Abstract

Teachers in any subject must sift through an enormous amount of material, deciding what content is the most important for their limited amount of instructional time. As an art education student I was able to observe the practices of numerous art teachers and the choices they made concerning the content of their curriculum. I found that art teachers often placed differing values on the teaching of artistic skills, techniques and knowledge of media (object-making), and the teaching of meaningful exploration of ideas through artmaking and interpretation (meaning-making). A systematic review of the literature from the last ten years of *Art Education*, *Visual Arts Research*, and *Studies in Art Education* revealed this divide as prevalent in art education theory, with much greater value placed on meaning-making. I believe dichotomous thinking such as this reflects a wider philosophical divide in Western thought: that of body versus mind. However, an understanding of the mind as inherently embodied offers art educators a relatively unexplored theoretical paradigm for better understanding the relationship between object-making and meaning-making. Furthermore, an understanding of how the embodied mind develops an underlying tacit knowledge as it interacts with the world could have immense implications for the manner in which we teach art. Therefore, the purpose of this thesis is to establish a theoretical framework for the future research of K-12 art curricula. From this newly conceptualized paradigm, art education theorists can
begin developing a stronger understanding of the intrinsically intertwined nature of
the physical and the conceptual in art, and how this synthesis can be incorporated in
art education pedagogy.
Dedication

This thesis is dedicated to my father, mother, sister and brother, who have all been steadfast companions as I journey through life. My family and friends have supported me in every way possible throughout my academic career. I could not have made it this far without them.
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Preface

Educators, in any subject and of students of any age group, must constantly make decisions about what to teach and how best to teach. The field of visual art education is no different. Visual art and visual culture have burgeoned throughout human history, becoming more and more a part of our daily lives, growing to the highly image-saturated world of today. Art educators have at their disposal so many examples of various forms of visual images that it is impossible to address more than a small percentage of these forms in a K-12 curriculum. With so many options, the content of an art educator’s curriculum often comes down to what he or she as an individual values most as art knowledge. Yet what, exactly, constitutes art knowledge? As Kerry Freedman points out, “in order to enable investigations of the nature and origin of art knowledge, not just reproduce what has been represented as art knowledge in curriculum of the past, we need to undertake several discussions as a professional field” (2005, p. 99). This thesis attempts to do just this, by contributing to a new conversation about the nature of the artmaking process as grounded in the embodiment of mind and meaning. Furthermore, in this thesis I will begin to develop a theoretical framework for future investigations into the entwined nature of physical, technical art processes, skills and mediums, and conceptual, meaningful art content.

The reasoning behind these arguments is what I see as a forced dichotomy between the teaching of technical skills and investigations of meaningful ideas in current visual art education practice and theory. The introductory section of this
thesis offers a systematic review of the literature from three prominent visual art education journals, *Art Education, Visual Arts Research*, and *Studies in Art Education*, since the year 2000. I will argue that this body of research shows an inclination to divorce technical processes, skills and media, or “object-making,” from investigations of ideas and concepts, or “meaning-making,” in the artmaking process. Furthermore, this body of literature places an overwhelming value on investigations of meaning in art education curriculum. Yet I question how it is possible to separate thinking and doing in the artmaking process. After all, artworks and artmaking occur in a physical, bodily world. I view this dualistic approach to making objects and making meaning as a forced symptom of a much more pervasive division in Western thought, that between body and mind.

This division places thought, ideas, concepts and meaning in an almost otherworldly location, with only a tenuous connection to the physical world in which we live, breath, touch, feel and act as human beings. To view artmaking through this lens is to tear the meaning away from the making of the object. Yet if we suspend this dualistic attitude and begin to view the mind and thought as inherently embodied, as grounded in a corporeal body that interacts with a material world, meaning takes on new depth, as do the physical processes of artmaking. Meaning-making, as arising out of an embodied mind, is grounded in the use of technical skills and processes, and physical mediums. Meaning is embodied within the art object, and it is from the bodily interaction with the art object that the artist makes meaning. It is only subsequent to this bodily interaction between materials, meaning and artist that the art object exists as something the viewer can interpret and derive meaning from.
according to his or her own personal experiences and knowledge. The main purpose of this thesis, then, is to begin to outline a new investigative direction for visual art education, one that can help explicate the initial creation of meaning in artmaking, through the interaction of the artist with his or her physical materials and processes. This is a stance in which meaning is seen to initially arise from an embodied mind, and one which we can use to develop our understanding of the interaction between meaning-making and object-making in the artistic process.
Chapter 1: Art Without the Object

*Physicality and Meaning in Making*

As I look at my finished artwork, I feel a sense of completion and finality. Each element is exactly where it should be; there is nothing to be added or taken away. The rosy-orange background is the exact hue required. It perfectly complements the pale blue-green inside of the frame pendant in the foreground. The yarn I used to create the bark of my wire tree is exactly the right shade of ivory and has a perfect amount of sheen. Likewise, the gold and ivory tissue paper I used to create the leaves and flower buds of the tree are exactly right, as is the black and ivory patterned paper that accents the side walls of my shadowbox artwork. Nothing needs to be moved left or right, up or down. I cannot say exactly how I know my work is finished; it is simply finished. I can give you a few words that may elucidate the meaning my work explores: fantasy, escape, love, peace, contentment, desire. However, these words are completely inadequate in the end. I might be able to write pages on the meaning I want to convey, but in the end words will always be insufficient. I am not acting as a translator when I make a work of visual art; the meaning is tacit and malleable. Yet somehow, the work is complete and it expresses exactly that which I cannot say but need to say. It is only now, once the physical processes by which the artwork came into being are complete, that it exists as something in the world, that it enters the domain of the viewer as an object open to interpretation.
The physical process by which I arrived at my completed work was a meandering path, comprised of a multiplicity of decisions and ideas. This was the first in an ongoing series of works using these particular materials and exploring these meanings. The finished artwork only vaguely resembles the image I began with in my mind’s eye. I did not spew out some exact physical replica of an object already created to completion somewhere in the ethers. Rather, the physicality of creation and the manipulation of materials with my hands, combined with seeds of meaning to constitute the finished whole. As my experience with the materials grew, the artwork changed and mutated (see Image 1 above).

Each physical element of the work contributes to the whole. Furthermore, a combination of techniques was required to manipulate each physical element of the work. The tree underwent six incarnations before it was just right. I used thin wire to sculpt it into shape. I used a light yarn to cover the wire and tissue paper to create the leaves. Never had I attempted to combine these materials in this way. Doing so required that I gain a physical knowledge of each material, an understanding of what it would or would not do. I had to learn, through activity, to decide early in the process exactly how long the wire needed to be for each individual branch. I also had
to learn, through activity, the best place to begin wrapping yarn around the wire, and how tightly or loosely it needed to be wrapped. Aesthetic decisions were often based on the physicality of the materials. The tree was nearly complete when I decided that the yarn I used originally did not create a texture I liked. Each material element of the work required that I experiment physically. As I became more and more familiar with the possibilities and limitations of the materials, I was able to come closer to the finished whole.

This completed artwork, then, is a group of physical materials combined in such a way that they visually convey those seeds of meaning present at the beginning of the making. At no point did I specifically say to myself, “this material does not express the exact meaning I wish to communicate.” Yet the meaning I was working toward lay beneath every technical decision and every physical manipulation. And as I became more accustomed to the materials I spent less time attending to the techniques needed to manipulate them and more time attending to the whole essence of the work. It was as if there were no separation between the physical and the mental, I was thinking through my hands, and as my hands gained knowledge the meaning behind the work became increasingly layered and rich.

Artmaking is a process that involves both thinking and doing. Artists are always expressing meaning and ideas through their artmaking. Artists address social issues, explore emotion, tell stories, provide escape through fantasy, and disseminate knowledge. In making a work of art, an artist may know exactly what he or she wishes it to convey. On the other hand, an artist may be using the artmaking process as a tool for exploring various concepts. Whichever the case, artworks are generally
approached as objects meant to be interpreted. Art educator Sydney Walker believes “artmaking is foremost a meaning-making endeavor,” (2001, p. xii). Using the most fundamental sense of the term meaning-making, art is used to explore a variety of ideas and concepts. Meaning-making thus occurs both as the artist creates the work, and as the viewer interprets the work. Yet regardless of the ideas an artwork probes, a visual artist is most often making a physical product. These end products can be fairly permanent, such as a painting or bronze sculpture, or they can be transitory in nature, such as a performance that, once over, only exists in the photographic documentation that remains or in the experience of the viewer. Even a digital image created on a computer involves the manipulation of materials, namely bits and pixels. Likewise, in performance art the artist exploits the material human body. Apart from the most intangible forms of conceptual art, there is always a physical performance involved in artmaking. In the artmaking process, thinking goes hand in hand with doing.

Artists use anything and everything to create their work in today’s pluralistic artworld. The physical materials, the media, which contemporary artists use might be traditional or highly unconventional; imagine, for instance, oil paint and canvas or found objects. Likewise, the technical processes, or the manner in which an artist skillfully manipulates these materials using tools or hand, can range

![Image 2. Condemned, by Walton Ford (2006). This contemporary artist uses very traditional printmaking techniques, such as drypoint and aquatint.](image-url)
from established artistic techniques to more experimental, newly developed techniques. Whatever the combination of media and technique, or skills and tools, artmaking involves object-making. For example, Walton Ford uses watercolor painting and age-old printmaking techniques to make images reminiscent of John James Audubon, putting a fantastical spin on naturalist paintings of animals (Landi, 2008). Ford uses printmaking tools to transform printing plates, paper and ink into meaningful artworks (see Image 2 above). While this is a much more traditional form of object-making, more innovative forms of physical manipulation also exist in the contemporary artworld.

Consider for example artist Do-Ho Suh, who has used hundreds of military dog tags to create art (see Image 3). His choice to use this less conventional medium required him to develop new techniques for building his sculptures (“Some/One,” 2001-2007). Both Do-Ho Suh and Walton Ford physically make objects in their quest for meaning, although the particular media and technical processes vary between the two artists.

As an artist and as an art educator, my interest must lie not only in the interaction between art object and viewer, but also in that between artist, meaning, and materials, or the interaction between object-making and meaning-making. As an artist I use a variety of materials and technical processes, both traditional and non-traditional, to create my work and therefore to explore ideas. Running into a wall
with my skill-level or the limitations of the medium can stop meaning-making in its track. Likewise, a “happy accident,” such as discovering a new way of transforming media, can open completely new avenues for exploring ideas. As an art educator, I need to be concerned with how object and meaning interact within my curriculum as a whole and within my students’ artmaking. Art educators in the classroom face a myriad of curricular decisions, and they often do so while facing enormous time constraints. So just how far should an art teacher go in encouraging his or her students to develop their technical skills and knowledge of a medium? How much focus should be on the investigation of ideas through artmaking? As an artist, the physical and the meaningful have become increasingly intertwined as I develop my own process and investigate my own ideas. However as an art educator, I have yet to find a balance between teaching object-making and teaching meaning-making. My experiences as a pre-service teacher shed very little light on this quandary.

