hand as she creates a continuous line on paper with black ink. She does an arabesque gesture with the brush on the paper until the brush runs dry. She completes the gesture with the brush although the brush is already dry. In the film, she comments, “in a way it is like dancing.” With this statement the artist indicates that her dancing body is always present when she creates art, a drawing or a sculpture.38

37 Mary Frank, interview by author, November 26, 2012.

38 Visions of Mary Frank, DVD, directed by John Cohen, 2013.
I suggest she creates the sense of the figure in movement unconsciously. The sensory knowledge of how a dancer’s body moves in space is ingrained in her body and bones—it is part of her body schema, because as Mettler puts it, “Learning dancing means becoming bodily sensitive in the respect of the kinesthetic sense and one’s own motility.” Kinesthetic references the capacity for learning a body movement by carrying out the activity with one’s body. Motility references the capacity to be able to move spontaneously. Therefore, learning to dance is to practice specific body movements often until one has the ability to make those movements in a spontaneous manner.

Through practicing dance movement, a dancer also develops a keen sense of the body in space, balance, and reach. In addition, a dancer’s body acquires certain traits of kinesis because of the repetition of specific movements during practice. For example, the classically trained ballet dancer walks with both legs turned out. The practice of demi and grande plié, are movements that are central to ballet training that enables the dancer’s legs to be turned out with heel against heel. Another example is elevé, the raising of the heel, and relevé, a rise from plié, to a full height on the arched foot. This dance movement places a lot of weight on the metatarsals and stress on the Achilles tendon, and is a source of ankle strain for many dancers. These intense repetitive motions are imprinted in dancers’ muscles and bones. A trained dancer’s bodily knowledge is a


40 Plié is the position where the ballerina has heel against heel and bends the knees. Plié a la seconde is the same position but with the heels about twenty inches apart. These dance positions promote the externally rotation of the thighs from the deep six rotators in the hips.
pattern imbedded throughout the whole body. This print is encrypted in every movement of the body including the subtle motion of breathing - inhaling and exhaling.

In choosing Mary’s clay sculptures for an in-depth analysis, I embrace the possibility that kinesthetic and tactile senses have considerable influence on the outcome of her clay figures. Therefore, I analyze her sculptures with a detailed consideration of the form, and explicate it through formal analyses of its shape, line, space and color, in a visual arts context. But I also analyze the work within a dancing context using dance-sensory analysis to unveil, in her work, the dance movement qualities that are often invisible to those without dance experience.

I do not analyze Mary’s work for its metaphorical or allegorical content—or even for its social or cultural meaning. Others have done that. In general, they equated her ceramic assemblages to ancient archeological sites where broken shards of ceramics are found and suffer a reassembling process. Clay is also laden with allegoric meanings and connotations. To mention just a few, clay is equated with creation. God created Adam, the first man, from clay. Clay is connoted with Mother Earth. Clay has been used since the beginning of time to build vessels and tombs by different tribes and civilizations. Focusing on the metaphorical and contextual issues of her sculptures misses the innovative quality of her work; the contemporary way in which she manipulates the clay medium to create the figure. It obfuscates the most important innovation in her sculptures, which is the implied representation of air/mass within a sculpture, an element in sculpture that cannot be seen but can be felt. Thus, when I analyze Mary’s works, my focus is in the uniqueness of its aesthetic qualities as it pertains to spatiality, time,

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41 See appendix B for a list of excerpts from art reviews of Mary’s sculptures.
movement, and media. In turn, I evaluate the primacy of these characteristics and make their connection to dance movement and practice.

I argue that Mary’s clay sculptures challenge the representation of the sense of movement in traditional sculpture. In general, figurative sculpture represents movement by exhibiting a visual observed moving gesture. On the other hand, Mary’s sculpture exhibits a sense of movement that is of a somatic nature: haptic (based on the sense of touch), or felt from within through proprioception. This is unlike traditional figurative sculpture that is highly influenced by the visual perception of a form in movement. To illustrate the unique sense of movement in Mary’s sculpture, I compare some of her works with a number of figurative sculptures that imply sense of movement. One of the works is from our ancient past and two sculptures are from our contemporary present.

To further support Mary’s unique sense of movement in her clay sculptures, I analyze one of her drawings as a means to evaluate and differentiate the visual elements of dance movement in her drawing as compared to her sculptures. A sculpture often is presented in an environment created by others; the sculptor most often cannot change the immediate surroundings where the artwork is placed. A drawing of a form is different. In a drawing, the artist creates the environment for the form (or forms) within the drawing. In so doing the artist may draw on paper the illusion of the form in movement by activating the landscape around it.

Though I have the credentials to analyze art through the prism of art history, my hypothesis that dance bodily knowledge is at the core of the sense of movement in Mary’s sculptures requires a specific type of credentials. It requires knowing the intricacies of the clay medium and experiential knowledge of dance moment. I have both. In addition to
my credentials, I have been working with the clay medium for more than twenty years, as
an artist and as an instructor. Clay is a material whose plasticity I particularly enjoy
manipulating. I know what to do and not to do when building forms with terracotta,
stoneware and porcelain. Because of this experiential knowledge, I have an instinctual
affinity for clay. I know its odor, its slippery quality, and its arid dryness. I know its
fragility and its toughness. Clay can be shaped into any form. But clay is much more than
a plastic medium. Clay is visceral. Clay is wet and cold but becomes warm by the heat of
one’s hands. Clay is earth’s organic matter, and to most artists, clay is not dirt but
materia prima—the stuff of life.

Because of my affinity with clay as an artistic material, I may at times seem
biased in my analysis of Mary’s clay works. I admit my perception of clay forms may be
more acute than others who are without the sensory experience of clay that I have, but I
think this is an advantage not a hindrance. My intent is not to dwell on one type of
sculptural material and compare it to another. Instead, it is to argue the ability of the artist
to transfer her dance knowledge onto her clay figurative sculptures. Nonetheless, through
my discourse, I suggest that the fabric of the clay material enhances the interplay of time
and energy, a characteristic that is also found in dance movement.

My dance credentials are not as elaborate or as in-depth as my clay credentials. I
practiced modern dance during my undergraduate years at Marymount Manhattan
College, New York, where I experienced choreographing dance using the breath
technique, a dance technique that was used overtly by Martha Graham. I also had lessons
in jazz-dance and beginning ballet in various dance studios in New York City in the
1980s. I rekindled my dance knowledge last year by enrolling in a ballet class at Florida
Atlantic University taught by Professor Clarence Brooks. I also choreographed a dance with two dancers under Professor Brooks’ guidance. My choreography was inspired by Mary’s piece *Persephone*.

To better understand the bodily transference of dance aesthetics onto sculpture I took it upon myself to experience choreographing a dance performance around Mary’s sculpture *Persephone*, figure 2, page 52. For a semester, I immersed myself into choreographing a dance based on my perception of *Persephone* as a living sculpture. The result gave me insights on how an artist, with a dance background, would develop a character to represent in sculpture. Furthermore, the creative process of developing the dance allowed me a more intimate analysis of the pulsating energy and the use of the breath to sustain specific dance moments.

In the same vein, in an attempt to further comprehend the transference of dance sensory aesthetics onto the creation of sculpture, I chose to immerse myself into making a piece in clay similar to Mary’s sculptural assemblage piece, *Persephone*, (figure 2, page 52). The process of replicating *Persephone* made me notice body parts in my body directly affected by the stance of the figure. It caused me to analyze each clay slab more in detail for how each slab form resonates with dance movement; however, the process of replicating Mary’s sculpture did not elicit in me a memory of a specific moment on a dance floor. It felt more as if I were the observer of a moment in dance. It was as if I was visually observing Mary’s sculpture to copy its stance and demeanor. Therefore, the project became more analytical and less instinctual. This led me to conclude that in the presence of a model sculpture to copy from, the visual force of the form, already created, interferes with the individual artist projection of its own body onto the form.
In addition to recreating the piece in clay and the in-depth choreographic exploration of *Persephone*, I kept a diary of my own sensory awareness and observations for each dance class and choreographic rehearsals. As a result, I am confident that my dance sensory experience and observations of practicing dancers during class, and the analysis of these experiences, are adequate to evaluate and decipher *dance bodily knowledge* in Mary’s clay sculptures.

Because Mary studied dance under the renowned, modern dancer, Martha Graham (1894 -1991), I analyze the body movement techniques used in the Graham’s teaching method. With this information, I examine Mary’s work with an eye to identifying figurative motion akin to the techniques taught by Graham, such as the use of the breath to propel body movement and the expansion and contraction of the torso to expose human emotion. I also connect a dancer’s body kinesis with specific elements in Mary’s sculptures, because the repetitive action of specific dance moves become imbedded in a dancer’s anatomy. Some of these traits may be hinted at in Mary’s artwork.

Finally, I support my argument with statements by Mary Frank. I have interviewed her on the telephone and in person at her upstate New York studio. The telephone interview revealed Mary’s sensory analysis of visual art materials among other things. The person-to-person interview revealed more than words. Mary communicates warmth with her body and with words. My observation and sensory awareness of her moving within her environment, proves significant to understanding the sense of movement in her sculptures. Her posture, the way she walks and carries her torso, plus

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42 Martha Graham developed a dance teaching method that is part of her dance legacy. For more on this subject read the book, *Martha* by Agnes de Mille.
the quality of her hand gestures, all contribute to Mary’s self-awareness. In addition, although Mary has not created clay sculptures in many years, she has a large collection of her ceramic sculptures in her studio and garden (many have been cast in bronze) that I was able to experience. The telephone interview and my meeting with Mary granted me visual and haptic perceptions into Mary’s artistic world that I can use as a source for better understanding how she manipulated the sense of dance movement into her clay sculpture.

This dissertation is the first on the subject of dance bodily knowledge and its application to the creation of sculpture. This study suggests that dance bodily knowledge can be transferred to the creation of sculpture. I conclude that artists who practice coordinated body movement develop specialized body awareness akin to that practice and therefore are able to project that knowledge into their visual artwork. Mary Frank’s clay sculptures, Horse and Rider, Persephone, Swimmer, and Three dancers, are examples in which this phenomenon takes place. These clay works exhibit a sensory knowledge that I suggest derive from a heightened somatic awareness of dance practice. They project a spatial sensory perception beyond the visual reception of an object in space.

Although this study is limited to exploring the role of dance bodily knowledge in the creation of sculpture, it opens up the discussion of the possible benefits of dance bodily knowledge across the academic spectrum and individuals’ lives in general. The research reveals the benefits of dance knowledge in self-body analysis, which promotes body awareness and consequently a more accurate perception of one’s world. In the field of education and art education in particular, dance knowledge could positively influence
the artistic expression of the plastic arts. If artists could become more bodily sensory aware, their art could become more bodily engaging with the public. For example, art could be more sensitive to one’s sense of movement, instead of what artists currently produce. Most art is experienced visually. Art could be more sensitive to the human senses of touch, smell, and hearing. If this would happen, the do-not-touch signs would be removed from galleries and museums and an art experience could require the total engagement of all body senses. It is by exciting all our senses that we as individuals can fully explore the potential of the knowledge in our bodies. This idea has repercussions beyond the arts field. Some obvious academic fields that would benefit from a dance education (with somatic awareness) are the medical and engineering fields, which are directly involved with the body as a whole. But these are subjects for another study.
BODY KNOWLEDGE

Chapter 1

Sensual Knowledge vs. Visual Body

The role of the body as a knowledgeable entity that is actively involved in the creation of knowledge is a recent philosophic discussion. But the inquiry into human knowledge is not new. In this chapter I review the traditional understanding of knowledge, focusing on the precepts that have guided the understanding or rationalization of knowledge in Western culture. This is followed by an exploration of the ideas of Edmund Husserl and Edith Stein, two German philosophers who introduced the concept of phenomenal awareness: things we do without deliberation (the investigation of conscious experience), which includes an awareness of body knowledge. I conclude the review of the traditional rationale on body knowledge with a critical response to its inherently philosophic bias. I center my criticism on biologic differences between the sexes that predispose a woman and a man to perceive and reason differently. Although this seems to be beyond the scope of this dissertation, the fact that Mary is a woman affects the aesthetics and style of her art.

43 Merleau-Ponty’s book Phenomenology of Perception, 1962, is the most comprehensive inquiry into body knowledge.
Traditional Body Knowledge

In Western philosophy the question of human knowledge can be traced to Greek philosophers Plato and Aristotle. They reasoned knowledge is not in the human body but is immaterial. Plato (429-347 B.C.) speaks of the mind, the source of human knowledge, as equal to the soul. For Plato the soul survives the body; it never dies, and the body is mortal. Aristotle, a student of Plato, also believed in the existence of the soul but, unlike Plato, Aristotle believed the soul died when the body died. The rationale of humans having a body and an intelligent soul did not change in Western societies until two thousand years later. French philosopher, Rene Descartes (1596-1650) connected the mind with an individual’s consciousness, or self-awareness. His infamous pronouncement “I think therefore I am” places the mind at the center of one’s knowledge. In Descartes’ theory, the mind and thought define the individual; the physical body is just the animal or nature quality of being human. It is from Descartes theory that the Cartesian concept of human dualism arises—mind and body. Descartes’ concept of mind and body has affected how we perceive our bodies. It voids the body’s potential for its own awareness. It takes the sensory perceptions of the human body for granted.

Phenomenology: Edmund Husserl and Edith Stein

Since Descartes, many other philosophers have questioned the concept of human knowledge and tried to explain its existence. But for the purpose of this dissertation I will concentrate on those philosophers and philosophic theories that advance the concept of the body as a knowledgeable entity. German philosopher Edmund Husserl (1859-1938) elaborated on Descartes’ theory and created his own theory. Husserl is considered the father of phenomenology, a school of thought that analyzes the structures of
consciousness and experience. He worked to find an answer for how consciousness makes meaning. He looked to find knowledge on experience through perceptions, thoughts, and images and not from things themselves. Unlike Descartes who separated the mind from the body, Husserl considered the mind and the body to be distinct aspects of the same individual. Although Husserl held the belief that knowledge resided within consciousness, he believed that the body with all its sensory organs was the conduit of human experiences to consciousness. But he stressed that the living body and the physical body were different, that they represented different levels of being: to him, the living body meant the ability to perceive things—a phenomenon—while the corporeal body is the material thing comprised of muscles, sinew, neural pathways and circulation and brain waves. But he acknowledged that the living body is experienced in kinesthetic sensations making it the activator and the active. 44 Husserl’s concept of the experienced living body led to further investigation of how much the corporeal body really knows.

One of the perceptual investigators on knowledge after Husserl was his student and assistant, philosopher Edith Stein (1891-1942). Edith Stein’s theory of knowledge concentrates on the body as a receptor of knowledge and manager of knowledge. For Stein, the living body is both the sentient body and the material body. She ascribes to the idea that the living body is comprised of two entities, one that feels, and one that perceives the feeling. She was particularly interested in finding out about empathy. Why does one feel empathy? This question led her to research how the body acquires

knowledge and how this knowledge interacts between the material body, the sentient body and the world.

She articulates that the material body perceives with the senses and the sentient body makes value judgments on what the material body perceives. For example, when my hand scratches my leg I feel my leg being scratched and I feel my nails scratching my leg. In this action, the body perceives and creates feeling.\textsuperscript{45} The same concept can be applied to items outside the body. For example, the hand (body) squeezes and shapes a piece of clay. At the same time, the body perceives the shape, texture, temperature, and color of the clay. The sentient body acts and reacts on the sensed perceptions of the material body. For Stein, knowledge is in the sentient part of the body that acts and reacts with perceived stimuli from the material body. The mind is the sentient body, but the material body and the mind are closely related and dependent on each other.

Husserl and Stein’s philosophic inquiries moved closer to acknowledging that the body is resourceful, the body perceives the world and acts and reacts within that world. Still, they have not given the corporeal body enough credit for its sensibilities and abilities. Nonetheless, Edith Stein’s philosophic inquiry on empathy goes further than Husserl’s ideas on the body’s reception of one’s environment. She also began inquiries into the differences of how a man and a woman perceive and act in their world. However, her work only became known after her studies were published in 1959 (15 years after her death at Auschwitz).

A Woman’s vs. a Man’s Sense of the World

Stein’s research speaks of the essence of individuals being of a double species—man and woman. Her studies affirm that man and woman are not just different in a biologic way but their entire living-body, i.e. life, is something else, the relationship of soul and living-body is different. Stein says, “The female species answers to the unity and wholeness of the body-soul personality as a holistic, harmonious unfolding of the powers, the male species, to the perfecting of individual powers to the highest degree.”

Furthermore, she argues that there is a common essence in being woman (Merleau-Ponty uses the term “innate knowing” which is similar to essence), that is different from a man’s, but each individual woman is influenced by the times and by the particular environment of the woman’s life.

Stein’s ideas or similar concepts on how women perceive and act in the world vs. men, only begun to be debated by other academic women from the 1950s forward. For example, Simone de Beauvoir, French intellectual and philosopher, published *The Seconde Sex* in 1949 and French philosopher, Luce Irigaray published *This Sex Which Is Not One* in 1977. While Beauvoir’s *The Seconde Sex* emphasizes the gender roles instituted by society for both man and woman with women being treated as the other, a sub-species of man, while men were considered the developers, creators and inventors in society. *This Sex Which Is Not One*, by Irigaray, emphasizes the physiologic differences

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47 Ibid.
between a woman and a man that predisposes a female or a male individual to perceive and act in the world differently. These feminist theories, and others, did affect the philosophic discourse on women as individuals and opened the way for the discussion of human knowledge to include a woman’s perception on ideas and philosophic thought. Most of the discourse however focused on women’s predicament in society. Academic research by women scholars uncovered the inherent bias (from a male subjectivity) of historical facts and philosophical thought. In other words, the history and philosophy of mankind had been written by men and did not include a woman’s perception of the world and a woman’s rationale on ideas about society and mankind in general. But more importantly to this dissertation, historical philosophic thought did not take into consideration a woman’s predisposition to perceive the world in a more bodily, sensual manner, to have a more haptic sensory response of the world. Philosophical thought in general was/is based on observation (using mostly vision as a way to perceive). The belief that the sense of vision is the most accurate of the human senses has been the norm in western culture, possibly because it seems a man is more responsive to visual stimuli.