Based on my observations in the classroom as a pre-service teacher, it seems that art educators often treat the physical manipulation of materials and the meaningful investigation of ideas as a dichotomy. The focus of the curriculum then becomes a question of value. Over the course of my education I was able to observe several art teachers, and the differing values they placed on technique and medium, as compared to meaning and ideas, dictated the outcome of student artmaking. At one intermediate level observation site, the art teacher designed instruction around developing traditional technical skills and knowledge of the medium, or abilities in object-making. While meaning and ideas played a role in some projects, more often the focus was on teaching students to make beautifully crafted products. Her students
sometimes spent fifteen to twenty class periods working on one painting project. Many of these students did create artworks that showed strong proficiency in technical skill. However, those who had difficulty with fine motor skills quickly became frustrated, especially if they showed a strong interest in expressing their own ideas. Additionally, even the beautifully crafted projects frequently lacked meaning. In this teacher’s classes, each student’s work looked the same as the next, and students were often not given the opportunity to explore ideas through artmaking.

On the opposite end of the spectrum, the art teacher at an elementary level observation site paid much more attention to exploring the ideas behind art and artmaking. Students explored a range of issues through discussions about artworks, including artistic traditions from a variety of cultures. However, she spent less time encouraging her students to develop their skills in any medium. Students sometimes spent only three class periods on a given project, resulting in student work that was often haphazardly crafted. While her students possessed a strong understanding that artists use art as a vehicle of meaning, their own hurriedly constructed works were often unable to convey their ideas. Additionally, these students would more than likely find it difficult to transfer their limited knowledge of materials and processes to the investigation of new concepts. In the classroom, sacrificing the teaching of either technical skills or the teaching of strategies for investigating ideas through art denies the value of the artmaking process as a whole. In my perspective as an artist and teacher, focusing exclusively on technical skill relegates art to mere decoration, while focusing entirely on ideas that could be discussed as easily through social studies class denies the artmaking process as a valuable way of coming to know the world.
Leaving the Making Behind: A Review of the Literature

Artmaking involves both thinking and doing. Meaning-making, or the exploration of ideas and concepts, forms an integral part of artmaking. Likewise, object-making, the interaction between technical process, skill and medium, is an innate part of the artmaking process. In my own experience as an artist, I have found that the two continue to become increasingly intertwined. My experiences with my materials, and the technical skills and processes I use to manipulate them, often sustain, transform, and at times, hinder meaning-making. Yet despite the knowledge I have gained in my own artistic practice, I still have little understanding of how object-making and meaning-making should interact within my curriculum, a quandary that my observations in the classroom did little to resolve. While I have a strong grasp of how to encourage my students to find and make meaning through the viewing and interpretation of the work of others, my experiences in the classroom did little to elucidate the connection between meaning and physical materials and processes in my students' own artmaking. So I was left with the question: How is the development of skills and artistic practices in object-making important to the exploration of meaning through art? For an answer, I turned to current art education theory.

My first step in answering this question was to gain a general perspective on how the process of object-making, which includes technical skills and physical knowledge of media, is treated within the literature. Additionally, I sought to develop an understanding of how object-making relates to meaning-making in the artistic process. Since my initial purpose was to acquire a very general idea of how object-
making is addressed by art education theorists, I focused this beginning review solely on three of the most prominent scholarly journals within the field of visual art education: *Studies in Art Education*, *Visual Arts Research*, and *Art Education*. I began by reading the abstracts of every article in these journals since the year 2000, searching for any research that might offer an in-depth understanding of how object-making relates to meaning-making, the value of skills in technical processes as a whole, or why doing is an important part of artmaking. Any and all articles that seemed to address these topics in any manner were studied in depth. This systematic review of the literature found in these three leading journals revealed a surprising trend. Not only do the leading theorists in visual art education seem to treat the thinking (meaning-making) and the doing (object-making) as a dichotomy, they also show a resounding tendency to value investigations of meaning over the development of technical process in curriculum. As these journals show, the community of theorists in art education seems to be leaving the *making* out of artmaking.

This systematic study of the abstracts from the last ten years of *Art Education*, *Visual Arts Research*, and *Studies in Art Education* showed several trends. First, contributing theorists place a strong value on approaching art curriculum through a socially-relevant, multicultural lens. This is a lens that focuses curriculum content on cultural explorations, social issues and social change (see for example, Chen, 2007; Villeneuve & Ericson, 2004). Second, there is a strong movement to emphasize the conceptual, meaning-making properties of art. This trend is visible in the advancement of explicit strategies and curriculums to develop conceptual and interpretive skills in our students (see for example, Keifer-Boyd, 2007; Walker, 2004;
A third trend can be seen in the debates that are raging over a visual culture approach to art education. Proponents of this approach argue for a paradigm shift in art education that would closely align the discipline with cultural studies (see for example, Tavin, 2005; Duncum, 2002). This is by no means a comprehensive assessment of the myriad of issues addressed by these three journals. However, these three trends share several commonalities. They are overwhelmingly prominent within this section of visual art education literature. They show how the theorists contributing to these journals have shifted their focus to ideas, concepts, social concerns, and transferred their “attention to ‘issues’ and the role of art education in supporting just causes” (Kindler, 2000, p. 40). Finally, each of these trends displays an inclination to locate doing in a subordinate position to thinking, to leave the making behind.

Stemming from an increasing influence of critical pedagogy on art education, there is a growing movement in art education to address multiculturalism, along with difficult and complex social issues, through curriculum. In simple terms, critical pedagogy is a democratic approach to education that seeks to critique and destabilize oppressive social structures (Braa & Callero, 2006). Within the literature found in *Art Education, Visual Arts Research,* and *Studies in Art Education,* critical pedagogy and multicultural education has a variety of manifestations. For example, a “celebratory” approach to multiculturalism in art education can be seen in the variety of articles describing units of study that explore artists or genres outside of Western art history, or from a variety of cultural contexts. One article from *Visual Arts Research,* for instance, describes a unit that investigates anime and manga fan culture
in Taiwan (Chen, 2007). Another article, this time from *Art Education*, is tellingly entitled “Ode to Mexican Artists” (Villeneuve & Erickson, 2004, p. 25). The celebration of diversity in art education ranges from exploring different cultures and traditions, to using the art classroom as a forum for bringing about social justice. In a recent article, Chung presented a unit focusing on U.K. street artist Banksy and “issues of living with terrorism in relation to the Israeli West Bank barrier, sexuality and homophobia, and how art can function as a voice for the marginalized” (2009, p. 25). Incorporating issues of social justice into art curriculum can, in turn, take a much more revolutionary stance, such as that seen in Graeme Chalmers discussion of his book, *Celebrating Pluralism*. Art educators, he says, “need to move from ‘celebratory’ to ‘critical’ or ‘insurgent’ multicultural art education… The unjustness of injustice needs to increasingly permeate our work” (Chalmers, 2002, p. 293).

Whether of a highly politicized attitude, or a more moderate, celebratory approach, current art education theorists approach curriculum through a socially relevant lens. In order to accomplish this task, the meaning in an artwork or image is stressed over the physicality of the work.

Also revealed by a systematic sampling of visual art education literature, another trend is the advocacy for various curriculum structures that attempt to enhance students’ meaning-making abilities, both as art makers and art interpreters. Two examples of curriculum structures that stress meaning-making during artistic production are Judy Chicago’s content-based pedagogy and Sydney Walker’s use of big ideas as an impetus for making and interpreting. Chicago’s approach advocates a specific sequence in which students first identify a concern or issue, deeply research
that issue, identify which artistic processes and media they wish to use, and only then
begin artmaking (Keifer-Boyd, 2007, p. 138). Likewise, Walker’s pedagogical
approach through “Big Ideas” advocates an artmaking process that begins with a
conceptual framework. Students begin with an ambiguous concept that they feel a
strong personal connection with, ask problematizing questions about this concept,
develop a knowledge-base, and use these conceptual tools as motivation for
meaningful artmaking. “Thus,” she says, “the artist’s construction of a conceptual
artmaking problem becomes critical in determining the depth at which they pursue
meaning and hence the fecundity of meaning in their artworks” (Walker, 2004, p. 9).

Similar to Chicago’s content-based approach and Walker’s use of big ideas, a third
approach to art curriculum that emphasizes meaning can be seen in Renee Sandell’s
“Form+ Theme+ Context (FTC)” pedagogy (Sandell, 2009, p. 287). Through this
pedagogical structure, Sandell approaches art as a visual language when both
interpreting and creating artworks. “Art teachers,” she says, “are responsible for
teaching art as a qualitative language” (Sandell, 2006, p. 33). Whether used for
critical response or production, Sandell’s language-driven approach to art curriculum
places meaning at the forefront. Each of these pedagogies emphasize the conceptual,
meaning-making properties of art.

The third, and perhaps most controversial trend in recent literature from Art
Education, Visual Arts Research, and Studies in Art Education can be seen in the
arguments for and surrounding Visual Culture Art Education. Proponents of a visual
culture approach to art education advocate a transformation of “art education into a
form of cultural study” (Efland, 2004, p. 235). Specifically, these art educators are
pushing for a paradigm shift in which objects of study would be expanded to include the traditional canon of fine art as well as all forms of cultural production that are encountered visually, including popular culture, the mass media and “an inclusive register of images and objects well beyond the popular” (Tavin, 2005, p. 7). This approach to art education is yet another meaning-driven movement in recent theory. Smith describes this attitude as one in which visual images are engaged “primarily in terms of ‘sites’ in which various ideological struggles are being fought out” (2005, p. 287). Art objects and visual images in general are viewed from a critical standpoint, without a presupposition of inherent value. In other words, the visual culture educator should strive to promote “critical understanding and empowerment” for his or her students by helping them understand how visual images convey meaning and influence the world (Duncum, 2002, p. 6). Like that of socially-relevant pedagogies and meaning-based curriculum designs, a visual culture approach to art education stresses the meaning behind art while de-emphasizing the making.

These three trends are laudable in their attempts to make art education relevant to students’ lives, promote social awareness through the arts and teach a critical awareness of our image-saturated world. A multicultural, socially-relevant approach to art education helps expand student awareness of artistic traditions outside of Western art history and helps demonstrate how many artists address complex issues through their work. Meaning-driven pedagogies can help ensure that art educators do not focus solely on technical skills and that students do develop an understanding that art is more than just making pretty pictures. Likewise, incorporating ideas from visual culture into curriculum can help students develop a
critical awareness of the images that shape their knowledge of the world. A systematic review of the literature found in *Art Education, Visual Arts Research*, and *Studies in Art Education* reveals these trends as widespread movements. However, a closer examination of these trends also demonstrates how the physical aspects of artmaking—-the technical processes, the materials, the skills—-are pushed to the wayside to varying degrees.

Many of the articles that posit a multicultural, socially-relevant approach to art education, as well as those advocating a visual culture approach, use artmaking as a kind of supplemental activity to explore issues already pre-determined in the lesson. Often, the “making is often subservient to teacher-determined ideas; making activities merely illustrate pre-existing critical positions” (Duncum, 2002, p. 7). Namely, the teacher chooses a stance on a given issue or idea, and then students make artworks simply to reiterate that stance. In these cases, artmaking itself, and certainly the development of skills in object-making, are simply tacked onto the unit after students engage in discussion and critical analysis of various issues and images. For example, in “An Art of Resistance From the Street to the Classroom,” Chung describes a unit that uses the work of street artist Banksy as an example of art as social critique. Most of the unit is centered on the discussion of various social issues, with the artist’s images as the impetus for dialogue. Only one paragraph is devoted to artmaking activity, in which the author briefly explains how students can use stencils to make t-shirts that display a similar type of social critique (Chung, 2009, p. 25-32). In cases such as this, art class is transformed into a type of social studies or cultural studies
class, with artmaking as a supplemental activity used solely for the purpose of emphasis.

While these types of lessons, with artmaking as a type of addendum, are more obvious ways in which the object-making in art has been suppressed by the exploration of meaning, there are more subtle ways in which the physicality of artmaking has been dismissed in recent theory and practice. As I have described previously, contributors to *Art Education*, *Visual Arts Research*, and *Studies in Art Education* have advanced several content-based curriculums over the last ten years. My contention with these curriculum structures, which stress meaning or content as a starting point for artmaking, is that they deny the possibility that an artist might simply encounter a medium or process that then gives rise to meaningful ideas. Chicago’s content-first pedagogy requires that students first develop a specific message they wish to communicate before even selecting media or technical processes (Keifer-Boyd, 2007, p. 145). This leaves little room for experimentation or “learning how to think within the constraints and affordances of a medium, learning to exploit the unanticipated opportunities that unfold in the course” of object-making (Eisner, 2001, p. 9). Similarly, Walker’s strategy for meaningful artmaking in the classroom stresses the development of big ideas before physical process and object-making, although she does encourage “flexibility, allowing change, transformation, and modification to have sway over the process” (2003, p. 6). Yet despite this accordance with experimentation, a systematic review of the content-based approaches featured in these three journals reveals a disregard for the physical, technical processes of artmaking as important variables in the meaning-making
process. Furthermore, the importance of craftsmanship is seldom broached. This neglect of the physicality of artmaking in pedagogical strategies that stress meaning over making is a subtle form of dismissiveness, but is present nonetheless.

In contrast to these subtle affronts to doing, there is an even more glaring illustration of how current theorists sustain the dichotomy between meaning-making and object-making. This clear devaluation of doing is visible not in the presence of writing and research, but in the nearly complete absence of any writing about the value or methodology of teaching craftsmanship and skills. This is true for both teaching traditional artistic skills and explicitly teaching students strategies for developing their own techniques through experimentation. Within the last ten years, there is virtually no writing on the importance of technical skills or artistic craftsmanship to meaningful artmaking as a whole; and very little writing exists that focuses solely on how the physicality of making sets art apart from other academic subjects.

In most instances in which the literature found in *Art Education*, *Visual Arts Research*, and *Studies in Art Education* does address the doing in artmaking, it flies wide of the mark. Often, when the literature does address technical skills and craftsmanship, it is too vague for application. For instance, Freedman acknowledges the importance of “the simultaneous development ideas and skills in student learning” (2003, p. 40). Yet the connection between skills and ideas is not explored, nor is the connection between meaning and physicality elucidated. Similarly, another slight attempt to address the development of skills can be seen in units that explore non-Western artistic traditions through learning traditional non-Western skills. Chung, for
example, presented an educational resource that examines the connection between the practice of traditional East Asian brushwork, aesthetics and spirituality (2006, p. 33-38). While this article is impressive in its ability to connect object-making, or technical process, to meaning in art, it is one of only a few examples. Furthermore, it is not a broad examination of physical object-making as a whole, but a very particular look at one technical skill. These attempts to address the place of technical skills in curriculum fail to explicate the central location of technique, materials and skills, whether traditional or innovative, in the process of making any art object.

In a similar manner, theorists in *Art Education*, *Visual Arts Research*, and *Studies in Art Education* who do call for an increased attention to skill and craftsmanship fail to view technical process as an inherent part of all artistic practice and of meaning-making. These writers grieve for the loss of traditional artistic skills and aesthetic enjoyment of surface features to “the postmodern contempt for formalism supported by the suspicion of the elitist nature of purely aesthetic contemplation and condemnation of beauty as an oppressive concept” (Kindler, 2000, p. 40). There is a cry for the preservation of traditional Western skills in educational settings. Kamhi and Torres urge us to “visit the websites of the art departments of diverse American colleges and universities,” where we “will find little evidence of the disciplines of drawing, painting, and sculpture as practiced from the Renaissance through the 19th century- disciplines that have long been associated with competence in the visual arts” (2008, p. 55). Indeed, the neglect of traditional skills in this review of current visual art education theory is a trend that offsets the very pluralism that postmodern thinkers celebrate. Furthermore, it is not representative of the artworld at
large, in which contemporary artists frequently employ age-old techniques. Nonetheless, focusing solely on lamenting the loss of these skills without understanding how or why they are important to remember can only be an ineffectual means of preserving tradition in the end.

In addition to these oblique references to the importance of the physical aspects of artmaking, some theorists who contributed to these scholarly journals did directly address a very limited aspect of object-making through investigations of drawing ability. However, much of this body of research focused on graphic skills as indices to “be studied in order to augment understanding of the various ways that humans can mentally represent knowledge about the world” (McMahon, 2002, p. 38). As such, the development of drawing abilities is seen as a vehicle for investigating cognitive processes. For example, Edens and Potter compared students’ level of spatial understanding, assessed through analysis of schematic drawings, to mathematical problem solving abilities (2007). While this is an intriguing avenue of research, it is not directly explicative of the physical process of object-making as a whole or its relationship to meaning-making. Moreover, the use of drawing as a tool for studying cognitive processes is a further example of the subordination of doing to thinking in that artistic output is viewed simply as a manifestation of these mental processes.

While these studies maintain the dichotomy between thinking and doing, some theorists who address drawing skills in *Art Education, Visual Arts Research,* and *Studies in Art Education* do come closer to narrowing the gap between thinking and doing, or meaning-making and object-making. These researchers touch on the
development of drawing skills as a gradual accumulation of “a repertoire of choices for visual meaning making” in the form of artistic conventions (Kapsch & Kruger, 2004, p. 63). The choices are viewed as semiotic in nature, and as a child develops they amass knowledge of the variety of ways in which the world can be represented through visual symbols. Additionally, these symbols and graphic conventions are subject to social and cultural influences, such as the imagery a child encounters in the world or cultural aesthetic preferences (Kapsch & Kruger, 2004; Pariser, Kindler, van den Berg, Dias & Liu, 2007). Explorations such as these, with a linguistic, symbolic focus, clearly shed more light on the relationship between meaning and art object.

A beautiful illustration of this research direction can be found in Art Education, through a case study presented by Hanes and Weisman (2000). As two art educators, these parents actively followed the artistic growth of their son, Hawk, through his drawings. “Hawk’s process,” Hanes and Weisman said, “was an obvious combination of linguistic and visual symbol systems integrated with his play activity” (2000, p. 7). They found that Hawk incorporated his life experiences into his drawings, taking new information and exploring it visually. Yet while these investigations offer a link between art object and meaning, by focusing solely on drawing skills as seen in the final product, they are limited in their ability to elucidate the active relationship between object-making and meaning-making. Namely, these studies do not address how the tactile qualities of drawing in action- the texture of the paper, the difference in smoothness and grip of the graphite, the thickness of the pen or marker- may have influenced the final object in which they find so much meaning. Furthermore, as materials and technical processes become more complex, so too will
their influence over the object-making and meaning-making process, and the final art object.

So what then, is the value of skills in object-making, or knowledge of media, tools and processes, to artmaking? The prominent trends that we have seen within current art education literature seem to reinforce a dichotomy between thinking and doing, between meaning and technique. Furthermore, these inclinations place a much greater importance on the exploration of meaning. It is true that artists explore a variety of ideas and issues through artmaking, and helping students see how these ideas relate to the social world around them is an important educational objective. It is also important to give our students the opportunity to explore meaning for themselves, and learn to think critically about the visual world in which we live. However, focusing solely on ideas and social issues, while neglecting the physical processes and materials that are the vehicle for these ideas, denies art its unique position in the schools. Social issues and complex concepts and ideas can also be explored through social and cultural studies, history, literature and English, the sciences, and any variety of classroom settings. Freedman, a staunch supporter of visual culture art education, insists “artistic production is a foundation of this new direction of the field” (2003, p. 38). Furthermore, she questions whether there is any way for students to better understand the power of the visual image than through the creation of artworks. Yet if the literature from Art Education, Visual Arts Research, and Studies in Art Education is any indication, then the truth is that within our field we have very little understanding of why we make this claim. If art educators believe that the production of artworks offers a more powerful way of understanding the

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world, then why are we, within our own research and literature, leaving the *making* out of *artmaking*?

*The Separation of Thinking and Doing?*

Despite the lack of consideration the physicality of artmaking has received in these prominent sources of art education literature, object-making and meaning-making go hand in hand in artistic process. In a recent interview with *Art:21* (an online educational resource and television series which explores contemporary visual art), artist Janine Antoni describes her artistic practice as fully engaging. She says,

> I often end up giving myself completely over to the process. I want the challenge on all levels: physical, emotional, intellectual. When it comes to materials, I am fascinated by their transformation as a result of the process. I aim for an intimate relationship with my objects, and I always hope the viewer can sense that intimacy from their surfaces. (Fusaro, 2009)

![Image 4. *Saddle*, by Janine Antoni (2000). Antoni wants the engagement she has with her materials to be apparent on their surfaces.](image)

For Antoni, thinking, doing, and feeling are intertwined throughout the artmaking process, and the physicality of the materials she uses is a central consideration (see Image 4). Yet much of the literature in the field of visual art education shows little understanding or consideration of the actively physical elements of artmaking, which Antoni
finds so fascinating. To find the root cause of this indifference, it is necessary to move outside of the realm of visual art education to the larger field of Western philosophy as a whole.

The division between thinking and doing within visual art education that is reflective of an overall tendency within Western philosophy. The separation of the mind from the body has been a fundamental proposition since the time of Plato and the ancient Greeks. Indeed, “Plato viewed the body as a source of distraction in intellectual life that must be eradicated in the practice of philosophy” (Gibbs, 2005, p. 4). The body, with all of its primitive urges, feelings and sensations, is something that must be overcome if one is to aspire to becoming a great thinker. This position is one that has persisted, in various incarnations, throughout the history of Western philosophy. Furthermore, this bifurcation of the whole being into body versus mind has given rise to what John Dewey refers to as a “whole brood and nest of dualisms” (as cited in Rorty, 1976, p. 288). There are many manifestations of these dualisms, such as reason versus emotion, theory versus practice, knowledge versus experience, and thought versus action. Inherent within each dichotomy is an assumption of worth, an often subtle devaluation of lived, bodily experience in favor of a disembodied intellect. As seen in a systematic review of the literature from *Art Education, Visual Arts Research, and Studies in Art Education*, one incarnation of mind versus body dualism might exist as meaning-making versus object-making.