A Critical Response to Philosophic Bias

Most past and present philosophic scholars aspire to articulate their ideas as objective as humanly possible, and devise methods of inquiry to block interferences and subjectivity so that their theories can be pure, unbiased and as close to the scientific method as possible.48 Nevertheless, most philosophers since Greek times have been

48 The scientific method itself can be compromised by scientists’ beliefs and intentions. Ludwig Wittgenstein, German philosopher, fled the academy for he thought he could be more objective by mingling with the common folk. Ludwig Wittgenstein, *Philosophical Investigations*, trans, by G. E. M. Anscombe (Oxford 1963).
male, and their perceptions of the world are anchored from a male point of view. It does not mean their findings are wrong, it only means their findings have a male bias no matter how objective they try to be in their research. Because today’s philosophy of knowledge is still based on a man’s point of view of the world, feminists have questioned the validity of their findings. Feminists (women who fought for equal rights for women in society) faulted philosophic knowledge for being biased and male centered, leaving out a woman’s notion of knowledge. They criticized the traditional views of knowledge as being divorced from the individual—a male’s perception versus a female’s perception.49

Most of the feminist critique was directed at the bias inherent in the relations of power between men and women except for the French feminist and psychoanalytic philosopher Luce Irigaray (1930- ), who argued that the corporeal reality of the male body vs. the female body comes with a wide array of male and female sensory proclivities. 50 These biologic differences support a different pattern of thought, she argued. Her studies focused on the materiality or corporeality of feminine subjectivity and how it is different from a man’s corporeal subjectivity. These biological experiences have consequences on how a woman perceives the world and acts in the world. For example, a man ‘makes love’ outside himself. A woman ‘makes love’ inside herself. The woman is the recipient of the male organ and sperm in the act of intercourse. These are two different experiences that cannot be experienced by the other. Therefore, a woman’s perception of intercourse is different from a man’s perspective of the same act. A woman


carries a baby inside herself. This is different from carrying a baby outside of oneself. These are some of the male and female physiologic experiences that predispose a woman to perceive her environment and think differently than a man. More importantly, “Woman takes pleasure more from touching than from looking,” while man seems to derive more pleasure from looking. Yet, a woman lives in a society where visual stimuli are preponderant, which is contrary to her nature. This state of affairs may inhibit the expression of a woman’s abilities in society. For example, a woman artist in order for her artwork to be respected or valid may negate personal sensibilities in lieu of creating art that is expected by society, because what is respected and valid in society (a men’s culture) are artworks created from a man’s point of view.

The physiological differences of the sexes and their relationship to each other make up the subjectivity of a man’s perception and make up the subjectivity of a woman’s perception. In Irigaray’s argument a man cannot philosophize on human perception of the world and thought processes and be objective as a woman cannot philosophize on human perception of the world and be objective. The man and woman physiological differences and all that it entails—giving birth, being a mother, and being a son, birthed from a woman—places a man and a woman in a different sphere of experiences, thought processes, and knowledge. Woman and man are different. Therefore their perception of the world is different and philosophic research on human knowledge and being should consider this, during its process and on the evaluation of its findings.

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The Primacy of Sight

*Looking* and the culture of looking developed from the assumption that there are major advantages to sight versus the other senses, for example, the distance of reach and detachment from the cause-effect situation. Cultural scientist, Peter Sloterdijk wrote: “The eyes are the organic prototype of philosophy. Their enigma is that they not only can see, but are also able to see themselves seeing. This gives them a prominence among the body’s cognitive organs. A good part of philosophical thinking is actually only eye reflex, eye dialectic, seeing-one-self-see.” Moreover, the scientific precept to an objective research is based on the scientist’s observation of the subject. “[When] seeing I am not engaged by the seen object. … It let’s me be as I let it be.” It does not affect one’s body or the subject being observed.

Because men have been the philosophers, and sight has been the eyes of philosophy, or the conduit of perception, the traditional way of assessing knowledge has been mostly through the sense of vision. But relying mostly on the visual sense to assess and evaluate a situation or an object is limited. Seeing does not affect one’s body as the sense of touch does. In touch-experience there is an intercourse between one’s body and the object. Touch affects the object and one’s body, perhaps corrupting the integrity of

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53 Ibid., 514.

54 Ibid.
research. This seems to be the assumption. But in reality the sense of touch gives new meaning to an object or situation.

The belief that the visual is more objective than the haptic sense to analyze and reason has kept the research on knowledge away from the body and centered in the mind when in actuality what the eyes see does not have meaning. The eye is like a camera it only captures the images of objects in the world. It is up to the body/brain to decipher the picture. It is the body’s haptic experiential knowledge that knows if the object has volume, mass and weight. It is the body’s sensual experiential knowledge that knows if an object’s surface is soft or rough or cold or warm. What the eye sees or perceives, when looking at an object, is what the body already felt about the object. The eye alone is a hollow camera; it only transmits images. It is the body with all its cognitive sensors that has encountered the object or a similar object previously that gives the object seen by the eyes it’s meaning. For example, the images from planet Mars taken by Mars Odyssey 2001, a NASA probe, are fact checked with images or places on earth that scientists already know. Any object or thing transmitted by an image from Mars that does not resemble anything on earth will need to be checked and analyzed by a person walking around it, touching it, lifting it, etc., for it to be fully comprehended and understood.

The eye is limited in the capacity of making meaning. Today’s science has made us aware of the eyes limitations and vision reliability as it pertains to the justification of knowledge. But western philosophic thought throughout the centuries has used sight as the primary mode of perception and the construct that the eye is the most pure of the senses has geared philosophic research into neglecting, even deprecating our other bodily

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55 Hans, 514.
senses. This is relevant to my argument because being a woman, Mary might be predisposed to be more sensory inclined, and as such, I suggest that the sense of movement she is able to convey in her art work derived more from bodily sensory perceptions and less from visual cues or observation.

To further support the argument that bodily sensory perceptions are at the core of Mary’s aesthetic sensibilities, I am compelled to share a moment I experienced with Mary. As Mary spoke about what inspires her to create, she explained how the milkweed butterfly emerges from its cocoon. (I told her that I also had milkweed butterflies in my yard) and she asked me, “Did you ever feel the milkweed butterfly on your arm after it emerges from the cocoon and is still slightly wet and tacky?” At the same time she extends her bare arm and points to the place on it where the butterfly stood while its wings opened slowly as the goo dried out from its dormant gestation. Mary’s sensory memory of that moment is of the liquid or slime she felt on her arm. She wandered if I had felt that same sensation. She could not explain this experience with words alone so she extended her arm toward me looking at the spot where the butterfly had rested, trying to recapture that moment, as if the butterfly was still there. This exchange with Mary is another compelling anecdote that leads me to infer that Mary’s body is the means of her aesthetic experience. In other words, her body was steeped into dance aesthetics and her modern dance lessons with Graham instilled in her the courage to listen to her body and trust its knowledge.


Chapter 2

Bodily Knowledge

Moving toward a better understanding of the concept of bodily knowledge I consider relevant the exposition of two human stories or testimonies validating knowledge within the body. They are public accounts by respected individuals from different fields of knowledge and different eras. One account is of Michel Montaigne (1533-1592), a writer, an erudite humanist of the 16th century, and the other is of Dr. Jill Bolte-Taylor (b.1959), a neuroanatomist (a brain scientist who studies the anatomy of the brain). Their testimonies are a reminder that bodily knowledge is not something most of us are aware of, even though we do things every day without premeditation, such as, opening a door. Their narratives are also evidence on how the study of knowledge within our bodies has been neglected by science, despite the wide exposure their stories received. This dissertation acknowledges the relevance of their narratives because it supports the idea that bodily knowledge is in everything one does. It is one’s lack of introspection that fails to recognize its existence.

By considering the corporeal related experiences of these two individuals, this dissertation aims to place the human body as evidence that bodily knowledge is integral to human knowledge, and that dance bodily knowledge is a proficiency of specific skills that aid and abet the body’s senses. These dance sensibilities asserted in this dissertation as a hallmark of Mary’s sculptures are possibly a visual document of the unique character of bodily knowledge, or the things we learn in and through the body. Likewise, the bodily

58 Montaigne, a 16th century writer, exposed his experience in Essays of Montaigne. His essays are still being used today in our education curriculum. Dr. Taylor, a contemporary scientist, has decimated her experience with a lecture on TED.com. Her lecture has been watched by at least fifteen million people.
experiences narrated by Montaigne and Dr. Jill Taylor are personal records of conscious experiences on bodily knowledge.

The Account of Montaigne and Dr. Bolte - Taylor

The reason I chose to highlight the somatic experience of Montaigne, a 16th century man, is because of his stature during his time, and because his legendary writing skills are still relevant today in academia. But more importantly, because despite his eloquent account of the event, he actually dismissed the happening as a near death experience, or something spiritual that can happen to a few. In other words, Montaigne’s narrative indicates the philosophic thought on the body during his time (he predates Descartes by a few years). It confirms his cultural milieu (the French intellectuals) neglected the body as a knowledge entity. Nevertheless, his description of the event is a personal document that validates bodily knowledge.

Montaigne fell off a horse and went in and out of consciousness for a long period of time. As he lay on the road, he became aware of his physical self, without pain. Suddenly he was the experience and the observer. He noticed that his hands acted without his direction. “My stomach was so oppressed with the coagulated blood that my hands moved to that part, of their own voluntary motion, as they do to that itches, without being directed by our will.”59 Later on in his biographical essay, he claims this experience changed his life forever, “to this hour I am sensible to the bruises of that terrible shock.”60


60 Ibid.
Likely, he is speaking of the physical and psychological injuries that affected the quality and his outlook on life throughout. The trauma of such event still brought him physical pain and nightmares. But overall, he writes about the event as a near-death experience that brought him to appreciate life only better, because he survived. Montaigne’s attitude toward his experience is unusually distinct from that of Dr. Taylor, a contemporary female physician.

Dr. Jill Taylor gives an account of her corporeal experience in a lecture on TED.com, of how she became aware of the knowledgeable splendor of her own body.61 As she relates her story, she mentions that prior to her stroke (a condition in which the brain cells suddenly die because of a lack of oxygen) she barely noticed her body. She believed the human brain to be the beginning and end of all that is human. But during her stroke, she, like Montaigne, became the experience and the observer. As she was in the process of losing her speech and reasoning abilities (because of the stroke) her sensory perception became more acute. She said she felt enormous: “I could not squeeze the enormity of myself inside my body… I could not define the boundaries of my body. I did not know where I began and where I ended. … I felt connected to the external world. I felt so peaceful. I was one with the energy of the universe.”62 As Dr. Taylor suffered, gradually, the loss of her cognitive abilities her body sensory system became the modus in which she experienced the world around her. This was a new experience for her. But it opened up a distinctive novel way for her to experience the world. As a brain doctor, she

61 Dr. Jill Taylor is also the author of a book on the subject of her bodily experience called My Stroke of Insight, 2008.

62 See lecture, “My Stroke of Insight,” on www.TED.com, it has been archived since 2006.
now believes in the existence of sensory body abilities she was not aware of previously. These body capacities, she says, are innate in all individuals and we can be better, happier humans if we become more conscious of them for it will enrich our lives.63

Although somatic experiences such as that of Montaigne and Dr. Taylor are isolated they confirm the existence of bodily knowledge and articulate a larger sensory perceptual bond between the human body and its environment. This connection between the body and its physical and social environment is the basis for the development of phenomenology (the philosophic investigation of experience) and research on bodily knowledge.

**Phenomenology and Bodily Knowledge**

Contemporary philosophic theories on phenomenology and bodily knowledge, after Husserl and Stein, support the concept of bodily knowledge (knowing in and through the body).64 For the purpose of this dissertation, I examine elements of theories on bodily knowledge that answer relevant questions to my inquiry into dance bodily knowledge such as: how it is acquired? And how it may be transferred into the making of works of art? The aim is to arrive at a coherent understanding of how each theoretical concept relates to the acquisition of dance bodily knowledge and how this knowledge may be transferred or infused into the creation of sculpture. For this reason, I deliberate on phenomenological studies, supported by concepts that specifically speak of bodily knowledge: body memories, body reflections, somatic awareness and thinking in

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63 Jill Taylor, “My Stroke of Insight,” TED.com

64 The term body knowledge and bodily knowledge in my view are interchangeable.
movement, to articulate a body of research that will shed light into the paradox of how bodily knowledge affects the art one creates.

Although the field of phenomenology and bodily knowledge is not that vast, I still narrow my discussion of bodily knowledge to those theorists that are distinguished in their field and offer significant research that is compelling and applicable to my exploration on the subject of dance bodily knowledge. The literature on dance bodily knowledge is scant. I attribute the lack of studies on dance knowledge to the nature of dance itself. Dance is centered on the body. Professional dancers usually express themselves by dancing not writing. However there are a few theories on experiential dance knowledge that are particularly relevant to this dissertation. These are theories put forward by academic scholars who were also dancers. Their analytic perceptions of dance knowledge and their exploration of theories on knowledge add further insight into the knowledge of the dancing body.

I begin the discussion on bodily knowledge with the concept of habit acquisition and its manifestation on one’s environment proposed by Maurice Merleau-Ponty. I support his theory with Edward Casey’s ideas on body memories and how it affects future behavior or actions. This is followed by Michael Polanyi’s concept of tacit knowledge (knowledge that has been acquired by the body) and Pierre Bourdieu’s habitus theory with a particular inflection on his concept, practical reflection, which I compare with the concept of thinking in movement proposed by Maxine Sheets-Johnstone, a dancer and scholar. In addition, I introduce and discuss Richard Shusterman’s concept of somatic awareness, or somaesthetics. Then I focus on ideas directly related to the concept of dance bodily knowledge. In chronological order these are: Barbara Mettler’s ideas on
dance knowledge and the visual arts (1947); Maxine Sheets-Johnstone’s *Thinking in Movement*, (1999); and Jaana Parviainen’s concept that dance knowledge is living knowledge (2002).

**Maurice Merleau-Ponty: the Acquisition of a Habit**

One cannot speak of somatic knowledge without mentioning the philosopher Merleau-Ponty (1908-1961), known for his studies on phenomenology of perception, or essences of human perception. His book *Phenomenology of Perception*, (1962), establishes a theory of body knowledge that is referred to by all subsequent studies carried out by others on the subject, including Bourdieu, Casey, Sheets-Johnstone, Parviainen, and Shusterman. 65

For the purpose of my argument, I focus on Merleau-Ponty’s writings dedicated to the acquisition of body knowledge through movement—especially his ideas on acquired skills, or, as he calls it “the acquisition of a habit.”66 Merleau-Ponty’s habit theory articulates that humans develop ways of being in the world through the body. Somatic knowledge is part of our biology and it is universal. Walking, eating, drinking, speaking, and running are somatic knowledge activities. Somatic knowledge is acquired through the process of doing and experiencing life as one develops and ages. It is something one does every day. It is repetitive. It becomes a habit—it is part of one’s schema. A habit for Merleau-Ponty is a type of body action or movement that one is able to do without thinking about it. The body moves or acts spontaneously without


66 Ibid.
consciously being aware of the action. For example, if I have an itch in my eye my hand lifts and scratches the itching area automatically. I do this without thinking. My body knows what to do without my deliberating about it.

Another aspect of Merleau-Ponty’s concept of habit acquisition is that perception and skill acquisition require an active body and that the practice of a motor skill such as dance can greatly improve and elevate a “biologic skill” to a fresh core of significance.67 He basically argues that learning to dance is a body acquired skill that can become a somatic habit but it is not just a basic habit common to all but it is a habit that takes one to an elevated sphere of perception, beyond the biologic set of skills that all humans seem to perform well, without thinking. This basic tenet (I argue) is part of Mary Frank’s unique way of forming her sculpture. Her *dance bodily knowledge*, which I suggest is part of her schema, places her in a higher plateau of body-movement-awareness that she transfers onto her art works. Moreover, Merleau-Ponty also connects one’s body-acquired skills to the creation of something outside of the body. That means one’s body knowledge can be articulated in an aesthetic form outside of the body such as the creation of art. This idea supports my suggestion that Mary passed her dancing experience onto the creation of her pieces. Merleau-Pointy writes:

> The body is our general medium for having a world. Sometimes it is restricted to the actions necessary for the conservation of life, and accordingly it posits around us a biological world; at other times, elaborating upon these primary actions and moving from their literal to a figurative meaning, it manifests through them a core of new significance: this is true of motor habits such as dancing. Sometimes, finally, the meaning aimed at cannot be achieved by the body’s natural means; it must then build itself an instrument, and it projects thereby around itself a cultural world. At all levels it performs the same

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67 Merleau-Ponty, 146.
function, which is to endow the instantaneous expressions of spontaneity with ‘a little renewable action and independent existence’. Habit is merely a form of this fundamental power.68

With this statement, Merleau-Ponty probes deeper into the body’s capabilities of somatic perception and the deliverance of meaning to a “cultural world” outside of the body from “one’s world,” or the knowledge within one’s body such as dance.69 He does not stop at the body as the instrument of expression, but includes the utilization of tools made by man, as an extension of the body to execute or express knowledge. The tools he has in mind are the tools used by an artist, a painter. In this case, he is speaking about Leonardo de Vinci because he quotes in the paragraph above French poet and critic Paul Valéry’s (1871-1945) phrase, “a little renewable action and independent existence” from an article titled, Introduction A la Méthode de Leonard de Vinci (Introduction to Leonard de Vinci’s Method). 70 The title of the article indicates that when Merleau-Ponty writes: “it must then build itself an instrument” to overcome the body’s limitations, he is indirectly referring to a paintbrush, or pencil held by Leonardo de Vinci. It is with this paintbrush or pencil, an object not part of the body, held by the body by one’s hand and fingers, that the body is able to create a cultural world through paintings and drawings. Thus, one can reason that the same could be said for a sculptor modeling a form in clay or stone using one’s hands and tools as instruments to create—to model form, a cultural world outside of the body.

68 Merleau-Ponty, 146.
69 Ibid.
70 Ibid.
To recapitulate, Merleau-Ponty declares that through the practice of specific somatic engaging skills such as dancing, drawing, and painting, a motor habit is acquired, and these habits or styles acquired by the body have the power to be creative and act in a spontaneous way without deep thinking or deliberation. He does not elaborate specifically on the potential of the dancing habit to be able to create figurative meaning beyond the use of the body as the instrument to express dance. But he does articulate that a skill such as dancing, a selective body activity, is able to add meaning to a cultural world because it goes beyond the basic habit skills of survival, and because it endows the body with perceptive uniqueness that in turn can enrich the cultural world with new meanings.

Dancing skills endow the human body with habits different from those of the general populace. Skilled dancers develop an acute spatial awareness of their body as a function of the practice of dance movement. For example, dancers know their kinetic body parts and how each must move to balance each other within the field gravitational field. Dancers, like singers, use the breath—inhaling and exhaling—as pulsating energy in syncopation with dance movements. In other words, dancers acquire a body schema above the basic or biologic base body functions, such as walking, bending, sitting and reaching. It is with a dancer’s body schema that a dancer encounters the world and moves through it. A dancer’s perception of the world is thus perceived through a heightened awareness of the body moving in space. This heightened awareness of the body in space contributes to a dancer’s cultural world. Thus, it is plausible that Mary’s clay sculptures are spontaneous expressions, a direct result of habit formation such as the repetitive practice of specific motor skills in dancing. This means that dance bodily knowledge or
dance habits shape her world. According to Merleau-Ponty, habits are formed without one even thinking about them. It happens as we live, as we move through the world, and when we act, we also do them spontaneously. Our actions are a reflex of our world. Hence, it is reasonable to posit that when Mary built her clay sculptures she spontaneously inserted onto them her somatic dance knowledge. One could say she imbued each piece with dance energy—with a flickering turbulence—that is not found in other figurative sculpture.