The focus on meaning-making that is present in this body of art education literature neglects the physical processes by which the art object comes into being. The art object is seen to have educational value because it is a symbolic and textual
representation of various concepts, ideologies, and social and cultural meanings. Yet as Efland points out, “questions regarding how the form of the object functions to produce meaning, or how well it does its work are rarely encountered” (2004, p. 235). The connection between the physical art object and the meanings it exudes is little understood. Likewise, there is little understanding of how or why the physical processes of artmaking relate to the exploration of meaning. Just as “the body is the vessel for the mind and brain, but has negligible importance in characterizing the essence of mental life” (Gibbs, 2005, p. 7), the development of technical skills and media knowledge is viewed as having only secondary, utilitarian importance. As the literature from *Art Education*, *Visual Arts Research*, and *Studies in Art Education* shows, the physical, bodily processes of artmaking have been divorced from and subjugated to the meaningful, mindful aspects of artmaking.

A powerful reason for this disconnect can be seen in the continuous need to advocate for inclusion of the arts in academic curriculums. Often, as Wayne Bowman points out in terms of music education, advocating for the arts is accomplished by insisting upon their “cognitive” values, such as improving reasoning and conceptual thinking abilities. However, because attempts such as this often deny the bodily basis of the arts, focusing only on their mindful qualities, the task “resembles the perennial struggle to which Sysiphus was condemned, as again and again [the arts’] apologists toil to roll their boulder up the mountain of cognitive respectability” (Bowman, 2004, p. 32). In this way, arts advocates often endeavor to elevate the perceived importance of the arts by focusing on their purely mindful aspects, thereby equating them with other more “academic” subject areas. However,
despite the best efforts to advert the cognitive benefits of the arts, their physical roots cannot be denied. With this in mind, an interesting contradiction to this arts advocacy approach might be to ask the question: How would the importance of the arts in education be perceived if Western thinking was not dominated by an arbitrary divide between mind and body? An entwined view of thinking and doing, of body and mind, might have a profound affect on the treatment of the arts in school curriculum. Furthermore, this viewpoint is gaining increasing attention.

Despite the historical predominance of dualistic conceptions of mind and body in Western philosophy, the body as inseparable from mind, and as a source of knowledge and understanding, is not an unexplored concept. Outside of what we call Western culture, the body is often viewed as essential to spiritual and intellectual fulfillment. As art educator Liora Bresler points out, “in Hinduism the body has been regarded as a vehicle to free the mind,” and “has served as a grounding element in different Buddhist traditions and practices” (2004, p. 7). The alignment of body and mind is a fundamental premise in these traditions; indeed the two are inherently linked together. And yet, a central placement of the body is not completely absent from western philosophy.

Over the last century, many notable philosophers, often influenced by Edmund Husserl and Friedrich Nietzsche, began to fill the divide between mind and body, and explicate “the centrality of the body to mind and being” (Bresler, 2004, p. 8). This is because, as Richard Shusterman adverts, “the body is not only an essential dimension of our humanity, it is also the basic instrument of all human performance, our tool of tools, a necessity for all our perception, action, and even thought” (2006,
p. 2). Viewpoints such as this merge body and mind into one being. This orientation, in which the body becomes an integral part of knowing, has major implications for education in the arts as a whole, including visual art education specifically.

The body is the front line of knowing, creating and experiencing the arts. A violinist both hears and feels the vibrato in her strings, just as the breath a singer takes before a note can determine his ability to maintain pitch. Likewise, the thunderous beat of a drum can be felt in the pit of a stomach, a sensation that can evoke a vast array of meanings. The bodies of actors and dancers are primary conveyors of emotions and reactions; as they immerse their bodies in a role or dance, their voices and movements become vehicles of thought. Through rich description a writer can evoke spaces, imagery, sensations and feelings in the minds of readers. The smell of an old book, the feel of a keyboard under the fingers, and the cadence of the words on the page are all part of the field of literature. The visual artist interacts with her medium through visual and tactile sensations; the slippery feel of wet clay, the smell of turpentine and the sound of a hammer on a nail can all be found in art studios.

Likewise, a visual artwork can induce a physical, emotional reaction, and tactile surfaces can be understood visually and meaningfully. As art educator Kimberly Powell describes, “In the arts, the body is, and always has been, the place and space of reasoning, knowing, performing, and learning” (2007, p. 1083). The arts exist through the interaction of the body with the world. In the arts, the meaningful is embodied within the physical.

Yet despite this “arts education disciplines contain relatively little research and theory relating to the body” (Powell, 2007, p. 1084). The theoretical trends found
within Art Education, Visual Arts Research, and Studies in Art Education are exciting and important undertakings. However, minimal attention is paid to the highly physical nature of making and experiencing visual art. As I have discussed, apart from the most intangible forms of conceptual art, artmaking always involves a physical process. An artist is always making a material object, whether a sculpture or a time-bound physical performance. As art educators it is imperative that we develop a framework for understanding exactly what occurs as artists immerse themselves in their chosen medium. How do technical processes, skill and materials interact with concepts and ideas to produce meaningful artworks? We must understand where and how the physical and the meaningful converge and intermingle in artistic practice. Therefore in this thesis I explore two interrelated theoretical constructs that offer a framework for this inquiry, and how these ideas are reflected in the processes of contemporary visual artists. However, before I elaborate these frameworks, it is important to explore a greater range of arts education literature.

Consequently, the next chapters are organized as follows. First, in Chapter Two, I cast a slightly wider net. Here, I provide a brief explanation of the notion of “embodiment” as “being-in-the-world” (Csordas, 1999, p. 147). This rudimentary treatment of the embodied nature of the mind and knowledge will create a base from which we can examine a wider range of arts education literature, moving beyond the three journals originally studied. Within this larger gamut of work, we can see that there are, in fact, arts education theorists who do address the role of the body in a variety of ways (See for example, Dewey, 1934; Eisner, 2002; Greene, 1995). These sources establish a foundation from which to understand the place of the body in the
arts, and some sources are particularly suited to providing a beginning grasp of the body as a source of knowledge. However, this wandering, branching avenue of research still requires expansion and elaboration, especially if our goal is to clarify the relationship between object-making and meaning-making in visual art. This relationship, in my opinion, is best explored through complementary theories of the embodiment of mind and meaning, and the development of “tacit knowledge” and expertise. The conception of embodiment will furnish us with a broad understanding of the bodily roots of knowledge and meaning, and a sweeping view of the correlations to the artmaking process. Contrarily, an examination of tacit knowledge and expertise development will hone in on the specific processes that are at play during the artmaking process, and allow us to draw inferences about the specific value of skills in object-making, such as technical know-how and an understanding of media.

To that end, the next two chapters will provide an in-depth analysis of these theoretical constructs, alongside anecdotal evidence of parallels between these theories and the artmaking process. In Chapter Three, we begin by examining the ideas of phenomenologist Maurice Merleau-Ponty, whose influential writing provides a detailed exposition of the embodied nature of the mind, and how this embodiment is the fundamental root of all meaning (1945/2002). This is further enhanced by an analysis of embodiment as viewed from the perspectives of cognitive science and cognitive linguistics, particularly the work of George Lakoff and Mark Johnson. Their exertions furnish us with a highly detailed understanding of the corporeal origin of our conceptual structures and thought processes, including metaphorical thought
(Lakoff & Johnson, 1999). Taken together, these two approaches to embodiment present an overarching vantage point from which we can begin to grasp the entwined relationship of object-making and meaning-making.

Then, working from this overall awareness of the corporeal origin of knowledge and meaning, and its relation to artmaking, in Chapter Four we can focus even more deeply on object-making. Here, I will examine the nature and function of tacit knowledge, as elaborated by Michael Polanyi (1966), and its relationship to the development of skills and expertise. A return to the work of Merleau-Ponty, and an analysis of the various parallels that can be drawn to the artmaking process will enhance this discussion. As a result we will begin making inferences about the dynamic interconnection between object-making and meaning-making, and methods by which art educators might enhance student expertise in artmaking. Conjointly, a grasp of the concepts of tacit knowledge and expertise development provide us with a more focused view of the artmaking process, and allow us to make conjectures about the use and usefulness and object-making skills and media savvy.
Chapter 2: Introducing the Body

Approaches to the Body in Arts Education Literature

A reconsideration of the human mind existing not as a disembodied, ethereal intellect, but one embodied in the physical, sense-full world through perception and action, challenges our conception of meaning, communication and knowledge as solely mental phenomena. It is from this standpoint that Nietzsche’s famous protagonist, the philosopher Zarathustra, spoke to “the despisers of the body,” saying:

“I,” you say, and are proud of that word. But the greater thing—in which you are unwilling to believe—is your body with its great reason; it says not “I,” but does it….

Behind your thoughts and feelings, my brother, there is a mighty lord, an unknown sage—his name is self; he dwells in your body, he is your body.

There is more reason in your body than in your best wisdom.


From this outlook, the interaction of our bodies with the world is the source of all thought and reason. A perspective such as this has profound implications for educators. This is especially true for educators in the arts, whose subjects demand consideration of the corporal world. An analysis of the basis from which these claims are made, and a review of arts education literature that adheres to these claims, will provide a strong initial framework from which we can expand our understanding of the connection between the physical and the conceptual in artmaking.
The basis for any shift from dualistic conceptions of the physical and the mental or object-making and meaning-making to a synthesized viewpoint is a change in our understanding of the role of *experience* in human existence. Our experiences as active, perceiving beings that interact with the world are the foundation from which we derive thought and meaning. The term “being-in-the-world” is a useful manner of describing this phenomenon. Merleau-Ponty describes this concept, saying, “the world, which I distinguish from myself as the totality of things or of processes linked by causal relationships, I discover ‘in me’ as the permanent horizon of all my *cogitationes* and as a dimension to which I am constantly situating myself” (1945/2002, p. xiv). As human beings we are in a constant relationship with the world, and the essence of consciousness is that it is of the world. No thoughts, or “cogitationes,” can exist without some relation to our experience as a “being-in-the-world.” Indeed, as Laurie Spurling points out, “for Merleau-Ponty consciousness is in essential dialogue with the world, and all meaning is a result of this dialogue” (1977, p. 10). And so not only are we inextricably linked to the world, but also it is from this reciprocal dialogue that meaning arises. From this viewpoint, the mind and the body are inherently intertwined, in fact not separate at all.

Bodily experience then, as an active, physical being-in-the-world, is a necessity for coming to know the world and ourselves, a viewpoint that is not *completely* absent from art education literature and practice, although it is often only implied. Perhaps, within visual art education, the most obvious manifestation of this stance is the fact that we do still ask our students to physically make art, despite the recent focus on art as an impetus for discussing complex issues. Indeed, despite the
lack of attention to object-making skills as a legitimate focus of curriculum, it seems as if we do still understand that a connection exists between the physical and the conceptual. This is what allows art educator Kerry Freedman to ask, when addressing the usefulness of artistic production in a visual culture curriculum, “How better can students develop a deep understanding of the power of visual culture?” (2003, p. 38).

In light of the recent proliferation of literature centered on the exploration of meaning within visual art education, the fact that we haven’t begun to focus entirely on interpretation shows an implied understanding of the power of the physical, bodily world. This understanding becomes even more apparent as the scope of explored literature is extended to include arts education as a whole, rather than only the three prominent visual art education journals originally surveyed. In a wider context, the theme of bodily experience and the embodiment of mind can be found in different guises, with varying degrees of directness.

Kimberly Powell points out three related approaches to the study of the body as it pertains to the arts. Two of these theoretical constructs are very closely related, and their influence can certainly be seen, albeit often only indirectly, in some of the literature that advances the arts as forums for creating social change. The first of these approaches “examines the ways in which social structures and cultural values are etched on the body and transformed into personal meanings” (Powell, 2007, p. 1084). Human bodies are sites that display meaning, and our appearances, mannerisms and modes of interaction reveal our values and norms, and in turn influence others. In other words, we “perform gender, race, class, age, and other cultural constructions, whether intentionally or unintentionally” (Powell, 2007, p.
These performances both mediate, and are mediated by, the social construction of our world and our physical presence in the world. This is certainly within the purview of visual culture art education, in which popular culture and the manner in which it influences our lives is a subject of critical analysis. Theoretical and pedagogical practices that examine the body as a performer of social meaning are very relevant to education in the arts, and can offer our students the opportunity to examine their own bodily performances.

Closely related to the first theoretical approach to the body in the arts, a second framework “is characterized by postmodern accounts… in which the body is read, written, and rewritten in relation to historical context” (Powell, 2007, p. 1084). In this case, the focus is on the lenses through which the body is viewed by others, rather than the body as a performer for others. The arts have a long history with the body-as-object, and this history is reflective of the ways in which differences and similarities between bodies have been sources of oppression and strife throughout human history.Canonical fine art history can be used as an impetus for examining the body as a tool for social control (see Image 5 below). Furthermore, contemporary artists often use their chosen mediums as sites in which this objectification of the body can be interrogated. Photographer Yasuma Morimura uses his artmaking to do just this (see Image 6 below). In one work, it is Morimura himself who poses as the woman “Olympia,” from Edouard Manet’s famous painting (Glueck, 1999). The juxtaposition of these images challenges conceptions of the body, gender, and the objectification of the female body that is so prevalent throughout history. This is
accomplished by understanding the body both as a text from which we can derive meaning, and as something through which we perform meaning.

*Image 5.* Olympia, by Edouard Manet (1863). This painting offers an excellent impetus for examining the body as a source of oppression.

*Image 6.* Portrait (Futago), by Yasuma Morimura (1988). In this artwork, the artist challenges historical conceptions of the female body and gender roles.

Taken together, these first two approaches to the body in arts education literature stress bodily experience as relational experience, one mediated by our interaction with other human beings. Our identities are wrapped up in our corporeal encounters with the world and others in the world. As Maxine Greene says, when describing the attempt to recall her life story, “I cannot exclude the contexts of my gender, sibling and maternal relationships, political and professional phenomena, and even aging and decline from ‘my self’” (1995, p. 74). Our transactional encounters in the world mediate our own sense of identity, and furthermore, those encounters are carried within us long after they are over. Quoting Merleau-Ponty, Greene depicts this carrying forward, saying “When I return to my ‘site, the soil of [my] sensible and opened world,’ associated bodies must be brought forward along with my own, ‘the ‘others’ along with whom I haunt a single, present, and actual Being’” (1995, p. 74). Making and experiencing the arts offer distinct forms of encountering others, and mediating these relational convergences. The first two theoretical approaches
described by Powell specifically address the body and its connection to the social world, and how that relationship is mediated by the arts. Although it is beyond the scope of this thesis, these approaches also provide a powerful framework from which to study the triadic interaction between artist, art object and viewer, and how bodily encounters with the artwork inform meaning-making. Yet a third approach can also be seen in arts education literature, one that engages our understanding of the body in a slightly different manner.

The first two approaches to the body in arts education research offer intriguing frameworks for understanding how the body mediates our social interactions, including art making and viewing. However, there is a third approach that offers an excellent framework from which to examine the connection between the physical processes of artmaking, or object-making, and the conceptual, meaning-making processes from the artist’s perspective. From this third standpoint, the body itself is viewed as the fundamental source of all knowledge, thought, meaning and reason. In other words, “moving beyond mere mechanical uses of the body toward production, this approach is concerned with the inseparable nature of knowing and doing and the ways in which thought is always and necessarily a corporeal event” (Powell, 2007, p. 1084). Rather than a mere robotic, unmindful tool, the body itself is the basis of knowledge, gained through action and interaction within an environment. Therefore, “all knowledge is ultimately body-knowledge, even the knowing that seems rooted exclusively in language” (Osmond, 2007, p. 1111). As a standpoint that places our corporal experience with the world at the forefront of knowledge and meaning acquisition, this approach is most closely related to questions about the connection
between the physical and the conceptual in artmaking, or object-making and meaning-making. A more extensive view of research in the arts and education reveals a number of prominent writers who approach the body through this lens, and their ideas offer a strong basis from which to study object-making as meaning-making.

The Body at the Forefront of Knowing: Three Voices from the Arts

Of the theorists who place bodily experience at the forefront of knowing, John Dewey, a well-known educational theorist, is perhaps the most influential. The importance of the body in Dewey’s extensive work is founded on the idea “that life goes on in an environment; not merely in it but because of it, through interaction with it” (Dewey, 1934, p. 12). It is upon this basic premise that Dewey establishes his conception of experience, and furthermore, art as a form of aesthetic experience. For Dewey, the centrality of experience to his work “allowed him to conceive of humans in constant, uninterrupted transactional relation between themselves and their environment” (Guerra, 2002, p. 73). Experience is thus a reciprocal relationship, in which humans act on their environment just as the environment acts upon humans, in a bodily encounter.

Artistic experience, by extension, is also a bodily encounter with the environment, which, from the viewpoint of the producer, involves both action and observation. The artist is exercising skills to mold some physical material in the environment, whether that material is the dancer’s body or the sculptor’s marble. Yet at the same time, the artist must stand back and observe the progress of his or her
work, and perceive the development of its aesthetic qualities. “In short,” Dewey says, “art, in its form, unites the very same relation of doing and undergoing, outgoing and incoming energy, that makes an experience to be an experience” (1934, p. 50). The process of making art is one in which the artist is embedded in the materials of the environment, both influencing and being influenced by those materials. Dewey’s conception of artistic experience has had an enormous sway over art education theory, and contemporary theorists often reference his work.

One such theorist is art educator Elliot Eisner. Like Dewey, Eisner believes that the arts involve thinking that occurs outside of symbol systems. In his book, The Arts and the Creation of the Mind, Eisner explores this type of non-linguistic thinking, as did Dewey. Early on, Eisner references Dewey as saying,

Any idea that ignores the necessary role of intelligence in production of works of art is based upon identification of thinking with use of one special kind of material, verbal signs and words. To think effectively in terms of relations of qualities is as severe a demand upon thought as to think in terms of symbols, verbal and mathematical. Indeed, since words are easily manipulated in mechanical ways, the production of a work of genuine art probably demands more intelligence than does most of the so-called thinking that goes on among those who pride themselves on being ‘intellectuals.’ (Dewey, 1934, p. 46; as cited in Eisner, 2002, p. 15)

The artist, according to this passage, must use a type of thinking in which there is no specific, formulaic method for arranging the properties of the work of art, nor the ideas the artwork explores. Rather, the artist must compare these properties and ideas
based on the distinctive characteristics of each individually and in conjunction with each other. Siegesmund describes how Eisner takes up this subject by using “the terms somatic knowledge and qualitative reasoning to explore Dewey’s realm of non-linguistic thinking” (Siegesmund, 2004, p. 82). Non-linguistic thinking then involves a sensed or felt dimension that is rooted in bodily experience.

Eisner clarifies his conception of the relationship between sensory experience and the qualitative nature of the world in the first chapter of *The Arts and the Creation of the Mind*. First, he posits that human beings are “born into a qualitative environment in and through which they live,” and furthermore, “the sensory system is the primary resource through which the qualitative environment is experienced” (2002, p. 20). In other words, the world is made up of a range of qualities, which we come to know through sensory perception and interaction. For example, we learn variations of softness through multiple sensory systems, and what these systems allow us to experience. The softness of a fluffy silk pillow can be both felt in its smooth plumpness and seen in its sheen, just as the guitarist can lightly strum a tune, creating a soft string of notes that we hear. These sensory experiences of softness, while structurally different, are nonetheless qualitatively similar. Bodily interaction with the environment is the basis for perceiving qualities.

Yet the interaction between sensory learning and the qualitative world does not end here. As we grow, Eisner explains, our ability to perceive qualities becomes increasingly differentiated. We learn to make distinctions between different kinds of softness, for example. “Differentiation,” Eisner clarifies, “is a way of recognizing what is familiar, categorizing qualities, and anticipating the consequences of action.
upon those qualities” (2002, p. 21). As human beings grow, our somatic experience in the world gives rise to an increasingly complex and subtle understanding of different qualitative relationships. This is how we learn to distinguish, for example, one face from another, varieties of the color blue, and different kinds of sound. Differentiation is also how we begin to form concepts, and their associated meanings, according to Eisner. “Concept formation,” he says, “is an imaginative activity in which images in one or more sensory modalities are formed that stand for an array of qualities associated with a signifier” (2002, p. 21). While meanings and concepts can become increasingly abstract and enter symbolic systems such as language, the advent of the concept and of meaning occurs non-linguistically, through sensory, bodily interaction with the qualitative world.

Thinking in terms of qualities is a complex set of skills that can be honed and developed, and the arts make good use of these skills. As Eisner points out, “one of the potentially large lessons of work in the arts is the contribution good arts teaching makes to the child’s ability to perceive subtleties and to recognize complexities among the qualitative relationships encountered in the phenomenal world” (2002, p. 21). This ability occurs in a non-linguistic realm through qualitative reasoning and somatic knowledge. As Siegesmund describes when discussing Eisner’s work, an artist working in a particular medium, say painting, develops a somatic knowledge about the different elements she has to work with, the colors, shapes and techniques, with which she will construct meaning. This knowledge is associative in nature, where sensory qualities call to mind a variety of feelings and ideas, from the artist’s past and present experience. A thin, stretched out blue-gray tint might evoke feelings
of loneliness. A muddy, thick brownish-green might make one recall the sensation of being in a dank, dark place. As the painter works, “she begins to orchestrate the nuanced relationships of qualities that her craft allows her to command. She constructs meaning. And still she has not entered into the realm of language. Her achievement is non-linguistic” (Siegesmund, 2004, p. 84). The artist uses somatic knowledge, gained through qualitative reasoning, to construct layers of meaning, all before entering the realm of language.

Opening ourselves up to this pre-discursive way of knowing, in which somatic knowledge and qualitative reasoning come to bear, is what Maxine Greene might call the truly genuine way to form relationships with others and the world, and form knowledge and meaning. She says,

What seems crucial is the noticing, the active insertion of one’s perception into the lived world. Only after that does a project come to be, putting an explanation into words, fighting a plague, seeking homes for the homeless, restructuring inhumane schools. To ponder this is to become convinced that much of education as we know it is an education in forgetfulness. Distracting the young from their own perceived landscapes and shapes, we teachers insist on the givenness of predetermined explanatory frames. We loosen the connections between the young and the objects, images, articulations, and other people with which they have been enmeshed. (Greene, 1995, p. 74)

As we lose that “primordial” contact with the world and others in the world, and forget our active role as agents in the world, we separate ourselves from “authentic” relationships “by the conceptual lenses of constructs and theories” (Greene, 1995, p.
An education in which the lived experience is subjugated to presupposed objective truths would result in our students losing of a sense of connection and agency in the world. The value of the arts lies in fact that any engagement with artmaking requires the maker to become enmeshed with the physical world, to pay heed to his or her own senses and activity in a fully engaged manner, through bodily experience.