Following Merleau-Ponty’s reasoning on how one is able to express an acquired habit Mary didn’t have to think about how to express energy and movement on the clay medium. In other words, she could have manipulated the slabs of clay, to build sculpture, by moving her hands and fingers over and under it, manifesting in it, unconsciously, her own bodily awareness, of a moving, living, figure in space.

Merleau-Ponty also suggests that a dancer incorporates dance movement in her/his world. In this case, one could argue that the artist, Mary Frank, embodied the internal and external body sensations of dance movement when she was a dance practitioner during her teenage years. She did not need to have been a practicing dancer at the time she created her clay sculptures. Merleau-Ponty argues that when a habit is developed or acquired, it stays in the body. It is part of “one’s world.”71 This concept resonates with Edward Casey’s idea that habitual body memories function at a deeply “pre-reflective” level.72 By pre-reflective he means experiential knowledge that is in the

71 Merleau-Ponty, 146.

body not in the mind. The body is where past actions are imbedded. Body memory is part of the whole body not just stored in the brain or mind. He asserts, “Without prior experience or practice, there would be no body memory at all, for there would be nothing to be re-enacted.”

Hence one could argue, that it is Mary’s experiential knowledge of dance that enables her to incorporate movement sensibilities into her clay sculptures, and her dance somatic knowledge is unconsciously transferred to her sculptures as she, the artist, engages with the medium, manipulating it with purpose and aesthetic intent. Thus she is able to automatically transpose her dance experiential knowledge, of the human figure in space, into her clay work without the need to visually observe of a representation of an image or a model.

Merleau-Ponty also speaks of the engagement of the body with a situation. He claims one’s body is simply solicited by its engagement in the situation when he writes, “Whether a system of motor or perceptual powers, our body is not an object for an “I think,” it is a grouping of live-through meanings which moves toward its equilibrium.”

In other words, the body does not think in the moment of action, it responds to the situation with immediacy with all that it knows. Hence, I suggest that Mary handles the clay medium as she builds her clay figures as a reaction or a response to the call of the situation, shaping the clay with all her body’s perceptual powers of movement in space. I can imagine her pulling and tugging at the slabs of clay with hands and body enabling the material to respond and mold to her somatic dance aesthetic. It is in this manner that I

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73 Casey, 148.

74 Merleau-Ponty, 153.
think Mary is able to transfer her dance knowledge into her clay works, giving life to her clay figures the way her body knows best, with the know-how of dance movement.

I am not suggesting that Mary did not plan her large sculptural forms with sketches drawings or even clay models. She did. But not in a manner that is methodically and prescribed. From what I observed of her and her artwork in her studio, she works with various pieces at once. Each work grows out of the other. A sketch of a figure may become a paper-cut displayed onto a windowpane so that light filters through the contours on the paper figure, thus presenting a different expression of the figure. A twig, or an orange lantern flower, from her garden may be added to the composition a day later. A crusted wood-fired clay figure may be placed on a scene she painted on her studio floor with pastels. She takes from one work and adds to another. The artworks keep evolving as she keeps manipulating different composition possibilities and media. In other words Mary’s sketches are not really sketches for a larger or more precise artwork. The sketches become an artwork or an element of a more elaborate piece. For example, one can easily grasp the similarities in Mary’s *Persephone* drawing and Mary’s *Persephone* sculpture (images on the next page).
Fig. 1. Mary Frank, *Persephone*, 1985, Charcoal, Conté crayon, 35.5/8 x 60.3/4”.

Yet, each is an individual work of art. Each is a different expression of *Persephone* by Mary Frank. Furthermore, the nature of building sculpture from loose slabs of clay is itself an open and immediate process. So much distortion, cracking and breakage happens during clay firings that the attempt to control the exact shape of each clay slab is nonsensical.

**Michael Polanyi: Tacit Knowledge**

Another way of understanding how embodied knowledge is acquired and developed is through the examination of tacit knowledge, the knowledge one acquires by learning a skill or by one’s acquired body perception of the world—a concept developed by Philosopher Michael Polanyi.  

Polanyi (1891-1976) states that, “there are things that we know but cannot tell.”

For example, we know how to ride a bicycle but do not know what parts of our body come together to allow us to balance our bodies atop a triangular bar with two wheels and pedal our way for a ride. Today’s science might have an answer but the point is that we really do not need to know the physiology of it all to learn how to ride a bicycle. So we can say that in knowing how to ride a bicycle there are things that we know but we...

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75 Michael Polanyi (1891-1976) is the author of *Personal Knowledge* (1958), *The Tacit Dimension* (1966), *Knowing and Being: Essays* (1968), is a philosopher, among others, who transitioned to the field of philosophy from the field of physical sciences. Later, in his career as a scholar, he became advocate against objectivism (belief in independent truths), and a supporter that personal judgments and commitments played a role on the outcomes of scientific research. After years of practicing the “scientific method” in his career as a polymath he came to the conclusion that the scientific method does not produce truths mechanically. In other words, an individual’s personal knowledge does affect one’s scientific research.

cannot explain how they really happen.\textsuperscript{77} To this end, Polanyi developed two key terms that define this kind of knowing. They are \textit{tacit knowledge} and \textit{focal knowledge}.\textsuperscript{78} \textit{Tacit knowledge} is knowledge we have acquired by learning a skill or, at its more basic level, the knowledge we acquire through our body’s attention to things in the world. Thus \textit{tacit knowledge} is similar to the structure of the knowing of a skill. One acquires it by experiencing the world or by practicing a particular skill. \textit{Focal knowledge} is that thing our body is focusing on, or paying attention to; it is new knowledge in the process of being acquired.

Polanyi’s theory is pertinent to my argument because it actually focuses on body skills and treats knowledge as having a structure similar to the learning of skills such as motor skills. According to Polanyi, \textit{tacit knowledge} helps in the formation of new knowledge—\textit{focal knowledge}, and all knowledge is rooted in \textit{tacit knowledge}. For instance, previous knowledge helps the body to respond to a situation or process at hand, and after the task or experience has been accomplished or processed this new knowledge becomes part of \textit{tacit knowledge}. For example, a female dancer who is a practitioner of one or various dance techniques (such as ballet and modern dance) will be able to use her dance knowledge and move with fluidity and aesthetically if asked to dance an impromptu dance phrase. She makes use of her tacit knowledge to improvise the task at hand—the impromptu dance. As she dances, she is focused on the dancing, experiencing new adaptations of movement, things that are new knowledge. The dancer is able to improvise a dance because dance movement is imbedded in her or his schema; or is a

\textsuperscript{77} Polanyi, Tacit Knowing, 601- 616.

\textsuperscript{78} Ibid.
pattern of dance movement that the dancer’s body has acquired. It is previous dance knowledge that enables the dancer to develop an impromptu performance, even though the dancer has not practiced or danced the dance before. As the dancer dances, there is no thinking about which leg to lift, when to turn or jump. She or he relies on tacit knowledge to guide the body through a new dance situation with balance and grace. She or he just does it—dances. If asked, the dancer cannot tell how she or he does it and probably is not even aware that she or he has acquired new dance knowledge during the process.

Polanyi’s notion that we know but cannot tell how is an indication that Mary Frank might have availed herself of dance bodily knowledge when she built her sculptures. The application of his theory of tacit knowledge to the way she creates her clay pieces seems rational. I argue that she uses her knowledge of dance movement without even knowing she is using it. Her dance knowledge is part of her world, as Merleau-Ponty would say, and, in Polanyi’s view it is part of her tacit knowledge. By making use of Polanyi’s terms, one can deduce that Mary uses her dance knowledge when she is in the midst of actually making her sculptural work, focusing and adapting her dance knowledge onto the clay form. Therefore, one could extrapolate that Mary’s knowledge of dance movement: the aesthetic and proprioceptive knowledge of dance—how the body feels in dance movement—is called into action during the process of hand-building the clay slabs that make-up her figures. She manipulates the clay material as if it were “flesh,” she said at one point, when asked why she used the clay medium.\(^\text{79}\) The form changes and transforms in her hands as she responds to its plasticity by shaping it

\(^{79}\) Herrera, Mary Frank, 42.
into abstracted figurative parts with a sense of movement, a movement she is quite familiar with: dancing.

**Pierre Bourdieu: Practical Reflection**

Pierre Bourdieu (1930-2002) calls this type of body activity (performing relying on tacit knowledge) *practical reflection*, which Bourdieu defines as the manner in which a trained person is able to improve a posture or correct a wrong position in action.80 For example, in the case of a performance by a pianist, or in this case a dancer, there can be a “certain form of thought or even of practical reflection” as the artist performs.81 Bourdieu believes, “there is a reflection in situation and in action which is necessary to evaluate the action or posture just produced to correct a wrong position of the body, or recover an imperfect movement.”82 He is not speaking of a thoughtful analysis of a gesture or movement that could hinder the performance or action. He is expressing the idea that the body of the pianist is at a heightened bodily awareness, due to training, that it immediately evaluates the action in situation. This same concept is captured by the dancer-scholar Maxine Sheets-Johnstone with the term: *thinking in movement*. She articulates that in the action of dance improvisation, the body knows when a movement does not feel right; it is out of alignment or lost energy, and the body quickly responds in

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82 Ibid., 162.
action. There is no prior contemplation beforehand or analysis during the act of the
dance. There is only moving and sensing, sensing and moving.83

From my experience, Bourdieu’s *practical reflection* concept plays a large role in
the creation of visual art forms. For example, when an artist is in the throes of a creative
moment, she or he is able to block out the outside ‘noise’ to be one with the form. There
is no scrambling for ideas but only action and reaction to the material or instrument at
hand. Mary concurs that in the throes of creating she is not analyzing the action. She goes
into the action with “the feeling of the moment.”84 Thus, I suggest it is the experiential
knowledge within one’s body that allows this phenomenon to happen. It does not mean
that artwork is created unconsciously. It means that when an artist is in the midst of
creation, he or she puts his or her bodily practical experience, or tacit knowledge, into
action without censoring, but acting with knowledge. Later on, the artist may or may not
analyze the object or form critically and make changes if need be.

I am further persuaded that Mary uses her *dance bodily knowledge* when she is
actively involved in the process of creating art by the compelling evidence shown in a
film about the artist. Mary connects her dance knowledge to her creative process in the
film, *Visions of Mary Frank*, when she draws an ink line with a paintbrush.85 In the film,
she moves her arm as she guides the paintbrush in her hand over the paper and does not
stop the arm movement even though the paintbrush has run out of ink. She completes the

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84 Mary Frank, interview by author, Woodstock, June 25, New York, 2013.

movement as a dancer would. She calls this style of drawing “flying dry” and she says: “In a way it is like dancing.” At this rare moment, in the film, she analyzes a specific facet of her artistic process, by making a correlation between the gestural movement of drawing and dance movement. Mary’s analytical moment about her creative process, although rare, (she does not like to talk about the meaning of her art works) demonstrates that dance knowledge is imbedded in her body, her aesthetics, and style, and, she may activate this knowledge in action, when she is involved in the creation of sculpture. I believe that this is what Bourdieu’s concept of practical reflection signifies.

The concept of practical reflection is a subsidiary of a much encompassing bodily knowledge theory by Bourdieu: his habitus theory. Bourdieu’s habitus means the acquisition of values, rules, language, and gestures depending on the socio-economic strata and physical space an individual lives and interacts with, and ultimately the latter relates directly to positions of power within that society. He uses the term bodily knowledge, a term that he coined to articulate his habitus theory. Bourdieu’s concept of bodily knowledge means the acquisition of human habits, unconsciously, not by individual choice, but imposed by societal rules or traditional norms within a group or social class status. He places great importance on the body habits of groups and as such his concept of bodily knowledge is directed toward a social and historical position of human beings in society. (Bourdieu’s habitus is unlike Merleau-Ponty’s definition of habit, which presupposes a biologic or innate human ability, something one is born with). Bourdieu’s emphasis is in the societal structures and laws that define and create a human

being given a certain physical space and social space. “The body is in the social world but the social world is in the body.”

Bourdieu’s philosophic works are based on the observation of large groups in society and the analysis of each group’s power positions within society based on their body’s mannerisms, attitudes, fashion, and dialect. He also takes into account specific individual traits but only so far as they fit within a group in a specific society, for example, the dialect of the Cajun people of Louisiana. Bourdieu’s theory of knowledge presupposes that a body or person occupies not only a position in physical space but also in social space. The body as physical space is the entity that interacts with the social space and becomes the *habitus*, or ways of being, in the world. The social space—physical objects and intellectual activities—is the space the body engages with to form its own *habitus*.

Skilled individuals in the arts or sports make up a very small sector of society. The dance field is further divided by different dance styles: ballet, jazz, modern dance. Furthermore, each dance style is further divided by individual schools, for example modern dance practice such as Martha Graham’s school emphasized the individuality of each dancer’s anatomic dance strengths and weakness, and it relied on the centrality of the hips as the axis for all movement. These small clusters of specific bodily knowledge did not meet Bourdieu’s conditions for research. Nonetheless, there are core

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87 Bourdieu, Pascalian Meditations, 152.

88 Ibid, 134.

dance movement styles specific to modern dance and its various dance schools including Graham’s dance school that can be traced in a dancer’s movement style. A study on the ethnography of the body of professional classic ballerinas from world elite schools revealed that ballerinas do retain specific movement traits that can be traced to individual habitus, institutional habitus and choreographic habitus.\textsuperscript{90} Thus, Bourdieu’s \textit{habitus} theory could be appropriated to assess dancer’s habits if one is aware of the different dancing styles and specific schools of dance. Nonetheless, he disavows artistic and athletic motor skills from his theory because it is out of his field.\textsuperscript{91}

In the case of Mary Frank’s sculpture, I can easily recognize certain traits or \textit{habitus} that could be attributed to Graham’s Technique. These are stylized movements. For example, the position of the leg that touches the ground with the knee on \textit{Persephone}, figure 2, page 52, can be attributed to a physical rotation from the floor technique used in Graham’s dance classes. The opening of the chest and neck extension while inhaling, observable on \textit{Persephone} and \textit{Three Dancers}, figure 15, page 120, can also be traced to the breath technique emphasized by Graham’s Technique. Furthermore, Mary created the sculptures when she was no longer dancing which presupposes a habit had been created. The fact that one may not have been practicing an activity for a while does not seem to affect the reliability of its activation at a later time. This is the reason why theorists called it habit. An action becomes a habit when one does it without thinking.


\textsuperscript{91} Bourdieu, Pascalian Meditations, 162.
Edward Casey: Body Memories

The phenomenon, acting without deliberation, is further supported by Edward Casey (b. 1939) whose studies focused on body memories and explored the idea that body memories become the habitual even though one may not be practicing that activity any longer. He asserts that body memories are far from passive in character even if they had not been active for many years. In this manner, body memories reflect their origins by inserting themselves into current action. Thus the visual elements of modern dance style from Graham’s teaching method. I recognize in Mary’s sculptures can be attributed to the habitual manner in which Mary’s body was taught to behave in dance practice. Casey’s concept of the habitual suggest that Frank is able to transfer her dance bodily knowledge onto her forms, although she has not danced for many years. In other words, body memories can be activated into an individual’s current action even though it may not be the same exact action. In Mary’s case, the body action of building slabs of clay may not resemble dance movement but the movement energy implied on each clay slab is definitely imbued with the feeling of movement of a dance action. Thus, Casey’s theory supports my argument that dancing habitudes of Mary’s youth can be injected into her current clay sculptures, albeit created twenty-five years after she was a dancer.

92 Casey, 146.

93 Unlike Merleau-Ponty’s term ‘habit’ and Bourdieu’s ‘habitus,’ Casey uses the term ‘habitude’ to describe bodily knowledge that is imbedded in the body but he means it in a more physical sense, as if body memories are imbedded in the body in the same way body organs are in one’s body. Polanyi’s theory of tacit knowledge and focal knowledge is similar to Merleau-Ponty’s ‘acquisition of a habit’ concept, but more descriptive and specific. Merleau-Ponty speaks of the knowing body ‘reaching an equilibrium’ when we are presented with new things that we need to attend to. This is ambiguous. Polanyi’s theory is explicit and makes sense. The acquisition of a bodily skill such as dance knowledge opens up new venues of individual perception and comprehension that facilitates the acquisition of new knowledge.
Richard Shusterman: Somaesthetics

A more recent theory on bodily knowledge, *somaesthetics*, has been proposed by philosopher and scholar, Richard Shusterman (b.1949). The concept of somaesthetics introduces the notion that the body has the potential to change itself; for example, change bad habits and create better habits consciously. It proposes somatic awareness, or meditation with a purpose. Shusterman’s somaesthetics is a theoretical philosophy that includes three branches: analytical, pragmatic and practical. This discussion focuses on the practical dimension of somaesthetics.

Shusterman is a practitioner of the Feldenkrais Method, a self-awareness therapy, and Zen, a Japanese body-mind discipline. He is a disciple of pragmatic philosophy, which, in his case, indicates the use of his own experience with body awareness as the basis for his theory. He developed the term somaesthetics based on the belief that the body has its own aesthetic principles and a natural discerning ability. But somaesthetics is more than a meditation therapy. It is an embodied philosophy that makes use of the “real body to thought through one’s own somatic style and behavior, demonstrating one’s philosophy through one’s own bodily example, [and] expressing it through one’s manner of living.” Shusterman articulates that introspective body analysis has the power to

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94 Richard Shusterman is the Dorothy F Schmidt Eminent Scholar in the Humanities and Professor of Philosophy at Florida Atlantic University, Boca Raton and author of *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics* (2008), and *Thinking Through the Body: Essays in Somaesthetics* (2011).

95 The Feldenkrais Method was developed by Moshe Feldenkrais who wrote various books on the subject of body awareness as therapy, for example, *Awareness Through Movement* (1977); *Body and Mature Behavior: A Study of Anxiety, Sex, Gravitation, and Learning* (1949); *The Case of Nora: Body Awareness as Healing Therapy* (1977); *The Potent Self* (1992).

shape one’s body, physically and mentally and therefore direct one’s world. Therefore he 
“advocates somatic training as a worthy dimension of philosophical cultivation and 
expression.”97

He readily admits that these body self-awareness practices: The Feldenkrais 
Method, Zen, Alexander’ Technique, Yoga, and others, have shaped his philosophical 
thought. But he argues the merits of his philosophy by reexamining the philosophic 
thought of earlier pragmatic philosophers such as William James (1842-1910), author of 
The Principles of Psychology, 1890; and John Dewey (1859-1952), author of Art as 
Experience, 1934.98 These are two philosophers whose schools of thought acknowledge 
the body’s role in emotions, thought and action. Shusterman analyzes the personal life of 
William James vis à vis James’ philosophic thought.99 He juxtaposes James philosophic 
ideas with James’ actual physical and mental ailments and makes a persuasive argument 
that James’ physical and mental frailties shaped his philosophic thought. The connection 
of James’ bodily shortcomings to his philosophy is sufficient justification for Shusterman 
to defend the rationale that his own excursions into somatic therapeutic and meditation 
practices influence his own philosophic ideas.

It is also from the premise of his own somatic awareness experience that 
Shusterman takes to task Merleau-Ponty’s ideas on phenomenology and perception.

97 Shusterman, Thinking through the Body: Essays in Somaesthetics, 55

98 Richard Shusterman, Body Consciousness: A Philosophy of Mindfulness and Somaesthetics 
(2008), Preface xiii.

98 Shusterman, Thinking through the Body: Essays in Somaesthetics, 55

100 Shusterman, Body Consciousness, 135-179.
According to Shusterman, Merleau-Ponty’s deliberations on phenomenology have a “Somatic Attention Deficit,” meaning there is a lack of introspection and reliance on the body to self-correct.\textsuperscript{100} He also faults Bourdieu’s \textit{habitus} theory for leaving the actual individual body without much power. He states that Merleau-Ponty’s and Bourdieu’s theories relate bodily knowledge to the unconscious assimilation of habits from one’s environment and social structure and as such the body is but a representation of its social world.\textsuperscript{101} Shusterman’s somaesthetics is not contrary to the assessment that one’s body assimilates habits from one’s social and physical environment, but he argues that with the practice of somaesthetics—the process of self-analyzing one’s body through proprioception, and the consciously modification of such habits that inhibit the senses and therefore perception—the soma can change one’s own world. In other words, Shusterman’s concept of somaesthetics firmly endorses the idea that our thought is conditioned by our own experience but it advocates that the individual has the power to condition one’s experience by self-analyzing to ameliorate perception skills.

Shusterman acknowledges that traditional philosophy has accepted that knowledge is acquired through sensory perception. But because human perception has not proven reliable, western philosophers, overall, have been engaged in a critique of the senses, “by subjecting them to discursive reason.”\textsuperscript{102} He argues that human perception can be more reliable if human senses are tuned up. He believes the body has the power to

\textsuperscript{100} Shusterman, \textit{Body Consciousness}, 49.

\textsuperscript{101} Shusterman, \textit{Thinking through the Body: Essays in Somaesthetics}, 54.

\textsuperscript{102} Richard Shusterman, \textit{Body Consciousness}, 19.
change one’s world through the practice of somaesthetics, because somaesthetics as the “critical ameliorative study of one’s experience and use of one’s body as a locus of sensory-aesthetic appreciation (aesthesis) and creative self-fashioning”\textsuperscript{103} can change one’s body to make its perceptions more reliable. In other words, body awareness has the power to correct the actual performance of the senses by improving one’s body because “the senses belong to and are conditioned by the soma.”\textsuperscript{104} For example, shoulder tightness is a condition provoked by the tightening of the shoulders muscles, a body habit affecting many people under stress. It not only causes pain but it impairs one’s lateral perception because one cannot turn one’s head laterally. This habit of squeezing the shoulders can be isolated and selected for improvement through meditation and self-analyses. Thus, self-analyses of corporeal habits can have a positive effect in all facets of one’s life.\textsuperscript{105}

Two aspects of Shusterman’s somaesthetics concept seem directly related to dance education. One is the suggestion that somaesthetics training is worthy of cultivation. The other; is the idea that somaesthetics is a philosophy of the body that should be taught by example.\textsuperscript{106} This means that one just does not start meditation and self-analyzing one’s habits for correction without some type of training, and that the trainer should have had experiential knowledge of the discipline he/she is teaching.

\textsuperscript{103} Richard Shusterman, \textit{Body Consciousness}, 19

\textsuperscript{104} Ibid.

\textsuperscript{105} Ibid.

In this respect the concept of somaesthetics is analogous to dance training.\textsuperscript{107} Dance is a discipline that is taught by example from a body to a body and by dance experts. Dance is a corporeal activity that changes the soma: physically and perceptually. A dancer learns that through practice the body will yield to new modes of movement. It takes many years of practice for a dancer to acquire physical flexibility and a vocabulary of dance steps and phrases. After years of dance training, dance know-how is embodied in a dancer’s body. Specific dance traits become habits and these dance habits are a dancer’s aesthetic vocabulary of movement. Body gestures acquired through dance training that can become movement habits are often used by the soma outside of dance performance. This is the way Shusterman envisions the ameliorative qualities of somaesthetics. After the new trait, or physical stance, is learned or acquired it becomes a habit—a better habit.

My argument that Mary Frank uses her dance bodily experience, or tacit knowledge, in the creation of her art resonates with Shusterman’s argument that bodily experiences shape what we do and how we do it. More importantly it is his description of how the body’s sensory reception can be made more reliable or how one’s sensory acuity can improve through self-somatic analysis that I find affinity or a parallel to a dancer’s somatic awareness. Certainly the corporeal perception of a ballet dancer or a modern dance dancer expands beyond the physical sensory abilities of the somatic reality of a person non-dancer. The body trained to dance has a range of physical experiential knowledge beyond the regular, daily, physical movement routine. A dancer’s body is in tune with muscle stretching, skeletal gesture, posture, gravity and above all movement

\textsuperscript{107} Here again I am referring to the practical branch of somaesthetics.
coordination. In addition, because of the nature of dance education, dancers in general are better aware of their bodies’ propensities to specific muscular tightness. They have experienced physical injury throughout dance and are aware of its impediment to proper dance movement flow.\textsuperscript{108} This is the reason that actual dance movement is always preceded by stretches and warm-up exercises. It is during the stretching and warm-up exercises that dancers connect to their own bodies’ flexibility or tightness and prepare for dance movement. This self-physical awareness routine—pre-dance exercises—is a somatic introspective awareness that dancers have internalized, becoming a habit. Therefore, I argue that the warm-up, or pre-conditioning, before dancing, has conditioned dancer-people for a better sensory perception of their own bodies out and about the world around them beyond the dance studio. Thus, upholding Shusterman’s argument that the training in somatic awareness predisposes a person’s perceptions to be more reliable, I propose that a dancer’s perception of the world, because of the education in movement coordination and self-physical awareness, prepares the dancer to act in the world around her/him not just more somatically aware. It is my position that a dancer’s somatic knowledge has the capacity to expand beyond the notion of the body just being more reliable because of dance physical activity. Dance somatic knowledge opens up a new world of impressions, and forms that the artist can exploit to create.

Shusterman’s somaesthetics aspires for somatic awareness to be a way of being—consciously in body awareness all the time—as one moves, as one sculpts, and as one speaks and thinks. This is a lofty goal for an artist because one is rarely aware of one’s

\textsuperscript{108} I vividly recall Professor Clarence Brooks arriving in class with a torso sock or warmer because he had hurt the muscles of his back over the weekend while moving a couch.
body parts in the midst of artistic fervor. That is my experience when dancing and when building forms out of clay. It is also the experience of other artists with whom I have conversed, including Mary Frank. In the act of creation, the body of the artist concentrates on the action at hand and is not consciously aware of its own physical reality. In other words, during the time of creation I express my intentions making use of my body’s senses, but I do not dwell on somatic analysis on how I make any particular clay form in the moment of action. Shusterman theory acknowledges that when artists are in the moment of creation they are not focusing on bodily feelings either, but his theory encourages one to shift the focus and become aware of bodily feelings to better performance in the long run. Although, I agree with Shusterman’s concept that somatic analysis and reflection of specific movements can improve the understanding of one’s body dynamics and that this may affect how one perceives and acts, one does not reflect or analyze a specific body action in the midst of creating an artwork. I may self-analyze a body action if my primary intent is to analyze the action or body tension itself at the moment of action. But these are two separate things. For example, one may analyze a motor action for correcting the way one stretches a slab of clay by hand until one is able to achieve the perfect hand and elbow coordination that facilitates stretching the clay, but this is a repetitive action. When one is involved in creating a new choreography or a new clay form new bodily coordination is being formed, therefore it is difficult to analyze a new gesture or movement combinations. However, one may be able to analyze one’s bodily feelings if the action performed becomes repetitive. But if one is creating

something original there is not much to analyze because the form itself is evolving and so are the movements to create the form. Yet, when that new form becomes repetitive, than somatic analyses can be beneficial. According to Shusterman’s theory, it is through somatic analysis that new habits can be formed to replace or improve detrimental habits. Only when a habit has been replaced by another habit, which can take months or years, is a body behavior changed. Conversely, a dancer-sculptor, such as Mary, I suggest, creates visual art pieces in space by ‘being in the moment,’ not self-analyzing her dancer’s bodily knowledge but creating artistic forms without even being aware of it.

To summarize, Shusterman’s somaesthetics theory accepts bodily knowledge and empowers the soma to self-correct. It encourages self-analyses on how the body feels or moves at critical moments so that amends can be made to ameliorate a physical condition, but also to make more pragmatic transitions such as changes in attitudes and even one’s life path.\textsuperscript{110} In reality, what Shusterman is articulating is that one’s body experiences do affect one’s behavior and consequently one’s life philosophy and that by changing one’s bodily behavior, one can change one’s corporeal reality and accordingly change one’s life.

Shusterman’s somaesthetics theory is unlike Merleau-Ponty’s and Bourdieu’s bodily knowledge theories which concentrate on the phenomenology of knowledge acquired through the body unconsciously, and Casey’s reflexive body action theory that substantiates knowledge in the body. Shusterman does not disavow the latter theories but proposes that somatic self-analyses has the potential to change physical behavior which in turn has the capacity to develop a change of one’s perceptions of things and ideas.

\textsuperscript{110} Shusterman, \textit{Thinking Through the Body: Essays in Somaesthetics}, 4.
Therefore, it can alter creativity and thought processes. The idea that specific physical and practical experiences that develop into somatic styles of being have the potential to change perception and thought is the premise of my discussion that *dance bodily knowledge*, can change an artist’s perception of form in movement and its representation thereof. I am speaking of Mary Frank, the artist. I suggest as a young woman she was consciously aware of the changes in her body as she practiced dance, but I do not think she was consciously aware that the physical dance abilities and self-body awareness she acquired through dance would affect her perceptions of the world around her making them more distinct, more sentient. I do not believe that Mary intentionally pursued a dance education so that she could later on create sculpture infused with a dancer’s sensibilities. But I suggest it is possible that the self-body awareness that Shusterman speaks of was part of Mary’s dance education. An intrinsic element of modern dance education is self-body awareness. Mary studied modern dance as a young adult. Therefore, I can be persuaded that Mary’s figure sculptures debut a unique perceptual aesthetic movement, perhaps derived from self-body awareness, or somaesthetics.

**Barbara Mettler: the Relation of Dance to the Visual Arts**

Barbara Mettler, dance artist and educator (b.1930), has made the argument that the study and practice of the art of dance awakens and enhances our conscious awareness of spatial perception. Having a highly sensitized sense of one’s body in space can affect the art that one creates. By space, I mean the sensory, perceptual manner in which a person experiences his/her living environment; the air that one breathes, the floor one walks on, light or darkness, warmth or cold, and the forms around us. According to Mettler, it is through movement that we evaluate the forms and atmosphere of the world
around us; and dance as an aesthetic form of movement consciously involves all of the human senses.111 “By awakening the sense of space and cultivating it in a visual-motor direction, it establishes a functional basis for the creation of visual forms.”112 In other words, learning to dance activates a conscious awareness of the physical mobility of one’s body as it senses and moves through space. Consequently, visual artists trained in dance can become better adept at capturing the essence of movement in their figurative works in space.113

Mettler directly addresses the reason why the cultivation of dance movement is so important to the development of a more complete art expression in her article, The Relation of Dance to the Visual Arts (1957). By examining our body’s spatial awareness, with our body’s kinesthetic sense and sense of touch, she sheds light on the importance of two things in our human understanding of the world: 1) the sensory nerve endings distributed throughout our outer body layer—the skin—and 2) our body’s sense of motor coordination.

She contends that people evaluate the objects around us by moving the body around them. One knows if an object is rough or soft by touching it. We learn the shape and mass of a tree by walking around it. In addition, she illustrates how our sense of sight


112 Ibid. 203.

113 The term “visual artist” is a misnomer. Throughout my dissertation I speak of bodily perceptions and actions. I am consciously aware of not using phrases such as ‘my point of view’ or ‘from my perspective’ because each refers to visual perception. The term ‘visual art’ imply an art that is perceived visually and fabricated using the visually sense, mostly. I disagree with this type of nomenclature but this discussion is outside of my dissertation.
aids and abets the sense of touch to evaluate space. Sight permits us to experience objects that are far away and adds color to our spatial experiences. Thus, she argues that a creative study of visual-motor expression i.e., dance a form of artistic practice through which we develop a conscious awareness of body position, direction, dimension and shape of movement, will enable us to use spatial knowledge in a more constructive and creative manner. This heightened spatial knowledge, in turn, allows us to create an environment more conducive to our innate competencies. (Shusterman’s somaesthetics theory echoes this idea). She believes the art of dance develops human skills such as a better sense of timing, spatial awareness and perception that can benefit all the arts because these skills affect one’s sense time, space, and sight. Thus, a heightened awareness of these human skills can enhance the aesthetic expressions of painting, sculpture, architecture, music and poetry.\textsuperscript{114}

Mettler addresses how we perceive and adapt to the world around us through kinesthetic, tactile, and visual senses, and she suggests that human motor activity is the primary mode of perception. Dance is an activity that is based on movement, thus learning to dance will make us consciously aware of these primary sensory modes. Unlike walking, which most of us do unconsciously, most humans move from here to there but are unconsciously aware of moving.\textsuperscript{115} The body has learned the activity through repetition. Thus, the body is able to make the same motion in a spontaneous or unconscious manner. However, when we practice movements we are unaccustomed to,
we are consciously aware of those movements. Thus, dance education will make one aware of the body in movement, because each dance is composed of different moves or phrases. In dance practice the body is continuously expanding its sensory abilities as dance phrases change. However, the continuous practice of a specific dance step eventually will turn that movement into a second nature motion that becomes part of the fabric of the dancer’s body.

Mettler indicates that one consciously learns to move in a certain way usually as a response to the forms around one: the rooms in one’s home filled with furniture, the outdoors with buildings, sidewalks, cars, and trees. After we physically master the movements we make in the environment we live in, we move through our environment intuitively.\textsuperscript{116} When we move in an unconscious manner we are no longer consciously aware of our body in movement. The study of dance constantly introduces new movement coordination. The acquisition of new choreographic phrases by the body involves different body and limb coordination keeping the dance student highly conscious of her/his body in movement. It is this constant change in body movement coordination that broadens a dancer’s spatial experiential knowledge.

Mettler deduces from her research that the “study of dance can be a powerful impetus to visual art expressions,” [because] “every sensory experience involves a movement impulse”. Consequently our awareness and cultivation of body movement will enrich our artistic expressions in the visual arts.\textsuperscript{117}

\textsuperscript{116} Mettler, 195-203.

\textsuperscript{117} Ibid., 203.
Maxine Sheets-Johnstone: Thinking in Movement

Mettler’s study elaborates on the perceptual ways in which a dancer is better prepared to be creative in the realm of the visual arts. But other scholars in the field of dance and philosophy have advanced the idea that the perceptual abilities of a dancer are more than special skills, and have introduced the concept of dance knowledge. Maxine Sheets-Johnstone, a scholar and dancer (b.1930), proposes that dance movement is thought in motion. As Mettler, she articulates that dancers learn to dance by moving and listening to their own movement. More often than not, concentration on body movement does not take place when one is walking to a destination. But a dancer is usually aware of her body in movement during dance practice and during dance improvisations. The term listening does not mean hearing, but feeling – awareness of body sensations as a dancer moves. That is how a dancer knows of his/her position in space and the tensions and pressures throughout the muscles and bones. Therefore, a dancer consciously learns about her/his own body kinesis while practicing aesthetic movement coordination.

Sheets-Johnstone developed the term thinking in movement to explain dance movement as knowledge. In this regard, she poses the question of how the act of creating a dance spontaneously is possible. Her rationale for the creation of a dance on the spot is that a dance is formed moment by moment, and that the dancer is thinking in movement.

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118 Maxine Sheets-Johnstone is the author of the article Thinking in Movement (1981), and the book The Primacy of Movement (1999 and 2011), 399-407.

In order to explain her concept, she describes the creative process experienced by a dancer. She explicitly refers to her investigation as a description of an experience, to set the tone that she is not analyzing dance - a primarily cerebral activity, but rather she is living the dance. With the concept of thinking in movement she discards the traditional notion that the “mind thinks and the body acts,” and “that one thinks in words” and not in movement.120

She supports her argument that thought and movement are interlaced, and not separate, and she makes her point by using arguments taken up by Wittgenstein and Merleau-Ponty. Both theorists deliberated on the use of language, not movement as the expression of thought. Sheets-Johnstone argues movement is a human expression, another form of communication, and therefore, parallel to language. She uses the example of Wittgenstein who asserts, “When I think in language there aren’t meanings going through my mind in addition to verbal expression,” meaning that language is thought-knowledge.121 Using the same analogy, Sheets-Johnstone replaces the word language with movement: When I think in “movement” there aren’t meanings going through my mind in addition to movement expression. She extrapolates a similar analogy from Merleau-Ponty’s concept of knowledge when he speaks of speech as thought. Merleau-Ponty wrote: “speech is not the ‘sign’ of thought,” to which Sheets-Johnstone responds: movement is not the sign of thought either, it is thought.122 In addition, she


121 Ibid., 401.

122 Ibid.
explains the different aspects and possibilities of thinking in movement. For example, thinking in movement does not mean a dancer may not have a thought before lifting a leg in the air but rather that such thoughts are part of the experience. Merleau-Ponty also recognized the latter phenomenon when he wrote about Cézanne’s experience while painting. As quoted by Sheets-Johnstone, Merleau-Ponty defines Cézanne’s experience as “thinking in painting” a process in which “vision becomes gesture.” For Sheets-Johnstone “thinking in painting” is parallel to “thinking in movement.” In other words, thought becomes movement.

Another aspect of dance improvisation she introduces is the idea that when a dancer dances, she or he is exploring the world of movement. The dancer is consciously creating knowledge as she or he moves. There is no prior contemplation or analysis during the act of the dance. There is only “moving and sensing, sensing and moving.”