The central emphasis which Dewey, Eisner, and Greene place on the bodily, sensory interaction with the world as the ultimate source of knowing, and their view of mind and body as one, all provide a basis for understanding the idea of “embodiment.” Fundamental to this concept is the notion that “the lived-body is thoroughly intertwined with my existence as a conscious being” (Cerbone, 2006, p. 104). This lived-existence, one that is rooted in corporal interaction with the world, is touched upon in the work of each of these authors. Along with our opening inspection of the notion of being-in-the-world, Dewey, Eisner and Greene all present the body as something more than a simple object, to be used and manipulated by the mind.

Moving Ahead: Bodies of Literature Beyond Arts Education

This viewpoint is expanded and elaborated in the next chapter, beginning with an examination of the work of Merleau-Ponty (1945/2002), and subsequently followed by a look at contemporary cognitive science and cognitive linguistics. This analysis will show that our awareness and existence as thinking, reasoning beings is entirely dependent upon the body and its orientation to the external world. The body
is not some mere object, which a disembodied intellect can think and reason about from afar. Rather, the body is what Husserl called the “zero-point of orientation,” from which interaction with the world is always situated (Holenstein, 1999, p. 57). In this way, Lakoff and Johnson argue that this very situatedness is the root of all conceptual thought and meaning. “Because our conceptual systems grow out of our bodies,” they say, “meaning is grounded in and through our bodies” (Lakoff & Johnson, 1999, p. 6). As we shall see, meaning arises from the body, and our cognition and knowledge are inherently embodied. Additionally, from this expanded account of embodiment, we gain a fresh perspective of the overall interaction between physical materials and processes, and conceptual meaning, in the artmaking process.
Chapter 3: Embodiment in Object-Making as Meaning-Making

Merleau-Ponty: Champion of the Body

Any attempt to clarify the nature of the embodied mind would be well served by beginning with the work of phenomenologist Maurice Merleau-Ponty, who has been called “a champion of the place of the body in human experience” (Curtis, 2008, p. 420). Phenomenology initially emerged as a distinct philosophical stance through the writings of Edmund Husserl, who proposed a return to human experience in the lived world as the starting point of all knowing. In this way, “before any objective reality there is a subject who experiences; before any objectivity there is a pregiven world and before any knowledge there is a life on which it is based. This means that any knowledge has its origin in experience, which is prereflexive” (Sadala & Adorno, 2002, p. 283). In this way, any knowledge of the so-called “objective” world is always dependent upon its being originally experienced by a subject. Furthermore, this experience initially occurs in a primordial fashion, before the application of concepts and language.

For Merleau-Ponty, who drew upon the work of Husserl, this fundamental experience is only possible through the orientation of our physical bodies and consciousness to the world, through our sensorimotor, or perceptual and motor, systems. “All my knowledge of the world,” he says, “even my scientific knowledge, is gained from my own particular point of view, or from some experience of the world without which the symbols of science would be meaningless” (Merleau-Ponty,
Our bodily interaction with the world, including our interactions with others in the world, and the make-up of our bodies dictate the knowledge we possess. For this reason Merleau-Ponty champions the place of the body and perception as paramount to any acquisition of knowledge.

When considering educational theory, especially arts education, an understanding of the body as the primary means of interacting with the world and acquiring knowledge has profound significance. This stance encourages a deeper understanding of the learner. Rather than a passive receptacle that simply absorbs predetermined, fixed information, the learner is understood as an active being, one that both constitutes and is constituted by his or her physical and social world. Stated differently, “the learner and his/her world cannot be perceived separately, via binary distinction. Rather, the learner’s activity, thought processes, interactions, behaviors, intentions, emotions and attitudes are all situated in his/her world, of which (s)he is part” (Papadopoulou & Birch, 2009, p. 272). The learner thus becomes a dynamic being, whose active experience in the world comprises the primary means of developing knowledge. This takes on even deeper significance when we consider the learner in the arts as actively engaging in the artmaking process.

I consider the artmaking process, among other things, a means of developing knowledge or understanding complex ideas. This is a principle that is inherent to each of the meaning-based approaches to visual art education found in *Art Education*, *Visual Arts Research*, and *Studies in Art Education*, even if never explicitly stated. Yet if, as Merleau-Ponty believes, gaining knowledge and understanding of the world originates with physical interaction in the world, it can be posited that the
development of knowledge through artmaking originates in the physical processes of artmaking. Dahlman, through a substantive qualitative study on the way drawing affected students’ understanding of abstract ideas, came to this very conclusion. She says, “that knowing is a process, that knowing is action,” and “the bonus of the pictorial process is an increased knowledge due to the action of drawing, not to the picture as end-product, which nonetheless will be part of the knowing process” (Dahlman, 2007, p. 284). This claim is beautifully illustrated by an experience of a student who participated in Dahlman’s study. In this instance, Dahlman asked the student to read an essay about the abstract concept of “awareness,” and to then create a physical manifestation, a drawing, of that concept. This student struggled with the assignment, and stated that she had a difficult time making sense of the essay. Yet, “after several unsuccessful attempts to understand the meaning of the essay, and without any idea what to paint, her eyes fell on one sentence: ‘The largest impediment to awareness is the demand to reach a result’ (Engdahl, 1992)” (Dahlman, 2007, p. 282). After reading this sentence, the student picked up a brush and created a softly colored painting in grey and yellow. Following this artmaking, the student attempted to read the essay a second time and found “to her own surprise the meaning of it was now all clear to her… By making the painting she achieved a more complete understanding of the word, which she could use when she read the essay again” (Dahlman, 2007, p. 282). Thus, an understanding of the concept of “awareness” grew out of the action of painting. This is an event that parallels Merleau-Ponty’s conception of one’s being-in-the-world as the basis of all knowing. By being in the action of painting, the student gained understanding.
A crucial component of being-in-the-world is the “intentionality” of consciousness. Simply put, “intentionality means that all consciousness is consciousness of something, that it is an original and primitive contact with the world, and is oriented towards that world” (Spurling, 1977, p. 17). Our consciousness is always purposefully directed and in constant relation to the world. However, intentionality, according to Merleau-Ponty, can be differentiated into two types. The more explicit form is “intentionality of act, which is that of our judgements and of those occasions when we voluntarily take up a position” (1945/2002, p. xx). Intentionality of act exists, within our awareness, when we expressly attend to some object or goal in the world or reason discursively. In the artmaking example described by Dahlman, it could be said that the conscious, purposeful decisions made by the student, and the express attention she paid to the painting, were part of her intentionality of acts. However, underlying this more explicit form of intentionality, there is a second, more implicit form of intentionality.

It is this second type of intentionality, or mode of being-in-the-world, with which Merleau-Ponty is more concerned because it is the foundation upon which our intentionality of acts is built. This form of consciousness is “operative intentionality, or that which produces the natural and antepredicative unity of the world and of our life, being apparent in our desires, our evaluations and in the landscape we see, more clearly than in objective knowledge, and furnishing the text which our knowledge tries to translate into precise language” (1945/2002, p. xx). Operative intentionality, also sometimes referred to as operative “motor” intentionality, works just below the surface of our awareness, and functions in a pre-reflective, pre-objective fashion to
present our environment to us in a unified manner, as something that exists as a totality of being that we can touch, see, hear and interpret. As such, it forms the basis of knowledge, one that is built upon our physical, sensorimotor engagement with the world (Spurling, 1977, p. 19).

So for Merleau-Ponty, the motility of our bodies represents the most basic manifestation of operative intentionality. In this way, “consciousness is in the first place not a matter of ‘I think that’ but of ‘I can’” (Merleau-Ponty, 1945/2002, p. 159). The fundamental basis of any knowledge of the outside world, then, lies in the dialectical relationship between our bodies and that world. As we move through the world, we move closer to or further away from objects, our perspectives change, we can stretch our arms out to touch, we see, hear and smell. Thus, through operative motor intentionality we gain knowledge. In each new perspective of something in the world, we gain a further synthesis of knowledge. “Implicit in our view of a lamp, to use Merleau-Ponty’s own example, are the sides of the lamp hidden from view. We can reveal these hidden sides by walking around the lamp, by turning it in our hands, or we can simply take them for granted” (Dunton, 1999, p. 335). Operative intentionality is based upon our motility and senses, and orients us to the world, providing our first formation of knowledge.

According to Merleau-Ponty, the antepredicative, or pre-symbolic, knowledge and understanding of the world that grows out of operative intentionality, forms the basis of all meaning. As Merleau-Ponty states, “my body has its world, or understands its world, without having to make use of my ‘symbolic’ or ‘objectifying function’” (1945/2002, p. 162). This basic understanding of the world and our bodies
in the world occurs prior to the development of any symbolic representation, including visual representations stored in our minds, and verbal representations. Another way of describing this phenomenon is by considering that before we can objectify, name, describe, or recreate the world in our minds, we must have a “lived experience of the world ‘as already there’” (Mohanty, 2006, p. 74). Merleau-Ponty also “treats our feelings, emotions, desires and evaluations as experiences” as belonging to this category of intentionality (Mohanty, 2006, p. 74). Operative intentionality, then, is what makes the world coherent, constituting our most basic experiences in pre-symbolic understanding, including emotional states.

In order to demonstrate this point, Merleau-Ponty uses the case of Schneider, a World War I veteran whose brain injury damaged his ability to make abstract movements with his eyes shut, but who could easily execute the same movement in concrete situations. Specifically, Schneider is unable to perform actions such as following a command to move his legs into a given position unless he is able to watch his leg. With his eyes closed, Schneider is unable to conjure a mental representation in his mind of neither the leg nor its position relative to the rest of the body. Yet if Schneider were to experience an actual need to move his leg, such as a mosquito irritating the leg, he is easily able to perform the exact same motion, whether or not his eyes are closed. The differentiation between the ability to perform abstract and concrete movement is, according to Merleau-Ponty, evidence that “knowledge of where something is can be understood in a number of ways” (Merleau-Ponty, 1945/2002, p. 119). For example, a person who is healthy compared to Schneider could form a mental representation of the leg, allowing them to perform the abstract
action without actually seeing the leg. This is a predicative ability, which relies on objectification and symbolic representation of the leg within the mind. Yet Schneider’s ability to perform the movement if the need actually arose implies that there is an antepredicative form of bodily knowing, knowing that occurs prior to the formation of symbolic representation in the mind and is based upon operative motor intentionality.

Antepredicative, bodily knowing, born of operative intentionality, has interesting parallels in the artmaking process. As stated, Merleau-Ponty designates emotional states and feeling, such as a sense of intuition, as forms bodily knowing. Examples of this can be found in the accounts of artists as they explain their artmaking processes. For instance, Nelson and Rawlings found through a rigorous study of artistic creativity, that artists are often guided by intuited feelings of “rightness” in the creation of an artwork (2007, p. 231). Contemporary painter Elizabeth Murray, when describing how she knows a resolution or completion of a work is near, says, “I know that it’s there, I feel that it’s there… I don’t think I could describe it, but I do feel that with it. Because I can stop it, I can stop now” (“Bop,” 2001-2007). Murray’s process involves an intuitive feeling of the completion of a work, a feeling that is experienced antepredicatively, as something that the artist cannot describe (see Image 7 above). As in all worldly

![Image 7. Artist Elizabeth Murray at work. Murray relies on bodily intuition as she paints, in order to determine when a work is complete.](image-url)
experience, operative intentionality is at work in artmaking, manifesting itself as intuitive, bodily knowing.