Sheets-Johnstone’s analysis of thinking in movement is reminiscent of Bourdieu’s concept practical reflection which considers a heightened awareness in situation or action—the body is thinking and doing. It is also a good analogy for how Mary Frank could have created her clay figures. I suggest that with her experiential knowledge of dance, Mary creates her figures by thinking and shaping the clay with a dancer’s sensibility. Dance improvisation can happen because of the dancer’s experiential knowledge of dance. The dancer is able to dance in a spontaneous way because of the embodied dance steps and phrases that are part of the dancer’s vocabulary. Dance bodily

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123 Sheets-Johnstone, “Thinking in Movement,” 401
124 Ibid.
*knowledge* is also Mary’s vocabulary of movement so why not create sculpture using one’s dance vocabulary?

**Jaana Parviainen: Dance Knowledge is Living Knowledge**

Jaana Parviainen (b.1962) is another dance scholar that supports the concept of dance knowledge.\(^{125}\) She became intrigued about the idea of bodily knowledge through dance movement. She was introduced to dance as a young woman in a modern dance studio that taught modern dance based on Martha Graham’s dance technique.\(^ {126}\) The fact that she studied Graham’s dance method is relevant in body awareness context, because its practice offers insight into one’s bodily dance abilities and limitations. The dancer develops awareness of minute sensations within the muscular and skeletal joints as the body moves. It makes the dancer reflect on her/his own body as an instrument of somatic aesthetics and how it can be best shaped for dance movement. Graham believed in the individual dancer’s awareness of body kinesis. As a choreographer, she was aware of her dancers’ anatomic dance attributes and limitations. She herself choreographed dances that emphasized her own unique kinesthetic abilities.\(^ {127}\)

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\(^{125}\) Parviainen is a dancer/ philosopher. She is the author of *Bodies Moving and Moved: Phenomenological Analysis of the Dancing Subject and the Cognitive and Ethical Values of Dance Art* (1998), and the article “Bodily Knowledge: Epistemological Reflections on Dance, (2002). She has studied different styles and techniques of contemporary dance. She taught courses on dance such as the philosophy of dance, phenomenological dance and movement analyses. Currently she is a postdoctoral researcher at the Academy of Finland. Her research focuses on the conception of technique in contemporary dance.


\(^{127}\) Martha Graham had extremely flexible hip joints that allowed her unique hip/leg rotations that many dancers could not duplicate. For more on the subject see Agnes de Mille, *Martha*. New York: Random House, 1991.
Knowledge of one’s bodily kinetic abilities or limitations liberates the dancer to make choices on how to use his or her body for dance expression. Experiencing Graham’s Technique gave Parviainen a new understanding of her own body’s knowledge and it’s potential. From this bodily awareness she began to pursue dance research on bodily knowledge.\textsuperscript{128}

In her article \textit{Bodily Knowledge: Epistemological Reflections on Dance}, (2002) Parviainen argues that her dancing body is a source of knowledge. To support her argument she discusses theories of knowledge from past to present. Her exploration of knowledge theories is her attempt to articulate the nature of bodily knowledge.\textsuperscript{129} Her focus, however, is on the nature of bodily knowledge, unlike traditional theorists of knowledge who have focused on the rationalization of knowledge. Her effort at articulating bodily knowledge in words derives from her belief that bodily knowledge is rational and needs to be included in theories of knowledge.

Parviainen considers the nature of knowledge within the concept of bodily knowledge from a dancer’s perspective. She argues that a dancer’s body can be habituated to form a dance style and as a result the dancing body will be able to create and live dance movements. By dance style she means specific techniques that a dancer has learned at a dance school or various schools forming a dance knowledge platform that a dancer can adapt to her/his own body.\textsuperscript{130} Dance work in Parviainen’s terms means the

\textsuperscript{128} Parviainen, \textit{Bodies Moving and Moved}, 4.


\textsuperscript{130} This concept is supported by research done by Steven Wainwright, Clare Williams, Bryan Turner in their article, “Varieties of habitus and the embodiment of ballet,” 2006. Their study of
things dancers learn during the choreographic process, or the improvisation of dance phrases working towards a complete dance. All of these dance experiences are part of dancer’s body and therefore a dancer’s knowledge continues beyond a formal dance education. It is on this path of dance work that Parviainen suggests a dance style is developed.

The concept that a dancer develops her, or his, own dance style through dance work is of interest to my argument. It is another way of explaining how Mary Frank could have developed her sculptural style. In Mary’s case I argue she does not continue to develop her dance knowledge through the continuation of dance practice, but it is highly plausible that she continues to develop her aesthetic sense of movement through her sculptures making use of her dance bodily knowledge. The inner and outer energy displayed in Persephone, figure 2, page 52, Swimmer, figure 14, page 120, and Three Dancers, figure 15, page 121, certainly suggests an awareness of bodily dancing sensibilities.

From her research on bodily knowledge, Parviainen concludes that phenomenology theories point to the existence of bodily knowledge but she asserts that bodily knowledge cannot be articulated in words or numbers. It is a knowledge that is learned by doing. Thus dance bodily knowledge is a type of knowledge that is taught from a body to a body and it becomes living knowledge. For Parviainen, dance knowledge is living knowledge because in many ways it cannot be articulated in words. It

professional dancers showed that dancers embodied institutional dance habitudes and individual dance characteristics
is in the body and can only be communicated through the body.\textsuperscript{131} "When speaking of bodily knowledge of specific practices, such as dancing, playing the piano, expertise involves bodily knowing that cannot be articulated."\textsuperscript{132} It may not be able to be articulated in language or in words but I suggest it can be articulated in another bodily/hands-on form of expression, like the forming of sculpture. A dancer moves the body in an aesthetic way by feeling the body in movement. The same bodily feelings in movement can be recalled by the artist-dancer to form a figure in clay.

\textbf{A Summary of Bodily Knowledge Theories}

Phenomenology theorists support the assumption that knowledge in the body makes its way into one’s creative endeavors. They have all expressed it in various ways using different words: the body finds its equilibrium (Merleau-Ponty); the body will deploy its knowledge to adapt to the task at hand (Polanyi); habits will regulate the unpredictable (Casey); dancer’s dance thinking in movement (Sheets-Johnston); bodily knowledge is living knowledge (Parviainen).

Dance is a discipline that involves the practice of motor coordination. Its practice shapes the body physically but more importantly, it implants in the body qualitative movement expressions that can actually be observed on the body of dancers by a non-dancing person. Phenomenology theorists agree that when a bodily trait, gesture, or a sequence of movements, has been understood by the body it stays in the body. A dancer may not be able to perform a specific body rotation because of injury or

\textsuperscript{131} Parviainen, “Bodily Knowledge,” 11-26.

\textsuperscript{132} Ibid., 22.
an aging body yet he or she is able to teach that same movement to another. This suggests that *dance bodily knowledge* stays in the body beyond a dancer’s active dancing life.

Mary Frank practiced dance almost daily as a young adult, during her formative years, more than any other formal education in a visual art discipline. Her body was steeped in dance aesthetic movement. The unique movement quality in her sculptures point to a somatic dance awareness, or experiential knowledge connected with dance movement. The sense of living—ongoing—movement in her clay figures stands out, and is unlike the sense of movement in sculptures by other artists. Knowing that she spent her formative years practicing dance, it is highly likely that her clay sculptures are infused with a dancer’s aesthetic sensibilities. The transference of this bodily knowledge onto the formation of her sculptures in clay appear seamless. It may be because the medium’s plasticity allows the artist to be spontaneous. With clay, the artist can pull and stretch and form shapes and forms, using the medium with immediacy, similar to how a dancer uses her or his body to try out and develop dance sketches. It is in the shapes and forms she creates with clay that Mary connects her bodily feelings of dance movement. The sensory elements one experiences when moving through air/mass are explicitly represented in the extremities of her forms and shapes, as if each of the clay slabs forming her figures meld in with the air/mass they dwell in.

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Chapter 3

Bodily knowledge and Visual Artists

Artists from Paul Cezanne to Henry Moore and others have expressed the importance of their own body awareness in the creation of their art. Their words are a testimony to the idea that consciously or unconsciously, artists do project their bodily knowledge onto their creations. The French painter Paul Cezanne (1839-1906) said, that the painter in the face of his motif is about to join the aimless hands of nature.\textsuperscript{134} This means that the sensory awareness of the artist’s body is projected onto the painting: what the artist’s body felt with his skin, what he heard with his ears, what he smelled with his nose, and what he saw with his eyes. One certainly is prompted to smell the scent of ripe apples in Cezanne’s painting, \textit{Dish of Apples} (image on following page). The cozy wallpaper on the background, and the mound of red, pink, and yellow apples placed in a bowl at the center of the picture, effectively capture the sensory intimacy of the painter with the apples.

\textsuperscript{134} \textit{Conversations with Cézanne}, 110.

On the other hand, English sculptor Henry Moore (1898-1986) who worked in wood and stone, created abstracted human forms to set off from a landscape. He also has identified himself, and his body, with the forms he creates. “… he (*sic*) identifies himself with the center of gravity, its mass; its weight; he realizes its volume; and the space that the shape displaces in the air.”135 With *Reclining Figure* Moore exemplifies this idea of projecting his body into the sculpture by creating an abstracted wood figure approximately his size. The form is distorted, but even within that distortion he conjures up the feeling of a body in a reclined position.

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Other artists have remarked how their bodily knowledge is integrated into their artwork. Contemporary Dutch artist Michael Borremans who specializes in painting the human figure substantiates what Cézanne and Moore have expressed in words by stating, “I project myself in the work. Even if I don’t want to.”\textsuperscript{136} Borremans acknowledges that all that he knows and feels is part of his being and he cannot disassociate himself from it when he paints. The characters he brings to life on his canvas are made up personas that stem from his own psychological and physical self although they are not a mirror image of the artist. Some are women and others are children but they all come to being on a piece of canvas through the artist’s perception and empathy with the model. The artist

\textsuperscript{136} Ted Loos, “Depth Perception” Architectural Digest, Nov. 2011, 94.
projects his own sense of self onto the figures he paints. The image below, *Avoider*, is an example of Borremans’ paintings.


Finish architect Juhani Pallasmaa (1936- ) has contemplated on the importance of the projection of one’s body into a structure’s design. He is of the belief that his somatic perception with space plays a large role in his creative process. He writes: “…model-making put the designer into a haptic contact with the object in the hand and inside the head, and the imagined and projected physical image is modeled by our bodies. We are inside and outside of the object at the same time. Creative work calls for a bodily
and mental identification, empathy and compassion.**137** In other words, a sign of *good* architecture involves the human sensory perception and empathy with the structure to be built. He particularly is not impressed with architecture that is built to-be-looked-at from afar. That type of architecture, he says, lacks sensory engagement and is un-inviting.138

All of the above artists: Cézanne, Moore, Borremans and Pallasmaa, although coming from different disciplines of art, seem to realize the somatic connection between themselves and their art. They say that their art is not just a representation of nature but it embodies the aesthetic preferences of each individual artist: aesthetic values that might have been nurtured during their childhood and teen years. Yet, their claims are not always evident in the artworks themselves. Nevertheless, their statements certainly validate that their bodily feelings are integrated with their art.

In the case of sculptures, such as Mary’s, where somatic awareness of movement is apparent, the connection between *dance bodily knowledge* and the artist’s aesthetics is more convincing. But because dance is taught and practiced by very few in our society, its sensory aesthetic qualities go unrecognized, most of the time, when it is manifested in plastic arts. Unless, the artist projecting the dynamism of the dancing body on images is a well-known ballet dancer. It is then, that one is able to perceive the artist’s *dance bodily knowledge* projected on his or hers images.

Evoking dance movement with a figure is difficult for artists to replicate in sculpture and two-dimensional imagery. Not so on the photographs of dance by Mikhail Baryshnikov. Baryshnikov, who danced all is life, clearly connects the bodily knowledge

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137 Pallasmaa, 13.

138 Ibid., 43.
of dance feelings with his artwork. Unlike the previous artists represented at the beginning of this chapter, Baryshnikov’s bodily knowledge is evident in his photographs. His dance knowledge is encrypted in his bones and muscle memory. It is part of his being. The images of dancing he selects to photograph refer to his dance sensibilities. The transference of his somatic knowledge of dance movement is clearly perceived by all.

In a 2012 gallery show in Miami, Baryshnikov is able to achieve in his photographs the feeling of live dance performance. If one knows dance like Baryshnikov, the most well-known dancer of the 20th century, one would be able to represent the energy of dance in a photograph as if second nature. (Of course it also helps that he has been taking photographs for at least 20 years). As a photographer, Baryshnikov consciously chooses not to photograph a frozen gesture in time. His intent is to produce photographs that can transmit, to the viewer, the dancer dancing. For this reason he focuses the camera on the dancer’s body, to capture the energy experienced by the dancer. His knowledge of dance allows him to perceive the dancer’s energy and vicariously transfer that dance sensory feeling onto a picture. Hence his photographs show blurred images to project the sense of movement and energy of the dancer, from selective sections of the dance.

Baryshnikov’s photographs clearly show how he (the artist) projects his own body, his dance bodily knowledge, through the lens of the camera. What he makes visible in his photographs is the energy of dance through space and not an individual dancer. He states: “When I look through the lens, in a way, I’m trying to be a dancer, too,” … “I

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sometimes don’t even notice when I press the button: boom, boom, boom, and then the piece is over.”¹⁴⁰ Even the way he expresses himself when he shoots the camera, “boom, boom, boom,” is an indication of him placing himself in the body of the dancer. One usually says verbally, *boom, boom, boom*, if one is imitating physical movement or jumps from here to there. And one says, *click, click, click*, when one is imitating taking pictures with a camera.

The act of photographing dance permits Baryshnikov, a retired dancer, once again to embody the dance performance without being the dancer. With his knowledge of choreography and dance phrases, he can anticipate a dancer’s movement flow and capture it in a photograph. He is not just capturing dance movement in a photograph, unlike other photographers without dance experience. He makes dance aesthetic decisions through the camera lenses. The compilation of his photographic body of work makes visible Baryshnikov’s bodily sensory connection with the images he creates. An example of this idea is figure 6 on the next page.

¹⁴⁰ Estrin, “Mikhail Baryshnikov,”
My Bodily Knowledge and the Art I Create

As a visual artist I feel compelled to express my own experience with dance and yoga practice and how they have affected my ceramic forms. These somatic activities have brought me to be more aware of my own bodily sensory aptitudes and perceptions. Likewise, the research for this dissertation, on bodily knowledge and art making, causes me to be consciously aware to the connection between soma and the art I make. As a result, I have analyzed the ceramic art forms I made years ago and the ones I am making now and I noticed that my artwork has changed. The physical form of my work changed drastically, and, visually. They could pass as being made by a different artist. Yet, what changed in these works, although they look different in scale and shape, is how I chose to manifest sensory perception.
Fifteen years ago I created a series of malleable porcelain quilt-like structures. These ceramic works are capable of folding and undulating similar to fabric. I am consciously aware that these porcelain quilts relate to my sensory experiences with sewing, touching and handling textiles during my young adult life and the pleasant recollections of these activities. Currently, however, I am creating a series of porcelain pieces that are smaller, much smaller. They are three-dimensional forms that can be held in one’s hand. As I make these pieces, I consider its texture and form, for these are pieces that invite the human touch. Each form is an object that relates to individual areas of the body.

As I work on these pieces I find myself perceiving that part of the body: a breast, a cupped hand, a navel cavity. I use these somatic perceptions to convey the essence of the form that I am shaping in clay. As I work on these small porcelain objects, my intention is to convey onto the clay form, the jell-like buoyancy of a hanging breast, the navel area of a belly or the conch-like form of a cupped hand. I want my forms to represent how the human breast feels from within, against ones’ ribs, and the exterior environment, such as, one’s hands, the touch of clothing, the feeling of warmth or cold. As I look at my cupped hand, I notice the bowl-like shape it forms but I also feel the warm of each individual finger touching each other. These are the sensory perceptions I want to express in these particular objects. I titled the objects *Ladles* because their forms take the shape of the common kitchen utensil also called ladle. A ladle is a vessel commonly used to hold liquids. Its function is similar to the bodily forms I try to convey. With this small works, my aim is not to do an accurate visual representation of a woman’s breast, a cupped hand or a navel area of the belly. My aim is to relate the
somatic aesthetics of a breast, a cupped hand or the navel area of a belly. The image of a ladle and the fragility of the porcelain, I believe, strike a delicate balance between sensory feelings and the visual perception of the object.

Fig. 7. Nazare Feliciano, *Baby Quilt*, 2006, Porcelain, 28 x 36”. Collection of the author.

Fig. 8. Nazare Feliciano, *Ladle*, 2014, Porcelain, 20 x 4”. Collection of the author.
As I analyze these recent art objects, *Ladles*, it is highly plausible that these forms stem from my sensory inquiry of my own body parts spurred by my practice of dance and yoga. There might be other reasons why, such as: social, and environmental reasons, including the writing of this dissertation that specifically focuses on bodily sensibilities. But, my point is that when I created the porcelain quilts I projected onto them my own sensory perception of the sensual materiality of fabric and the recollections that went with it. However, recently, my somatic introspection guides me to convey, on clay objects, perceptions of interiority of body parts. I believe the change in my artwork occurred because my sensory relation to the world around me, beginning with my own body, has changed.

It is possible that artists may be more sensory predisposed to be more aware of their own environment. If this is so, they may be able to manifest their perceptual sensibilities onto their artwork. Cézanne, Moore, Borremans, and Pallasmaa declare that art creation involves the projection of the artist’s bodily experience through space, attesting to the fact that art involves thought, body sensory awareness, and visual awareness, and not just thought and the visual sense. Sculptors create forms in space using their existential knowledge and the sense of their own body in space. Painters project their own body knowledge on to the canvas and thus are able to create the illusion of space, mass and volume on two-dimensional surfaces.

Artists may project their bodies onto their art but this it is not something that they are systematically aware of. The assumption that the artists’ bodily knowledge affects and complicates their art is highly plausible, and even true, but it is not easily
recognizable or perceived by others. This is where my argument can make a difference. If one’s body’s sensibilities are projected into one’s art, than by improving one’s bodily awareness would improve the projection of one’s bodily insights onto one’s art. In other words, if one trains the body to expand the awareness of its own physiologic and sensory abilities, one’s art could be much more bodily thoughtful.
PART II. DANCE BODILY KNOWLEDGE TRANSFERRED TO SCULPTURE

Chapter 1

A Dancer’s Practice vs. a Sculptural Practice

Dancers practice *specific* body exercises that prepare their bodies for dance. Each dance style requires physical exercises that build the strength and flexibility of a dancer’s body, making it suitable for a wide range of movements and expression. Mary studied dance as a young woman with various instructors but her dance classes with Martha Graham affected Mary the most.\(^{141}\)

**Graham’s Schooling**

Graham, a dancer innovator and choreographer of modern dance developed a method of dance exercises that was unique.\(^{142}\) The Graham Technique emphasized introspective analysis of one’s body and the use of the breath to influence movement. In addition, dance students of the Graham method practiced rigorous exercises designed to prepare them to dance modern using choreography. The Graham Technique starts with floor work that involves various seated positions. These are movements where the students sit on the pelvic bone, with the legs split and bent by the knee, one leg

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\(^{141}\) Herrera, *Mary Frank*, 21.

\(^{142}\) De Mille, 95-102.
in front of the torso, and the other on the back making a spiral design on the floor, called ‘the swastika shape.’ Then, with arms up the student-dancer moves the torso and arms back and forth, side to side, and around the pelvic axis, with the head following the direction of the arms and torso. In another exercise, the dance student still sitting on the pelvic ischial bone, practices rocking by lifting up one leg at a time followed by the opposite movement of the torso and head. These exercises force the legs to open up from the pelvic bone and strengthen the core muscles of the abdominal wall and the lower back. Through these physical practices, dancers are able to gracefully lift themselves from the ground and continue the flow of movement in any direction. The Floor exercise sequence is followed by a Center-floor workout, where the student stands, but the focus is still on legs and pelvic work. Center-floor exercises are followed by the practice of jumps, runs, and falls. The exercises end with a series of Center-floor and Floor exercises combinations.143 The Graham dance technique requires physical exercises to be accompanied with proper breathing techniques. Each movement, each stretch, each contraction and extension is paced with the cadence of the breath. The body is trained to respond to the breath’s inhaling and exhaling. In modern dance, learning to use the breath as one expands and contracts the body is as important as the breath awareness in learning to sing. In dance, breath dictates the action.

Dancers who studied the Graham’s dance method internalize in their bodies specific pattern of muscular strength and aesthetic movements (sometimes called dance

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traits) that prepares them to dance Graham’s choreographies.144 Students of the Graham Technique develop a sturdy body and learn the association of breath and movement. These developed body traits cement a dance foundation that enables dance movement to become second nature. A requirement of Graham’s dance method is that dancers must be present and aware of their inner bodies in movement. Graham used to say to her students, “You attack dance as ‘Now!’ Not what it will develop into, not what I have done [but] what I am doing.”145 In this manner, Graham elicited dancers to be able to be ‘in the moment’ experiencing the body in movement, sensing each limb, hands, torso and head as she or he moved through space and time.

Graham encouraged her students to feel each moment of movement with physical exercises and words but her dance instruction went beyond physical exercises and technique. She also used visual metaphors to motivate a dancer’s passion in dance movement. For example, she would say, “…there are times when it is almost necessary to feel an animal sensualness in dance. … the animal brain is at the base of the head, and as dancing is animal in its source, we need to activate that part of our body. ….. Above all, stop intellectualizing technique and just let the body do it.”146 Letting the body do it is paramount to dancing with confidence without reservations, it is placing complete trust in one’s bodily knowledge; it is being aware of one’s body’s sensibilities while dancing and dancing without preconceptions.

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144 A recent study of professional ballet dancers shows that these have bodily and dance traits that can be traced to specific dance institutions or dance coaches. See Wainwright, e al., "Varieties of Habitus and the Embodiment of Ballet," 2006.

145 De Mille, 102.

146 Ibid., 103.
Graham’s teaching philosophy resonates with Mary Wigman’s dance expression. The German dancer, Mary Wigman, was the precursor of modern dance and predates Graham. Martha Graham developed modern dance in America but borrowed ideas from Wigman’s dance repertoire. Wigman trusted her body to dancing, exposing the inner animal quality of being human (having the body dance without inhibition from societal constructs). She even used a similar expression to that of Graham when she recalled the sensation of dancing *Witch Dance* (her choreography). Wigman said, “The Witch—the earth-bound creature—with her unrestrained, naked instincts with her insatiable lust for life, beast and woman as one and the same.” In other words, the female instincts that Graham is inciting out of her dancers had been highly exulted a decade or two earlier by Mary Wigman. Hence, it is in this historic transition of dance movement, from traditional dance ensembles to modern dance, that Mary develops her dance aesthetics. The inner raw expressions of Mary Wigman’s dances seem to resurface on Martha Graham’s dance lessons and seem to be inculcated into Mary Frank’s sculptural aesthetics.

Mary studied dance more than any other art form. It is likely that the sense of movement she bestows on her artwork originates from her body’s sensory perception of dance aesthetics. Art historian Hayden Herrera stated that Mary “incorporates her dance training into her sculpture” and that she always procures to express movement in her

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147 To find out more about the connection between Mary Wigman’s and Martha Graham’s modern dance, read chapter 7: Mary Wigman and American Dance, in the book by Susan Manning titled: *Ecstasy and the Demon*, 1993.


149 Mary Frank, interview by author, November 26, 2012.
works. Herrera’s statement acknowledges the influence of dancing in Mary’s work but it does not explain the unique quality of the sense of movement in Mary’s sculptures compared to other works of art that also express a sense of movement.

This dissertation argues that Mary’s clay sculpture displays a quality of movement that is sensory driven, and not visually learned, basically relying on one’s bodily knowledge of movement. Therefore, I attribute the quality of somatic energy and dynamism displayed in Mary’s sculptures to her dance living experience with emphasis on modern dance aesthetics and Graham’s teaching methods. Parviainen validates this assumption when she declares that Graham’s dance training gave her a new understanding of her own body’s knowledge and its potential for dance expression (she trained in Graham’s dance method in the late 70s). This suggests that Graham’s Technique fosters a type of sensory awakening of one’s body that one can trust and project on dance form. It is also reasonable to propose that Mary’s dance training with Graham included a sensory introspection that promoted the expression of primal instincts in dance. She herself said that Graham’s idea of dancing was to be shaped from the inside out, and not something to be observed calmly.

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150 Mary Frank, interview by author, November 26, 2012.

151 Specific dance aesthetics are highly identifiable in professional dancers. For more information on the subject read Steven Wainwright, et al, Varieties of habitus and the Embodiment of Ballet, 2006.


153 Herrera, Mary Frank, 21
Sense of Movement in Sculpture and the Traditional Sculptural Teaching Method

How does the *dance bodily knowledge* projected in Frank’s sculptures differ from the dance movement projected in the classical method of building sculpture? This dissertation articulates that the sense of movement in Frank’s sculpture derives from her body’s knowledge of dance. It argues that it is her *dance bodily knowledge* transferred into her sculpture. How is this different than how traditional artists project a sense of movement in sculpture? How do traditional trained sculptors project dance movement into sculpture? I will explore the idea of how *traditional* trained artists project movement, by analyzing two *traditionally* built sculptures by contemporary sculptor, Stephen Perkins.

Perkins artworks are a counter example and a reminder that Mary’s figurative sculptures cannot be assessed separately from other contemporary sculptures. Perkins sculptures should be assessed with Mary’s sculptures because, although Perkins works are from the same era as Mary’s, they convey a different sense of movement. In this manner, by analyzing those differences, one can infer that they could be related to the artist’s artistic training rather than the aesthetics of the times in which the works were created. Hence, the focus of this comparison is on how each artist conveys the sense of movement in sculpture and how that sense of movement relates to the way each artist was artistically trained.

Unlike Mary Frank who was trained to dance, an activity that relies mainly on the body as the sensor for dance perception, Stephen Perkins was trained in sculpture, an activity that relies mainly on the visual sense for object perception. Perkins was trained to build the human figure in the traditional academic style: the apprentice sculptor learns to
mimic the human anatomy of bones and muscle structure from head to toe. According to Edouard Lanteri’s sculptor’s manual, knowing (visually) the human skeletal structure, even more than the muscular system, is paramount for one to be able to represent the human figure in sculpture.\textsuperscript{154} Lanteri’s manual emphasizes the importance of visual observation and meticulous visual analysis of the human figure. After learning human anatomy through the visualization and analysis of its form “all the causes and reasons of its various forms will be clear to him, [the apprentice] and he will avoid that groping in the dark, … When he has mastered this method he will come to apply it without thinking of it—instinctively as it were, and without effort.”\textsuperscript{155}

The formal method of learning to sculpt and model sculpture—as Lanteri teaches in his manual has been the common practice of teaching sculpture since the Renaissance. Students learn by observing and doing. They first copy the figure in clay from plaster models and then from live models (this is the method still being used today in most academic art settings). They learn the bone structure of the face by modeling the skull with clay or wax as they look at a model of a skull. They learn the muscles of the face and the internal proportions between lips, nose, eyes and ears by observing the model and measuring the model and by doing. The technique of observing, measuring and doing is applied to every part of the body: starting with the head, then the torso and limbs until the student makes a full, three-dimensional, human body. The sculptor student also learns how to apply drapery over the figure and how to pose the model for best

\textsuperscript{154} Lanteri sculptor’s manual is one of the best sources modeling the figure. It was first published in 1902, and then re-published in 1985 under the title: Modelling and Sculpting the Human Figure.

\textsuperscript{155} Edouard Lanteri, \textit{Modelling and Sculpting the Human Figure} (New York: Dover Publications, Inc., 1965, 1985), 3.
visual effect. When the student has mastered the human anatomical structure by actually doing it, (replicating it in clay, plaster and wood or stone) then he or she is able to use it as a foundation to develop his or her own individual style.

The traditional sculptural teaching method relies heavily on the visual sense, the sculptor’s visual perception of a form for representation in a plastic medium. The continuous repetition of replicating the human form in clay or plaster based on observation becomes part of the sculptor’s craft, on how to sculpt the figure. Lanteri noted that the craft of sculpture is mastered when skills and technique are internalized, or becomes part of one’s schema.\textsuperscript{156} This means the student will be able to recreate the human form intuitively, without a model. The visual image of the human anatomy and its proportions become the habitual knowledge the student will rely on to build figurative sculpture. When the student is able to create an accurate human form in a plastic medium without a model the student has mastered the sculptural techniques and human anatomy.\textsuperscript{157}

Stephen Perkins sculpture is an example of the mastery that can be achieved when an artist has internalized traditional sculptural techniques and human anatomy. He is a disciple of the traditional sculpture method (he recommends Lanteri’s book to his students) and his ability to replicate the human form is that of an expert.\textsuperscript{158}

\textsuperscript{156} Lanteri, 3.

\textsuperscript{157} Ibid.

\textsuperscript{158} Declaration by one of Perkins students who took a workshop with him at the Armory Art Center. West Palm Beach, Florida.
Stephen Perkins’ Sculpture a Contrast

Perkins (b.1946) learned how to build sculpture by learning the traditional method of observation of the human figure and by doing it. He gained extraordinary sculpting skills through practicing and working with sculptor masters such as Walker Hancock, Leslie Posey and Elizabeth Chandler—all masters in human portraiture. Perkins has created figurative sculptures in bronze, marble and terracotta. He sculpts mostly commission work, portraits and relief medals, and he is also a renowned and master sculptor teacher. He has taught at the New York Academy of Art in New York City, the Academy of Art University in San Francisco, and the Grand Central Academy also in New York. Perkins is an award winning classical sculptor. He has been honored with five academic scholarships from the National Sculpture Society and is a recipient of the Paul Jennewein Medal and the Bartlett Prize in sculpture.159

Perkins has made many sculptures including a number that display the gesture of dance movement. It is on these pieces that I will concentrate my inquiry to evaluate if the bodily knowledge of dance is present in the dance movement of sculpture created by a traditional trained sculptor. For this purpose, I will concentrate my analysis on two life-size works that Perkins sculpted within the last ten years. I will examine each piece in order to seek that dance-born movement I claim to be present in the pieces by Mary Frank.

Perkin’s piece Figure A (piece without title), figure 9 on page 104, is a clay sculpture of a female nude standing on the tip of her left toes. The work stands on a round pedestal setting off the body in a vertical rise. Both her legs are slightly bent forward.
with the bottom tip of the toes from the right foot pressing on the ground, and the top of
the toes from the left leg touching the ground. The weight of the body is placed on the
right leg since the position of the left toes does not allow a body to keep such a stance for
long. The torso swivels to the right from the waist, and the arms are raised, hands
clasping above the head. The head twirls with the torso, to the right, nestling on what
seems to be a cloth she holds with her hand. The figure’s eyes are closed conveying the
body’s sensory moment upon the release of a physical stretch. Everything in the figure is
proportionally correct: the head, arms, legs and torso. Figure A is a sculpture that
captures accurately the mass, bone and muscular structure of the human body. In
addition, Figure A, displays emotional content through the twist and stretching of the
torso, the face relaxed, not taut. Perkins’ ability to render and sculpt the human body with
visual accuracy is unquestionable. The balance of the figure, although idealized, conveys
‘a moment in time’ of what could have been a modern dance movement, yet the work
seems frozen. The figure atop its pedestal does not convey a life-like feeling on the
contrary it seems static and life-less. The figure stands posing, untouched by its
environment, as a statue of a moment in time that the artist intended to immortalize.
Fig. 9. Stephen Perkins, *Figure A*, Bronze. Stephen Perkins Website, Available from: http://www.stephenperkins.net, (accessed October 17, 2011).

Fig. 10. Stephen Perkins, *Figure B*, Clay sculpture. Stephen Perkins Website. Available from: http://www.stephenperkins.net, (accessed October 17, 2011).
The other work by Perkins, *Figure B* (work without a title), figure 10, on page 103, is a clay sculpture of a female nude standing with her arms open wide in a T position. The head is stretched back, slightly turned to the right. The eyes are closed. The face is serene and the torso bends backwards slightly by the waist. The body’s weight is on the right leg as the left foot shows a small rise. In this piece, more than in *Figure A*, the bones and muscular structure are visible. The emotional value of *Figure B* is similar to the face and torso expression of *Persephone* by Mary Frank. Both these sculptures by Perkins are a brilliant rendition of the female human form. The visibility of mass and volumes of the modeled works are an extraordinary representation of the human form in sculpture. Moreover, the sense of being in the moment is strong in both works.

Nonetheless, each work seems to be frozen in place. The exact visual perception of the anatomy of the human figures without any allusion to the dispersion of mass/air as the figure moves from here to there basically eliminates the sense of movement and renders it a frozen gesture. Furthermore, when a sculpture is placed atop a pedestal, as Perkins pieces are, the frozen quality of the form is complete.

In *Figure A* and *Figure B*, Perkins represents the female figures as he sees them—as forms to be rendered or sculpted. He uses visual observation of the form as the primary sense to ascertain the model in space. In order to observe a form in detail one keeps the form motionless to ascertain its planes and proportions. When motion stops—the model holds the pose—the sense of movement within the form is lost. The representation of a stopped action is the reason Perkins’ female nudes look as if frozen. Each individual sculpture lacks the sensory perception of the living, moving model in space. Therefore, despite their facsimile to the human form the figures remain static.
When a moving figure is formed separately without the physical impact from its immediate environment, the air mass that the form is supposed to be moving in, limits its implied sense of energy and movement. Plus, using mostly the visual sense and the observation method to create sculptures places the focus on the model and not on the sensory perception of what the living body may sense and feel as it physically stretches its arms or lifts its heels: the body’s physical encounter with space, the atmosphere, the air mass. This traditional method of creating sculpture is limited and ignores the body’s sensory abilities to perceive movement. It focuses on the visual sense for the perception of forms in the world and neglects the body’s sensory knowledge. It works well for the representation of stopped motion but if one wishes to represent an ongoing—live sense of movement—it is deficient.

**Analysis of Modelling One of Mary’s Sculptures**

In an attempt to understand how Mary Frank imbued the sense of dance movement in her sculptures I tried to replicate one of her pieces, *Persephone*, in ceramic. As an experienced clay artist I could easily grasp the building method she used to form the figure. Thick slabs of clay were shaped and molded by hand by stretching and pulling to form the highly abstracted legs, arms and torso. I then noticed that great attention was dedicated to the right hip joint, the upper torso, and head of the form. The hip joint is a separate clay piece that twists in a circular rhythm similar to the chambered of a Nautilus shell.\(^{160}\) The emphasis on the hip joint of the sculpture makes me physically recall the stretching required for one to be able to position one’s leg at such an awkward arrangement such as the right leg of *Persephone*, figure 2, on page 52. It is with this

\(^{160}\) A Nautilus shell is a living fossil with a graceful spiral curve.
feeling in my hip joint that I create a spiral form from a slab of clay. The upper torso and head also demand thorough attention. The torso heaves up and the head falls back as if one is inhaling while pushing the ribcage in an upward motion. This expressive emotion made in clay requires a scaffolding of clay slabs. These are hidden under the frontal ribcage and partially make up the strands of hair that seem to flow in the air. I used a mask-like clay slab of my own face to portray the facial quality visible in Mary’s piece. The visibly parted lips in *Persephone* made me tilt my head with the clay slab on my face. By stretching my lower jaw and neck caused my lips to pull apart. This motion stretched the clay over my mouth for a better impression of *Persephone’s* slightly parted lips. The process of replicating *Persephone* made me visually localize body parts on my own body that correlated with the sculpture pieces. Mary’s representation of the hip joint in a spiral form, however, made me rotate my leg from the hip joint, and feel my hipbone with my hands while I rotated and it. It is from this rotating feeling that I constructed a similar spiral for my ceramic replica of *Persephone*. This was the only time during my attempt to replicate Mary’s ceramic piece that I dwelled in the action and feeling of the body to build the form. For the most part this was a visual, copying, activity.

The experience of replicating Mary’s piece, *Persephone*, caused me to analyze each ceramic part of the sculpture in detail, because although the resonance of dance movement is present in the form, the process, of replicating the figure, was mainly a visual activity rather than a recreation in clay of a specific moment on a dance floor. I became the sculptor observing a static model and not the observer of a moment in dance. I was visually engaged with Mary’s sculpture to copy its stance and demeanor. Therefore the project became more analytical and less instinctual. I was not creating the figure of a
dancer leaning on the ground by feeling with my body what it felt like to expand my chest upward while letting my head fall back. My arms were not feeling the rush of air as I stretched them, and my legs and arms could not feel the extension and distortion of the dance release as in Mary’s *Persephone*. The experience of building a replica of someone else’s work leads me to conclude that in a presence of a model sculpture to copy from, the visual observation of the sculpture itself becomes preponderant. The art piece, already created, interferes with the individual artist’s projection of its own body onto the copy being created. Perhaps this is what traditional trained sculptors aspire to emulate, a visual replica of a posed human figure.

**An Overview of Implied Sense of Movement in Selected Works of Art**

In order to get a better perspective on how Mary’s works defy the norm when it comes to the way she creates the illusion of ongoing movement in sculpture I would like to review briefly some well-known works of art that imply movement.

In an attempt to create the illusion of dance movement, sculptors, for centuries, have used the garments of a dancer as a prop to further that illusion. A skirt will sway to the giggle of hips, and a veil will float upward as a dancer leaps forward. It is in the friction between the dancing body, the cloth and the atmosphere that the grand illusion of movement is created in a static form. When a sculptor wishes to display the illusion of dance, the human body is posed in a dancing gesture, but what is visually perceived as swaying, or in movement, is the dress or cloth that is perceived to bounce and lift in the air. If one separates the cloth from the body, i.e. the garment from the dancer, the dancer seems to be frozen in time because the image captured conveys a human pose, not in movement. Figure 11, Kalathiskos, Dancer, is a good example of such effect. If the skirt
is erased from this bas-relief, the figure seems to be stopped in place, showing off perhaps its athletic body. The artistic strategy is similar to how Perkins’ sculptures seem frozen in time.