In addition to its patency in intuition and feeling, bodily knowing can also been seen in the development of habits, or in the incorporation of tools into the body. Merleau-Ponty calls habit “knowledge in the hands, which is forthcoming only when bodily effort is made, and cannot be formulated in detachment from that effort” (Merleau-Ponty, 1945/2002, p. 166). Many habits are formed in this way, and one type of habit in particular is the incorporation of tools into the body. As a painter, I grasp a paintbrush and move it around in order to create an image. Yet as I become more practiced, as the use of the brush becomes habit, my focus is shifted from the brush to the image itself as it appears before my eyes. In this way, the feel of the brush in my hand, the resistance I feel from the canvas, the comfort of movement, the look of the paint and colors as they merge in the image, and even the sound of the brush on the canvas, all of these become synthesized in my body as I use the brush to attend to the image. As habit forms, the brush becomes not an object that I perceive, “but an instrument with which [I] perceive. It is a body auxiliary, an extension of the bodily synthesis” (Merleau-Ponty, 1945/2002, p. 176). The development of habits, especially tool use, becomes synthesized within our bodies as embodied knowing.

Yet the idea of “tool use” does not necessarily denote an implement such as a brush, or a hammer, or a pencil. In the object-making process, many things can be considered tools, of which an artist can develop bodily knowledge, including formal elements and media. Artist Jessica Stockholder describes working with form and color as involving intuitive, habitual knowledge. She says,
I think it's a little bit like watching people play the piano. Obviously people’s fingers learn how to play, they don’t sit and think about each note. Working with color, form, shape and things physical in the way that I’m working, I know what I’m doing on some level, both physically and conceptually. There’s a kind of thinking process that goes on that I can’t tell you about. I can’t think about each and every one of those little tiny decisions and put words to it and still work. There’s a lot going on that you have to just go with and trust that it’s significant. (“Pleasure,” 2001-2007).

Stockholder does address her work through symbolic mental representation, as she does think “conceptually” about the work throughout the process. Yet she maintains that there is an underlying, physical thought process that occurs habitually. By describing this level of understanding as something she cannot quite articulate, something comparative with the physical know-how that a pianist possesses of the keyboard, Stockholder touches upon a bodily understanding of form, color and media (see Image 8 above). This understanding is based upon operative intentionality and a sensory experience of the artmaking materials.
The sensory-based nature of Stockholder’s artmaking experiences leads us to yet another important tenet of Merleau-Ponty’s conception of embodiment. When considering the nature of bodily knowing, it is important to remember that it grows out of not only our motility in the world, but out of a convergence of all our perceptual systems. In this way, “I do not translate the ‘data of touch’ into the ‘language of seeing’ or *vice versa*—I do not bring together one by one the parts of my body; this translation and this unification are performed once and for all within me: they are my body, itself” (Merleau-Ponty, 1945/2002, p. 173). All of our perceptions occur simultaneously, and constitute the synthesized body. As I perceive, Merleau-Ponty goes on to state, “I am not in front of my body, I am in it, or rather I am it.”

Art educator Julia Kellman offers us a poetic description of a parallel in the artmaking process to the fully synthesized, embodied being posited by Merleau-Ponty. When recounting an experience she had as a student in a life drawing class, Kellman says, “I was the act of drawing. I was the charcoal, the curved cheek, the dark eyes… I understand it as my first clear experience of doing, not thinking, being, not observing that all artists encounter on their best days” (2007, p. 51). Kellman’s account offers a keenly specific view of the synthesis of perception, action and experience in artmaking. This synthesis forms the basis of operative intentionality in all of our interaction with the world, although it may go unnoticed. All of our motility, actions and perceptions converge in our bodies, making us thoroughly embodied beings.

As embodied beings that always exist in relation to the world, we are also always a synthesis of subject and object. I can reach out my hand and touch my ankle, and as I do, I both feel my ankle being touched and perceive the shape and feel
of my ankle through the sense of touch in my hand. In this way, our bodily experience is neither purely subjective, nor purely objective. Rather, our synthesized perception operates between these two poles, “in a phenomenal field… like a dialogue – between subject and object, knower and known, perceiver and perceived” (Adams, 2001, p. 206). This dialogue is a form of interaction, in which our status as object both influences and is influenced by our status as subject. It is truly important to consider this point, because it is out of this dialectical interaction that Merleau-Ponty suggests meaning first arises, within the field of perception, prior to any predicative expression of meaning.

Once again, theoretical parallels can be drawn between Merleau-Ponty’s ideas and the artmaking process. Returning to the Nelson and Rawlings (2007) study of artistic creativity, we can find evidence of a similar dialectical interaction between subjective and objective described by Merleau-Ponty in artistic process. Here, however, the pendulum swings between artist as maker and artist as viewer, and between artist as intuitive and artist as analytical. Earlier, I discussed evidence of an intuitive feeling of “rightness” often encountered by artists as they immerse themselves in the physical object-making process. However, Nelson and Rawlings found that while this is a fundamental component of artistic creativity, the artist does not remain in an intuitive state throughout the entire process. “Rather, there is a ‘movement’ between the intuitive mode and a more critical, analytical approach to the work” (Nelson & Rawlings, 2007, p. 235). In this way, the artist shifts between a subjective, intuitive stance as a maker fully immersed in the medium, to an objective, analytical stance, acting as a viewer of the work as a whole. It is through this
dialogue that the artist develops a “greater awareness of the personal meaning of the artwork” (Nelson & Rawlings, 2007, p. 237).

Contemporary artist Lari Pittman describes enhancing the meaning in his work as “more of a call and response” (“Craft & Influences, 2001-2007). Just as Merleau-Ponty describes meaning as arising out of dialectic between body as subject and body as object, meaning in artworks might be seen to arise out of dialectic between artist as intuitive maker and artist as analytic viewer (see Image 9 above).

The key thing to remember, however, is that both of these interactions are inherently bodily in nature, each arise out of physical experience in the world and each are meaningful prior to symbolic representation.

And so, before there is any language, the world is already full of forms loaded with the potential for meaning. The meaning of the forms arises from the ways in which our embodied being might interact with those forms. Using quotes from Merleau-Ponty’s *Phenomenology of Perception*, Shaun Gallagher describes this bodily advent of meaning. He says,
Through the performance of my body “I am at grips with [en prise sur] a world” (PhP 303/349). The meaning of the world is not constituted on the model of a textual reading; rather, anterior to any intellectual process, the body schema both encodes and decodes the world as a meaningful structure. We find ourselves always already surrounded by meaning, already in-the-truth of the world since “being-in-truth is not distinct from being-in-the-world” (PhP 395/452). (Gallagher, 1992, p. 4)

In this way, there is a bodily basis of meaning and interpretation of meaning, and we find meaning already exists in the world. The world and the objects in it are there for us to touch, see, hold, approach, flee, and so on and so on, and these possibilities constitute their meanings.

Just as meaning arises out of the perceptual field as a dialogue between subject and object, it also grows out of the expressive field between two subjects. According to Merleau-Ponty, authentic, first-hand speech is bodily in nature in that it is also gestural in nature. “The meaning of words” he says, “must finally be induced by the words themselves, or more exactly, their conceptual meaning must be formed by a kind of deduction from a gestural meaning, which is immanent in speech” (Merleau-Ponty, 1945/2002, p. 208). In this way, the word and its meanings originally arise from the primal bodily utterance of speech. Our thoughts, which are expressed linguistically, then modify and are modified by other subjects through a dialogue of speech, meanings are solidified, and a history of the word develops. And so,
Languages or constituted systems of vocabulary and syntax, empirically existing ‘means of expression’, are both the repository and residue of acts of speech, in which unformulated significance not only finds the means of being conveyed outwardly, but moreover acquires existence for itself, and is genuinely created as significance. (Merleau-Ponty, 1945/2002, p. 229)

That original, perceptual meaning that one finds in the world is thus transformed through the gestural act of authentic speech. Furthermore, that original act of expression becomes richer, and gains its own inherent meaning and structure through the dialogue between human beings over the course of history, and yet still retains at its inception a bodily basis.

Even meaning that seems entirely dependent upon language is then rooted in bodily interaction with the world, cementing Merleau-Ponty’s conception of the embodied mind. Clearly, if we consider visual art, which we might say is a physical manifestation of meaning, these ideas significantly alter our understanding of the importance of physical, object-making processes. As contemporary painter Philip Taaffe says, “ultimately, paintings reveal themselves on the basis of what they are. They are inseparable from the physical process that goes into their making” (Cortez, 2009, p. 90). Just as Merleau-Ponty
maintains that thought and meaning cannot be separated from our embodied being,
Taaffe believes that the meaning of an artwork ultimately cannot be separated from
the physical object in which it is embodied, nor the physical processes which made
the object (see Image 10 above). The physical and the meaningful go hand in hand, both in artmaking and the human world at large.

Yet in what way, specifically, does meaning ultimately arise out of bodily interaction with the world? Clearly, Merleau-Ponty champions the body as the basis of knowledge and meaning, giving rise to the idea of an “embodied mind.” If we summarize his ideas, we find that the embodied mind is manifested through our synthesized bodies, in which our motor and perceptual systems converge, and bodily knowledge is utilized and gained. The experience of being-in-the-world, then, is an experience of being both the perceived and the perceiver, in a dialogue between the subjective and the objective. It is from this phenomenal, perceptual experience of the world that meaning initially arises, at first in antepredicative form, and then becoming signified through words and speech that is bodily and gestural at its core. These ideas offer a powerful basis from which to understand the embodied mind, and how it relates to the artmaking process. Nonetheless, awareness of the specific, cognitive and bodily mechanisms that are at play throughout these processes may afford an even greater understanding of the embodied mind and its relation to artmaking. Consequently, it is time to turn to some contemporary conceptions of embodiment that have arisen from Merleau-Ponty’s work. Ideas found in cognitive science and cognitive linguistics, particularly in the work of George Lakoff and Mark Johnson (1999), offer insights into the bodily basis of concept formation and metaphorical
thought, which may have extensive effect on our understanding of the artmaking process.

*The Bodily Roots of Conceptual and Metaphorical Thought*

Art educator Melinda M. Mayer believes “good art is always about something important; it is not solely the exercise of technical skills. Those skills are in service to an exploration of something meaningful” (2008, p. 78). Based on my survey of *Art Education, Visual Arts Research,* and *Studies in Art Education,* this seems to be the prevalent standpoint among art educators. Yet this statement also reveals the hierarchical attitude towards meaning-making versus object making. Here, technical skills are in the *service* of some overarching, esoteric, “important” meaning, and the use of these skills prior to the development of that meaningful content would be considered an *exercise.* This implies that simply an immersion in artistic materials is most often *not* a primary source of explorations of meaning. However, this could very often be the case; meaningful content might regularly arise from the physical manipulation of materials.