This learned style of representing the figure in movement continued through the centuries and was not only expressed in sculpture and bas-relief but also in photography.


To photograph a dancer, before the instantaneous camera, the live dancer is posed in a choreographed gesture and the skirt or veil is propped up and tied with invisible lines, or pinned down to create the illusion of continuous movement. Still, the image or
photograph is that of a frozen movement in time. An example of this effect is the figure below, a photograph of American dancer, Ruth St. Dennis.

Fig. 9. Ruth St. Dennis in Rhada, 1906, Photograph. Available from: ID: den-00…digitalgallery.nypl.org-563x760. (Accessed October 10, 2012).

There are images in drawings, paintings, photographs and even sculptural forms that attempt to portray the body in movement but what these works mostly convey is a body gesture frozen in time. However, in a two-dimensional format artists usually represent the illusion of the figure in movement by manipulating the scenery around the figure. The most common form is to use lines to signify direction or vibrations. Mary
used this illusionary device on her drawing, *Persephone* (Figure 1 on page 52). The other artistic device to convey a more convincing sense of movement on an image is the blurring of the form. Early artists used repetition of the same object on the same image with some blurriness to convey movement. Giacomo Balla’s drawing of a woman walking a dog on a leash comes to mind, *Dynamism of a Dog on a Leash*, (1012) (image available on the internet). And Gerhard Richter’s painting of a woman descending a staircase, *Woman Descending a Staircase*, (1965) (image available on the internet) is another image where the visual perception of the sense of movement is well represented. More recently, the photographs of dancing by Mikhail Baryshnikov are the images I know of that best represent, in a two-dimensional format, the sensory qualities of dance movement.

In sculpture the representation of a real sense of movement is more difficult to achieve because a sculpture usually stands by itself without a background or scenery to set off the illusion of the form in movement. In art history, the most famous piece in sculpture that captures a figure in movement is Umberto Boccioni’s *Unique Forms of Continuity in Space*, (1913) (image available on the internet). In this bronze work the figure is distorted to elicit energy and dynamism. The figure, with a forward gesture, invokes the physical force between man and the air mass he strides on, thus, the distortion of the shape of the limbs, torso and head. In this sculpture, Boccioni emphasizes the muscular activity of the body in movement by exaggerating and stretching the muscular anatomy of the body. The sculpture conquers the space it seems to move through. It stands on two bronze blocks instead of a single pedestal, consequently the dynamism of the figure conquers the visual weight of the pedestal that
otherwise could have frozen its sense of movement. Because Boccioni was an avid soccer fan suggests the piece could have been inspired by his perception of the physical fitness of a soccer player playing soccer. The exaggeration and distortion of the figure and the muscle-like structures jetting out indicate his familiarity with the strenuous physical energy the sport of soccer demands of each player. In this work, Boccioni showcases the human form as machine-like, conquering nature. The implied friction of air mass against the moving figure is evident and is projected on the form itself. Nevertheless, the bronze statue is one solid form. Its parts do not get displaced or visually morphed within the atmosphere, or consider the passage of time, as if it were moving. The complete structure of the sculpture, its volume and mass, stands as if it were stopped in a running stance. Still, Boccioni’s sculpture is the artwork within the history of modern art that represents three-dimensional sensory qualities of human movement. Boccioni’s sculpture does not rely solely on visual observation as the method to create the sense of the figure in movement.

One can conclude from the comparison between Mary’s sense of movement in sculpture with Perkins’ sculpture, and the short survey of past artworks, that Mary’s illusion of movement in sculpture is unique and deserves attention. If the sense of movement in her work is because she is able to transfer her dance bodily knowledge onto her sculpture, it behooves artists to be more aware of their body’s capabilities to perceive the world around them. It suggests artists need to engage in physical practice and body awareness and become aware of the body’s sensory perceptions of all kinds of movement in space and absorb this bodily knowledge through repetitive practice. One needs to be highly aware, as a dancer can be, of all of the body’s sensory receptors and internalize the
knowledge felt or perceived by all of the body’s sensors. To capture the sense of dance movement in a static form one needs to internalize dance movement in the same way, a sculptor trained in the traditional method internalizes the craft of creating the figure by observing, and doing, using a model.
Chapter 2

Mary Frank’s Sculptures

The analysis of Mary’s sculptures is purely a formalist reading. Mary’s work is not analyzed for its metaphorical or allegorical content or for its social and cultural meaning. Consciously ignored is the historical context in which the work was created. I explore the uniqueness of its aesthetic qualities as it pertains to its spatiality, time and motion, and media. In turn, the works are evaluated for the primacy of these characteristics and their connection to dance movement and practice.

Each sculpture is analyzed in a visual art context with a detailed consideration of the form, and explicated through a formal analysis of its shape, line, space and color. Each work is analyzed within a dancing context as well using dance-sensory-analyses to unveil in each piece, the dance movement qualities that often are invisible to those without dance experience.

The aim is to consider the embodiment of dance knowledge as the tacit knowledge or habit that engages with a situation different from dance, such as creating the human figure in clay, or more precisely, creating the figure with a sense of movement aligned with a dancer’s sense of movement.

Mary Frank’s clay figurative sculptures are unique, not only because of their aesthetic singularity but also because they display a sense of movement different from other sculptures. This dissertation suggests that Mary’s dance experience is the main reason why her sculpture’s sense of movement differentiates from that of others. In other words, Mary’s own sense of dance movement is embodied in her art works. Bodily knowledge theories discussed in Chapter 2 of this dissertation suggest that one’s bodily
knowledge and in this case Mary’s *dance bodily knowledge* can affect the art one creates. When Mary’s work is compared to other sculptures her work stands out as having a sense of movement energy all on its own. Her work expresses movement that is derived from life-like energy arrived at by body-felt experiential activities. I suggest this style of movement originates from the body’s sensory receptors rather than from visual observations of forms in space.

*Horse and Rider*


The first example of Mary’s work that demonstrates a keen awareness of movement in space is an assemblage of large ceramic pieces titled *Horse and Rider*. When I saw Mary’s sculpture, *Horse and Rider*, for the first time, I felt my whole body
engaged in the whirlwind of motion that the piece emanates. I saw the artwork through a window in a gallery on Worth Avenue, Palm Beach, Florida in 1993. The sculpture is slightly smaller than life. It is an assemblage of ceramic pieces that form two horses and a rider in a galloping stance. *Horse and Rider*, seen from the outside, across the window frame, seemed to be galloping past the window. One horse with one front leg bent, and the back leg stretched back. The heads and necks of both horses and rider extend forward. The rider secures his body onto the horse’s back, while keeping his head low. Large undulating slabs of stoneware representing clouds of dust crowd under and around the horses’ legs, impairing their visibility. The lightness of the medium and the invisibility of the horses’ hoofs give the impression that the horses’ legs are not touching the ground, increasing the spatial ambiguity.

The intricate multiple slab structure of this sculpture and the shadows it creates make it impossible to define its mass. The intermingling of negative and positive shapes makes it difficult for the eye to rest on any specific area of the piece. Thus, it activates the illusion of constant movement. In fact, little is clear and defined about the space the piece occupies.

Unlike most sculptures, the implied dimensions of *Horse and Rider* cannot be determined. The viewer is unable to see the whole work not because shadows or recession areas do not allow their visibility but because they are invisible to the eye.\(^{161}\)

Where are the underbellies of the horses? How long are the horses’ legs? Where is the

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\(^{161}\) I do not wish my analysis on ambiguity of space to be confused with Wolfflin’s concept of “closed form” and “open form” in sculpture. Wolfflin attributed the term, closed form, to sculpture with clear visible planes, for example “David” by Michaelangelo. The term, open form, he reserved for sculpture with shadows and recessions where all parts of the piece are not clearly visible, for example “David” by Bernini. See more on this subject on Wolfflin’s book, *Principles of Art History*, 1915.
body of the second horse? How does one begin to analyze a three-dimensional form that cannot be grasped in its entirety but one knows is there? But more importantly, how does an artist grasp a form in movement? How is the artist able to imbed the range of time and energy of a human and animal in movement in a static form—a sculpture? I argue this is possible if the artist is imbued with dance bodily knowledge. If the artist has felt through her body the impulses and muscle reflections of dance movement. Horse and Rider has the attributes of a dance performance. One cannot observe an entire dance at once because it is composed of an aggregate of movements traveling through space and time. This same movement effect happens in Horse and Rider. It is like the visible blur of movement that we sometimes see in photographs of a moving object. The photographic camera when set on a low aperture speed is able to capture in one image a moving body. This is I believe what Mary is able to achieve in Horse and Rider without the blur. She is able to make visible that energetic movement by revealing some visible parts and omitting others, relying on our visual and sensory perception of our own body in movement and transferring that perception to the movement of galloping horses.

The invisible parts of the horses make one rely more on body sensory information. If only we could feel with our own bodies the energy on display: I mean the dynamism between the horses and rider, and the atmosphere. This is the spatial reality given to us by the artist in the representation of clouds of dust (undulating stoneware) formed by the horses’ hoofs hitting the dirt. By presenting the viewer the environment created by the action of rider and steed the artist brings the onlooker to participate fully in the swirl of movement the form conveys. It is this body-in-movement sensory quality that is often displayed in Mary’s clay figures.
Horse and Rider is about movement; it is not a portrait of horses with a rider. Mary is not showcasing a particular breed of horse, or making an image of a specific horse rider. There is not enough detail on the sculpture for one to identify the horses or the rider. The sense of movement she creates on this work is unique in sculpture because the movement is not only created by the horses’ stance, galloping forward on a horizontal line; it is created by the way the artist unleashes the atmospheric friction and forces activated by the horses’ movement. This is visible in the swirling of clay slabs representing dust around the horses’ feet, but also on the rugged face of the rider, and more importantly the invisible areas of the horses’ legs and feet. As if the horses’ bodies became immersed with the atmospheric mass it treads through.

Persephone

Mary’s sculpture, Persephone, figure 2 on page 52, is an example of how the artist is able to transfer the kinesthetic energy of a dancer’s body into a work of art. Persephone, a naked figurative sculpture, is composed of five slabs of clay lying on the ground. The figure seems to be at rest, but on close examination, one becomes aware by the position of the torso head and limbs, that it is not a resting pose. On the contrary, the piece conveys a sense of movement by the tension of the torso, it heaves upward, and the head is slightly bent back and to the right while the long hair touches the ground. The eyes are closed, and the mouth is barely opened. One leg is up and bent by the knee, the other is also bent by the knee but extended outward to the right of the body with the knee and foot touching the ground forming a V shape. One arm is extended above the shoulders while the other lies horizontal by the torso. The heaving of the chest upwards accompanied by the breath (implied by the open lips), and the incised lines on the clay
slab perceived to be the arm, indicates body movement. But this is no ordinary movement. The clay figure is visibly experiencing, sensing its surroundings; it is living in the moment, feeling its body—being.

*Persephone’s* pose has the stance of a dancer. The position of the body combined with implied sense of breath is almost a replica of the dance movement use on the floor exercises from Martha Graham’s dance teaching method. Most telling is the awkward arrangement of the right leg, which can be perceived as humanly anatomically impossible to do or extreme by anyone other than a dancer trained under Graham’s traditional exercise techniques. This particular leg twist that is visible in *Persephone’s* right leg was integral to the physical exercises in Graham’s Technique that placed the pelvic bone as the base structure for the torso to move. The legs bent in a V on the front and back of the hips made the spiral support that enable the torso to move and rotate in all directions.162

*Persephone* is an abstracted figurative sculpture. An expression of ecstasy or pain comes through quite strongly but beyond the expression of emotion, it is through the abstraction of the form that Mary is able to impart the kinesthetic energy of a pulsating body. Mary Frank creates the piece from the inside out, physically and metaphysically. It is as if Mary’s bodily sensory aptitude is transferred to each slab of clay. She assembles the body of *Persephone* piece by piece. She forms the clay slabs freely to resemble an arm or leg. For example, the right leg of *Persephone* is just a slab of clay that seems to have been pressed on to a human leg to mold its shape. The right arm is a slab of clay

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with fingered lines shaping a human hand. The left leg is a straight slab in a shape of a wave with a layer of thin clay over its ridge. It is through the irregularities—or even distortion—of the form that the sense of a body in movement comes through. There are no finite margins to Persephone’s body. Instead, there is a sense that its body continues in space although one isn’t able to see it. It is this infinite quality present in Mary’s sculpture that one connects with continued movement. This type of movement cannot be seen and studied by the human eye because it is not visible; it is body movement that is felt through the body’s sensory modes. To better understand Persephone’s bodily sensory qualities, one must rely on the human sensors that one is in tune with when our eyes are closed. One’s sense of touch can be felt over every millimeter of one’s skin. One has a better sense of taste and odor with closed eyes. One can sense one’s location of one’s body in space and place, and one’s hearing connects us to the immediate world around us by sound. Perceiving the feeling of the body in movement and being in the moment precludes closing our eyes, or not holding a visual focus, because visual stimuli take us outside of ourselves.

*Swimmer*

The kinesthetic movement I have described for Persephone is perhaps easier to understand by the illustration of another piece by Mary titled Swimmer.
In this life-size work, the viewer is required to imagine the figure as if moving in water. The extended clay slabs that make up the arms are distorted and float above a clay armature. The figure’s face is taut with the eyes semi-closed and the mouth is gasping for air. The legs and feet are assembled slabs superimposed over each other. In this piece, one can clearly visualize the form as a human swimmer in water. Water displaces the visual mass of a solid body as the body moves through it. When looking at *Swimmer*, our visual memory takes us to images of human bodies moving in water. They are visuals of bodies in water that are barely visible; they are visibly distorted because of the buoyancy of the water itself, combined with the movement provoked by the moving body. And because we are visibly aware of swimmers’ bodies in water, *Swimmer’s* implied movement is easily understood. I suggest that the piece *Persephone* is formed in the same way. Its form and shape is abstracted in the same manner but it is not treading water; it is
easing through air and gravitational forces. Thus I propose, we ought to visualize

*Persephone* as a sculptural form in continuous movement, treading through the atomic and molecular energy around her. The viewer is invited to rely not solely on visual cues but on body senses. Then, *Persephone’s* implied body movement will be readily understood.

*Three Dancers*

![Three Dancers](image)


Another piece by Mary Frank that relates closely to dance is *Three Dancers*. Large slabs of stoneware form the three dancing figures. Each is assembled separately with multiple slabs of clay. Unlike *Persephone* and *Swimmer*, these figures are standing.
They are not life size but approximately 36” tall. The figures appear as if rotating in a dizzy type of stance. Each individual dancer moves separately. Their bodies are layered with clay slabs curving inward and outward resembling waves. Endless textured lines scratched on the clay’s surface suggest movement and directional flow of a round about quality. The clay slabs that make up their faces show stretching and pulling as if a thin veil of fabric was being pressed against their faces from an external force, similar to hurricane winds. Because their heads are looking up, they seem to inhale and exhale through the mouth and almost out of breath. Their feet and hands are lost, or non-existent, within the wave-like quality of the slab shapes. The title of the piece, *Three Dancers*, is quite generic, however, the piece captures the ecstasy of gyrating movement. A Sufi dance that rotates the body continuously, with each part of the body in harmony with itself with only one purpose: to dance.

*Three Dancers* is the only sculpture from the series of clay sculptures by Mary made during the 70s and 80s where she consciously depicted dancers in movement. She was trying to emulate the dizzying quality of movement of Dervish dancing. Dervish dances are the whirling dances of the Sufi. Dervish dancers practice this dance as a ceremony. The dancers spin their bodies seeking to enter a near-mystical trance that may take their bodies beyond normal limits. Mary forcefully conveys the friction of the rushing air throughout the figures by streaking the clay slab with lines, and shaping the slabs in a circular manner. In addition, the visible faces in *Three Dancers* seem to be distorted by the atmospheric forces unleashed by the speed of their dance rotations, and their feet and hands are lost within the wave-like shapes of their forms. Giving the

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163 Mary Frank, interview by author, November 26, 2012.
impression that the figures feet and hands have integrated with space/air mass. With *Three Dancers*, Mary is at once the sculptor and the dance choreographer. She choreographs each dancer as if at a different stage of dancing while maintaining the dance as an ensemble. One dancer has the arms (not visible) raised in a T and her face is lifted up toward the sky. The eyes are closed and the legs, slightly apart, are enveloped in a long skirt. Another dancer with open eyes—but unfocused—seems to be swirling at a high speed. The wheel shape slabs of clay on the lower part of this figure reinforce the impression of continuous revolutions. The third dancer, only seen from the back on this image, seems out of balance. The main clay slab that holds the other slabs in place is slightly bent to one side suggesting that the dancer might have ended its swirling rotations and is not yet steady on her feet. Although each dancer seems to be at a different stage of their dance they relate to one another as if they are connected through the swirling air waves bouncing off each other or the meditative stage they seem to be immersed in. In this work, like the others of Mary’s I described before, the artist seems to bring the element of air, the atmospheric mass that impacts the figure in movement. It is as if the artist is highly aware of a physical relationship between the environment and her body.

**A Summary of Mary’s Sculptures**

*Horse and Rider, Persephone, Swimmer* and *Three Dancers* are artworks that expand beyond being objects occupying space. They are objects intermingled with space which is not unusual in Mary’s sculptural work. Most of her clay pieces exhibit a spatial reality that is not easily grasped. The space her forms occupy is infinite. The forms themselves are particles of a larger, invisible whole. The viewer imagines the missing
parts of her sculptures and completes the figures in his/her own mind. When looking at Mary’s sculpture one is not challenged by the missing parts of each figure, one views the whole work as a complete image.

Another way to describe her sculptures is as if they were figures moving in water. When one looks at a swimmer in the water, one sees legs, torso, arms, and head moving in the water. One knows the person is in the water but sees only certain body parts clearly when these rise above water. The rest of the time one sees patches of skin, or a bathing suit color, moving within the volume and mass of water. The swimmer’s body seems distorted. Occasionally, the whole figure is almost all there. Sometimes it is just a sliver, and now and again it is fractured with lines created by the sunlight reflecting off the undulating water. If one could see air as one sees water, Mary Frank’s sculptures would make total sense.

I argue that Mary’s pieces are an example of sculptural works that do not rely on visual perception and the accuracy of the human body structure to express the human figure in movement. Mary’s dance bodily knowledge is manifested in her sculptures. Her pieces Horse and Rider, Persephone, and Swimmer are not frozen in time but seem to be in continuous movement. Mary is actually not portraying dance in latter sculptures. Nevertheless, each of these sculptures is embodied with a dancer’s sensibility. They express body movement from the inside out. They surrender to the elements. They display a fleshy sensitivity to the very edge of being—flesh intermingles with the atoms and molecular energy around them. These aesthetic attributes demonstrate an awareness/knowledge of the human body’s sensory modes that other sculptures, which
rely mostly on visual cues and rationalized visually inferred evidence, are not able to attain.

The sense of movement commingling with the environment displayed in Mary’s works resonates with Dr. Bolte-Taylor’s account of her body awareness experience when she had a stroke. She recalls the physical sensory connection she felt with the environment this way, “I could not squeeze the enormity of myself inside my body… I could not define the boundaries of my body. I did not know where I began and where I ended. … I felt connected to the external world.” These are characteristics I suggest Mary’s sculptures incorporate. Her work demonstrates a body awareness of the spatial relations between form and the universe.

Mary’s works are imbued with the sense of space mastered by a dancer. She creates clay forms enveloping and embodying space in an extraordinary way. As an artist, Mary is able to build clay figures that demonstrate a tactile awareness of space. I would argue that Mary’s dance awareness of the human body in movement, and her awareness of the body in connection with the air/atmosphere around it, dictate the gesture, movement, and stance of each of her art works.

Mary Wigman, the dancer, choreographer, the artist whose dance aesthetics led me to understand Mary’s works in a whole new way, speaks of space in the manner I suggest Mary’s clay pieces express space. Her poem Space typifies a dancer’s awareness of space:

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“SPACE
In the middle of space she is standing,
Upright,
Eyes closed,
Feeling the weight of the air which covers her.
The arm lifts itself carefully,
Groping,
Disturbs the unseen body of space.
She leans forward, feet following,
And direction is born.
Space tries to hold her,
And drags her back from the newly-found way.
Again up and down,
Forward and backward,
She combats with space for space.
Dance,
Softly, tenderly, and passionately wild.
Knowledge flashes within her.
The great, unseen, transparent space
Spreads without form,
Flowing.
A movement of the arm
Changes and forms it.
Ornaments arise
Powerful and distinct,
And sink away.
Timid arabesques dance past,
And fade.
A spring into the midst of it,
Angry sputters,
Bursting forms,
Quick rotation,
The walls recede,
She lets the arms sink,
Is gripped by quiet.
She sees the empty space,
The dancer’s realm.”

The phrases in the poem—*Disturbs the unseen body of space; space tries to hold her; she combats the space for space*—give evidence to the conscious awareness and

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respect dancers have for space/atmosphere. It can hold or drop one’s form. It can move you and it can stop you. Another phrase in the same poem—*the great unseen transparent space spreads without form flowing*—speaks of space as mass, a fluid mass that the dancer integrates with. Therefore, it is fitting that Mary’s modern dance training has imbued her clay sculpture with a spatial reality akin to a dancer’s perception and interpretation of space. Her sculptures are developed out of a tactile immersion with the atmosphere and ground. *Horse and Rider, Persephone Swimmer and Three Dancers* are examples of Mary Frank’s acquired sensibility of moving through air, experiencing space as air/mass and ground.

The fleeting quality of Mary’s clay work is implied in the nature of the material she uses: ceramic. Clay is a material that is analogous to flesh. Clay’s plastic qualities: malleability, plasticity, and recyclable properties make it ideal for artists to manipulate. Because Mary’s work engages the immediacy of movement, the clay medium lends itself as an optimum material to express movement spontaneously. Moreover, the kind of movement that Mary’s sculptures convey—a sense of movement that is affected by external forces or atmospheric elements—is best expressed with the clay medium. Any line, fissure, puncture or dimple is readily taken by the softness of clay. After the clay is fired, the characteristics expressed on the clay by the artists stay imprinted on the ceramic work. And although the ceramic material is hard, it breaks easier than stone but it looks natural, earth-like. This fragile quality of the ceramic medium adds a sense of vulnerability to Mary’s sculptures. This vulnerable quality is unlike a sculpture that is carved in stone or metal. The vibe from a stone sculpture or a metal sculpture is altogether different. Those materials emanate a rigidity that is un-human and everlasting.
It is the delicateness of her ceramic works that emanate a temporary characteristic that is also found in dance performance.

Another aspect of Mary’s sculptures that suggests the artist is projecting her dance knowledge onto her work is the transitory quality of the works themselves. Her sculptures are sculptural assemblages. They are composed of many slabs or shards of ceramics. For this reason, *Horse and Rider, Persephone, Swimmer,* and *Three Dancers,* have a sense of impermanency that is directly connected to dance performance. The agglomeration of ceramic shards to create a sculpture is fleeting. Granted the restrictions of the process of creating large slab pieces in clay are due to the size of the kiln and the shrinkage stress clay suffers during a firing. Nonetheless, the passing aspect of her sculptural work is similar to a dance performance. A dance may last for an hour, but when a dance is over, it is over. Likewise, Mary’s sculptures are assembled for display, and afterward they may be stacked and put away in a box, not resembling the artwork at all.
Conclusion

This study analyzes the sense of movement on Mary Frank’s clay sculptures. It examines bodily knowledge and *dance bodily knowledge* as a source for that movement’s unique quality. This dissertation argues that Mary, who was formally schooled as a dancer, acquired a working knowledge of a dancer’s sensual sense of movement and applied it to the creation of sculpture. It suggests that *dance bodily knowledge*, fundamental to dance, opens up the body to spatial and kinesthetic sensory awareness that fosters an acute perception of the body in movement. It is this bodily base sense of movement that is manifested in Mary’s clay sculptures.

Through this study, I have attempted to show that the unique movement in *Horse and Rider, Persephone, Swimmer,* and *Three Dancers* derives from sensory perceptions brought about by dance training and practice. In particular, the modern dance teachings of Martha Graham that encouraged introspective body analysis, an activity that incurs body awareness, and provokes students to express themselves with their bodies—free of societies’ precepts and constructs. The analysis of Mary’s art works illuminates its unique character and demonstrates the value of the relationship between *dance bodily knowledge* and the representation of the illusion of movement on figurative sculpture.

Through an exploration of various theories on bodily knowledge and *dance bodily knowledge*, this study suggests that Mary’s sculpture is imbued with a dancer’s sensibilities. A lengthy discussion of phenomenology theories (philosophic investigation of experience), of known philosophers such as Maurice Merleau-Ponty, Michael Polanyi, Pierre Bourdieu, Edward Casey and Richard Shusterman, and an examination of theories on dance knowledge proposed by scholars who were also dancers—Barbara Mettler,
Maxine Sheets-Johnstone and Jaana Parviainen—reveals how the body acquires, forms, and uses knowledge. Their theories on bodily knowledge support the concept that the transference of *dance bodily knowledge* onto the creation of sculpture is plausible.

**Acquired Habit**

Merleau-Ponty’s theory asserts that when a habit is acquired, it is internalized in one’s body, and manifests itself spontaneously without prior thought. It is as if the body reacts to an event or action and one may not even be consciously aware of doing it. Since Mary studied and practiced dance more than any other visual art method, this study assesses her *dance bodily knowledge* as an acquired habit. Thus, this ability of the body to act without deliberation corroborates with the idea that Mary projects her *dance bodily knowledge* onto her artwork.

**Tacit Knowledge**

Polanyi’s concept of tacit knowledge (the knowledge one has acquired) and focal knowledge (new knowledge in the process of being acquired) also supports the idea that once acquired, Mary’s *dance bodily knowledge* becomes tacit knowledge. This tacit knowledge responds to focal knowledge (a new endeavor or activity). In Mary’s case, focal knowledge is the creation of sculptures in clay. It is in the collaboration of *dance bodily knowledge* (tacit knowledge) and the manipulation of clay (focal knowledge) that Mary is able to transfer a dancer’s sensibilities into her sculptures.

**Practical Reflection**

Bourdieu’s concept of practical reflection (the ability in which a person is able to improve a posture or position in action) also supports the idea that Mary’s dance bodily knowledge could be transferred onto sculpture. Bourdieu’s concept refers to an
activity that involves physical practice and coordination, such as dance. Therefore the idea of correcting a move while one performs or acts, reflects on how Mary could have had activated her dance sensory skills during the process of building her clay figures, not as a dancer but as a choreographer, Mary shaped the clay figures with a sense a movement mastered by a dancer.

Body Memories

Edward Casey contributes to the discussion that Mary’s sculptures can be the recipient of a dancer’s sense of movement with the theory that body memories are in the body and can be activated long after they were inactive. Mary stopped dancing in the 1950s, and created Horse and Rider, Persephone, Swimmer, and Three Dancers from 1974 to 1985. The span of time from when Mary was an active dancer and to the creation of the above sculptures (according to Casey) does not interfere in one’s activation of body knowledge because it is part of one’s body schema.

Somaesthetics

Richard Shusterman adds to the debate of body knowledge with the concept of somaesthetics, the aesthetics of the body, that is, bodily awareness with a purpose of changing one’s way of life in a positive way. Somaesthetics basically assumes that knowledge is in the body. How one’s body feels and acts affects how one perceives and acts in the world. Thus, if one is able to analyze to ameliorate or change certain body habits in a way that one’s perceptions will be more accurate than one’s life will change. Hence, if one’s perceptions are more accurate than one’s reasoning and thought, will also be more reliable. Assuming that the soma defines who we are and how we perceive the world, then Mary, who trained to dance with emphasis in introspective analysis of one’s
physical strengths and weakness, is prepared to perceive the world in a more accurate manner. In doing so, one accepts that her perceptual acumen of the body’s sense of movement is more reliable. Thus, her insight of a figure moving in space transferred to sculpture is perhaps also more accurate. It is with the assumption that Mary practiced self-body-awareness that Shusterman’s somaesthetics theory makes sense.

Dance Knowledge

The theories on dance knowledge by Mettler, Sheets-Johnstone, and Parviainen basically support this dissertation’s argument that Mary’s sense of movement in her sculptures is dance-knowledge-based. Mettler asserts that dance knowledge enhances one’s spatial perception which sensitizes one to be more consciously aware of one’s environment and thus produce art work that is more sensory accurate of one’s world. This idea is corroborated by Shusterman’s theory of somaesthetics. Sheets-Johnstone believes that dance knowledge is more than just dance skills. Dance is thought in motion. If dance movement is thought in motion, then Mary’s works can be a choreographic example of such thought. One does not need to be dancing to think in movement: one can be creating sculpture and still be thinking in movement. Parviainen, on the other hand, articulates that dance knowledge is living knowledge, which means it cannot be articulated in words and is taught from a body to a body. This idea of dance being living knowledge captures the essence of what Mary’s clay sculptures represent. Each of her sculptures may be representing her dance living knowledge. Mary as the dance-teacher passes her living knowledge not to a dancer but to her sculptures. Each sculpture may represent various nuances of dance movement. *Horse and Rider* has a racing sense of movement. *Persephone* has more of a *gasp* sense of movement. *Swimmer* and *Three Dancers* are
actually almost floating—the former in water’ the latter on air. Parviainen’s notion of dance being a living knowledge assumes this knowledge is permanent in the body. A knowledge that is interiorized becomes the regular habitude from where one acts and creates. All of the phenomenology theorists and bodily knowledge theorists discussed in this dissertation agree with this reasoning. Therefore, it is highly plausible that the sense of movement of Mary’s sculptures derives from her living knowledge of dance.

Beyond the discussion of the various phenomenology and body knowledge theories, this dissertation puts forward the testimony of artists from various disciplines such as painting, sculpture, architecture and photography and how their comments on how they projected their bodies’ knowledge onto their art. It also includes an analytic summation of my own body awareness and its aesthetic effect on the clay forms I shape with my own hands. These testimonies give further support to the idea that dance bodily knowledge is projected into Mary’s sculptures.

This study also compares and contrasts the training or practice of a modern dance education (Martha Graham’s Technique) and a traditional sculptural education to demonstrate that different body senses are cultivated in each of these practices. A modern dance education emphasizes expressing, in dance, a bodily felt aesthetics while a traditional sculpture education emphasizes visual observation of the model as the bases to express the human figure in a plastic medium. Each particular education sets in the body different sets of habits that each artist is bound to recall and make use of in the creation of his or her art. To further illustrate this concept, Mary’s pieces are compared with those of Stephen Perkins who trained in the sculptor’s traditional method. The comparison of the artists’ artistic training in relation to the sense of movement in their sculptures illustrates
that there are visible differences. The sense of movement in Perkins sculptures is
different from the sense of movement in Mary’s sculptures. This comparison reveals that
Perkins works seem to be more static than Mary’s. Mary’s clay figures are connected
with their surroundings and the air, mass they live in. This is reflected in the open-ended
quality of her slab work that extends the form beyond one’s visible perception. The
intermingling of the form with the atmosphere gives each piece the illusion of continuous
motion. Perkins’ figures stand in pose as if impermeable to their surroundings. These
divergent approaches to create the illusion of the sense of movement in sculpture, highly
suggests a sensory gap between the two artists. Perkins was trained to perceive the form
mostly visually while Mary was trained to dance, a bodily perception of movement.
These are real body sensory differences that affect how one perceives the movement of a
figure in space and in turn how one applies that perception onto sculpture.

The difference in the sense of movement on the sculptures by Perkins and Mary,
are aesthetic statements beyond style. This study argues that these are aesthetic
characteristics that are born out of one’s bodily knowledge. Perkins’ illusion of
movement derives from his bodily knowledge of the traditional sculpture teaching
method that teaches the artist to perceive the figure in space, using visual cues. Mary’s
illusion of movement derives from her bodily knowledge of dance, which emphasizes a
bodily sensory awareness.

The idea that dance bodily knowledge is the source of the unique sense of
movement in Mary’s sculptures is best described in the analysis of her sculptures. Each
piece is analyzed for shape and form and the sensory illusion it conveys. Each sculpture
is examined from a visual arts perspective as well as with an analytic eye for dance
aesthetics. This type of analysis reveals that Mary intermingles both body and atmosphere as a dancer would when she forms her figures. Her sculptural figures seem to mold and shape themselves with the air and mass they interact with. This illusionary device makes the sculptures seem as if they are in constant movement because each figure is not present as a whole but it is perceived as if it is. The whole figure cannot be seen, but it is sensed as being there—in motion. One has to assume the sculpture is in motion because some of its parts are visually fleeting. What Mary did with these sculptures to represent an ongoing sense of movement is an innovation in the visual arts field and specifically on the way the sense of movement has been represented in a static form—a sculpture.

Because in the field of visual arts the making and perception of artworks has been taught through the use of the visual sense, the idea that bodily knowledge and specifically *dance bodily knowledge* should play a larger role in the teaching of the arts is new. This dissertation ascertains that *dance bodily knowledge* heightens one’s spatial awareness and one’s somatic perception. These are real physiologic transformations that affect brain function and cognitive skills, but also make one aware of bodily sensory abilities that are, usually, taken for granted. *Dance bodily knowledge* raises one’s bodily sensory skills. It opens up new venues of individual perception and comprehension that facilitates the acquisition of new knowledge. These are skills that affect how one perceives the world and, consequently, how one acts, and expresses oneself in the world. Hence, the benefits of one taking dancing lessons at any age, but preferably during youth, are obvious. I suggest visual art educators and visual artists to consciously become aware of the sensory
knowledge within their own bodies and to use this knowledge to teach art and to create art.

Although this dissertation is limited to the discussion of connecting *dance bodily knowledge* to the innovating way in which Mary develops the illusion of movement in sculpture. This study reveals that *dance bodily knowledge* expands one’s bodily sensory perception of the world and connects one to one’s bodily senses. This increase in perceptual awareness has the potential to interact with other areas of knowledge that we know nothing yet. More studies are needed on how experiential dance knowledge interacts with other disciplines for one to fully comprehend the significance of *dance bodily knowledge* and its impact on the development of human knowledge in general.

What this dissertation suggests is that dance education has the potential to sharpen one’s perception of the body in movement and that this knowledge can greatly improve the way an artist represents the illusion of movement in figurative sculpture. But the skills one acquires with dance education may have wider effects on human knowledge beyond the obvious benefits for the visual arts. For example, a parallel study on music knowledge revealed that people who had music lessons for more than four years at a young age were able to process the sounds of speech faster than those who did not have music lessons. Of notice is the fact that the participants in the research had not practiced music for about 40 years.166 This study reveals how a higher acuity of music knowledge

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affects one’s perception of sound. It is in this vein of thought, such as the music study, that I foresee the benefits of further research on the subject of *dance bodily knowledge*.

I would like to end with this thought, if Mary Frank with her keen sense of dance movement can develop an illusion of movement in sculpture that is unlike any other portrayed in the plastic arts, than what other potential endeavors can be achieved which we are not aware of when one’s body is trained to dance?
APPENDIX A: GLOSSARY

NOTE: The terms in this glossary are simplified definitions of complicated terms.

**Bodily Knowledge.** Knowing in and through the body

**Pierre Bourdieu’s habitus theory.** Non-discursive knowledge that operates beneath the level of rational ideology.

**Dance bodily knowledge.** Bodily knowledge acquired through dance practice.

**Epistemology.** The study of knowledge; theory of knowledge.

**Haptic.** Based on the sense of touch.

**Kinetic.** Active, relating to motion.

**Kinesis.** Physical movement.

**Ontology.** The nature of being; theory of existence; a particular theory of being; relating to the studies of existence.

**Phenomenology.** The philosophical investigation and description of conscious experience in all its varieties without reference to the question of whether what is experienced is objectively real. Encarta Dictionary (the studies of things as they are perceived by the body).

**Polanyi’s focal knowledge.** Knowledge that one is in the process of achieving by being attentive, in the present.

**Polanyi’s tacit knowledge.** Knowledge that is part of the body schema and aids in the acquisition of knew knowledge.

**Proprioception.** Senses within the body system that allows one to know where and how one’s body is and feels in space. The reception of stimuli produced within the organism by movement or tension: feel one’s muscles, bones, heart beat, breath, etc.

**Somaesthetics.** Body awareness with a purpose of changing one’s life in a positive way.
APPENDIX B

Excerpts from Art Reviews of Mary’s Ceramic Sculptures

“Fragmentation could describe the sensation of dreamy dissolution”

“Whether disjointed in the sand, as a corpse whose arms bridge its own decay, or poised on a pedestal in a winged shape weighty with the ages, the sculptures blend passion with a sense of a heroic past.”

“Mary Frank’s figures are in a continual stage of flux, melting into their surroundings and each other in a serene ecstasy of sensuality that usually happens only in dreams.

“Clay is earth, and Frank’s figures of sprawling nudes and entwined lovers, tenderly dislocated, are clearly meant to be seen as emanations of the earth, concretions of place and appetite.”

“Persephone…a ceramic sculpture composed of five parts that evokes violence and erotic ecstasy”
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