The work of contemporary artist and art educator Gregory Euclide offers an example in which meaning grew from the materials he was immersed in. Euclide’s work takes the form of low-relief sculptures or collages that explore the complex forces at work in nature and the dynamics of changing landscapes (see Image 11 below). The complex forms of these works are inherent to the meaning explored. Euclide begins with simple two-dimensional landscape drawings, which incidentally display incredible technical skill, and then rips, folds, and smears the drawings,
molding them into sculptural forms, often adding unusual materials such as moss or bubble wrap. Yet the idea for working in this low-relief manner in fact grew out of the processes he was using for making two-dimensional drawings. When describing the origin of his new sculptural methods, he says,

It first happened when I was interested in capturing some of the paint I was spraying off the work. I work very wet and use a spray bottle to spray away drawn areas. I… folded the works… to capture some of the paint. I noticed that the pools of paint in the folds looked like actual lakes and rivers. This is what initially started me on the path to working in relief—that tension between representational and something more actual. (Tapp, p. 61)

Clearly the physical processes that Euclide was initially using to create drawings enabled him to develop the meaningful form his current work takes. Here, physical experiences give birth to evolving meaning, rather than acting as subservient to some prefabricated, static content. And in point of fact, the artmaking process is not the only place where this occurs. Many cognitive theorists now believe that even our most complex, abstract conceptual and

![Image 11. I flattened whatever pushing made the valley tremble, by Gregory Euclide (2009). Here, Euclide used a variety of materials, such as acrylic paint, buckthorn root, photo transfer and polyurethane foam, allowing his discovery of their capabilities to inform the](image11.jpg)
metaphorical thought is fundamentally derived from our bodily interaction with the world.

In order to shed some additional light on the entwined nature of object-making and meaning-making, it is useful to outline some of the current notions of embodiment in cognitive science and cognitive linguistics. When we consider the notion of embodied cognition, it is easy to resort to a simple view of the brain itself as the location in the body where thought occurs. Yet this view still maintains a fairly rigid separation of mind and body in that the body is conceived of simply as an object that receives sensory input for the brain to process, and then carries out motor actions in response to those stimuli. However, the actual extent of embodiment goes much deeper than this. Varela, for instance, argues for an “enactive” view of embodiment, in which the structure of our cognitive abilities is ultimately determined by our sensorimotor capabilities and the manners in which they allow us to interact with the world. In this way, Varela says, “what is perceived appears inseparably connected with the actions and the way of life of the organism: cognition is, as I would claim, the *bringing forth of a world*; it is embodied action” (Varela & Poerksen, 2006, p. 37). The actions we perform in the world, and the ways in which we modify our world, are only possible because of the physical allowances of our bodies. Furthermore, our cognition is based upon the structure of these interactions. The embodiment of mind, therefore, occurs not only on the neural, or brain, level, but is also on the level of our cognitive unconscious and our phenomenological conscious experience (Gibbs, 2005, p. 39).
All levels of embodiment are entwined and active as we move throughout the world. However, an exploration of the embodied nature of our cognitive unconscious is useful for exploring the origins of meaning. It is at this level that we find all of our “mental operations that structure and make possible conscious experience, including the understanding and use of language” (Gibbs, 2005, p. 40). Lakoff and Johnson offer a straightforward explanation of this phenomenon by first offering an explanation of the term “cognitive.” When considering the nature of the mind, “any mental operations and structures that are involved in language, meaning, perception, conceptual systems, and reason” are considered “cognitive” (Lakoff & Johnson, 1999, p. 12). These operations and structures most often work in ways of which we are not consciously aware, at the level of our cognitive unconscious. Thus the majority of our ability to reason, infer, and create meaning occurs at this level. The sense in which the cognitive unconscious is embodied surfaces from the role our sensorimotor abilities and bodily activities take in shaping our conceptual systems (Gibbs, 2005, p. 40). The very structure of our thought is based on the structure of our body and its ability to move through the world and experience, from the most fundamental mental operations to complex conceptual and metaphorical thought.

The building blocks out of which our most complex thoughts and meanings are built are the categories we develop to distinguish between distinct objects and experiences, and the concepts we use to mentally organize, understand, and reason about those categories that make up our world. The formation and elaboration of categories and concepts through experience is one of our most fundamental cognitive activities (Medin & Aguilar, 1999, p. 104). Because our categories and concepts are
formed through experience, they already possess a basic level of embodiment. However, Lakoff and Johnson argue that a great deal of our most important categories and concepts are embodied in a much more pervasive manner because they are based on the structure of our perceptual and motor abilities. First, they say, all animals, including humans, must categorize in order to function in the world. We must decide if an object is, for instance, food or not food, dangerous or not dangerous, like ourselves or not like ourselves. In this way, “how animals categorize depends upon their sensing apparatus and their ability to move themselves and to manipulate objects” (Lakoff & Johnson, 1999, p. 17).

Second, Lakoff and Johnson contend that a significant portion of the conceptual structures that we use to reason about categories, and therefore the world, are actually shaped by our sensorimotor system. To argue this point, they refer to three types of concepts. The first is color concepts, a seemingly simple idea. However, if we look closer, we find that color concepts stem from the very structure of our perceptual systems. Hue is not an inherent property in any object in the real world. Rather, our eyes and brains have evolved to see different combinations of wavelengths of light as color, many of which can appear similar even if they consist of different combinations (Lakoff & Johnson, 1999, p. 23). For instance, a light wavelength around 575 nanometers will appear yellow to humans. However, wavelengths combine in both an additive and subtractive fashion, which means that several different wavelengths could combine in a way that still appears as the same yellow to the human eye (Goldstein, 2007, p. 44). The colors we can see are dependent upon the structure of our visual system. Yet, as Lakoff and Johnson point
out, they are also not completely fabricated within our minds. Objects do have surface reflectances that create certain colors when they interact with our visual systems. For this reason, Lakoff and Johnson call color concepts “interactional,” working between an objective, externalized idea of color, and a purely subjective idea of color (1999, p. 24). This is a direct translation of Merleau-Ponty’s conception of embodiment, an interaction between subjective and objective, and one that is based upon a weighty amount of empirical evidence. Clearly, color concepts have a bodily basis. However, other types of concepts also have their basis in physical interaction with the world.

The next type of concept that has at its core structure a bodily foundation is that of basic-level categories. As humans categorize objects in the world, an internal structure often develops within large categories. This structure is hierarchical in nature, which creates smaller basic, subordinate, and superordinate categories within a category. The basic-level category is that in which the greatest amount of objects can be classified before vital information becomes lost. This means “objects can be described or named at a number of different levels of abstractness (e.g. rocking chair, chair, furniture item, human artifact)” (Medin, Lynch & Solomon, 2000, p. 128). For instance, in the above example, the least abstract level is that of “rocking chair.” However, the specificity of this level means that is exclusionary in nature. The level of “chair” includes the subordinate category of rocking chairs while still retaining most of the same basic properties. However, move one category up and we begin losing essential information. “Furniture” could encompass many different types of objects, each used for a variety of different purposes. The basic-level category is the
level at which the most detail is retained while still remaining as inclusive as possible. It is also the level at which children learn categories of objects the fastest, and which most adults prefer to use in daily speech (Medin, Lynch & Solomon, 2000, p. 128). Additionally, Lakoff and Johnson believe basic-level categories are primarily defined in terms of bodily interaction and overall perception.

Basic-level categories, according to Lakoff and Johnson, are based on bodily interaction with the world in several different ways. First, “it is the highest level at which a single mental image can represent an entire category” (Lakoff & Johnson, 1999, p. 27). Returning to the above example, it is impossible to get a single overall image of a piece of furniture. Beds, bookcases, desks, chairs; all of these fall into that category and all form different mental images. Yet it is possible to think of a single image of a chair that is still representative of all members of that category. Second, “it is the highest level at which members of a category have similarly perceived overall shapes” (p. 27). Different species of birds can still be recognized as birds by a perception of overall shape. Yet despite the fact that birds and cats are both animals, they cannot be recognized belonging to the same category based on overall shape. Finally, the basic-level “is the highest level at which a person uses similar motor actions for interacting with category members” (p. 28). In other words, we possess motor programs for interacting with objects at the basic level. There is a specific manner in which we interact with a chair, namely, sitting in it, while there is a very different manner in which we interact with a bookshelf. The motor actions with which we interact with a basic-level category help determine the specific nature of objects we locate in that category, as do the overall perceived shape of the objects and
the mental images we form of that category. In this way, basic-level categories have a bodily basis.

The third type of conceptual structure that has a bodily basis is the spatial-relations concept, of which there are several subtypes. Simply put, spatial-relations concepts are organizational image schemas based on bodily movement, or the relationships between locations of objects in the world in comparison to our bodies. The basic subtypes of spatial-relations concepts include image schemas such as “containers (as with IN and OUT), paths (as with FROM, ALONG, TO), contact (as with ON), and other schemas such as relative distance, front-back, up-down, center-periphery, etc.” (Lakoff, 1993, p. 161). Also included in these types of conceptual structure are force-dynamic concepts such as push-pull, balancing, and supporting. These concepts arise from the ways we orient ourselves to the world, and certainly can be used to characterize objects that exist in the physical world. Additionally, these schemas are used abstractly in instances of metaphorical thinking, as we will see. However, as Lakoff and Johnson remind us, these concepts “do not exist as entities in the external world. We do not see spatial relations the way we see physical objects” (1999, p. 30). In other words, the development of spatial-relations concepts is dependent upon the role our sensorimotor system plays in orienting us to the world. This type of embodied concept, along with the other types of sensorimotor-dependent concepts we explored, is used as a foundation for more complex ways of thinking, including conceptual, metaphorical thought (Lakoff & Johnson, 1999, p. 43).

The implications for art education theory are widespread when we begin to consider how embodied concepts function in metaphorical thought, especially if we
consider the fundamental role metaphors play in abstract thinking. The basic structure of a metaphor is to compare one thing to another, different type of thing. This juxtaposition allows us to compare attributes, similarities and dissimilarities. However, metaphor is not simply a poetic, linguistic device used to decorate or embellish speech or writing. Rather, the use of metaphor forms an integral pattern of thought, with which we make sense of one domain of experience by relating it to another domain of experience. This allows us to reason, compare and make inferences about concepts. Gibbs says, “we metaphorically conceptualize our experiences through very basic, bodily experiences in the world that are abstracted to form higher-level metaphoric thought” (2005, p. 92). In this way, the conceptual structure with which we categorize our bodily experiences in the world are used to understand other, more complex types of experience. And since our bodily experiences in the world are categorized by means of embodied concepts, metaphorical thought, including that which is more abstract, has a fundamental basis in bodily experiences. Metaphor, for instance, makes use of our spatial-relations concepts, often in very complex ways (Gibbs, 2005, p. 92).

Lakoff and Johnson, in their book *Philosophy in the Flesh*, illustrates this phenomenon superbly (1999). They describe an example in which abstract, conceptual thought has a metaphorical structure based on bodily experience. The metaphor they examine is, “A Purposeful Life Is A Journey” (Lakoff & Johnson, 1999, p. 61). This metaphor is complex, being composed of two primary metaphors, both with a bodily basis. The first primary metaphor equates the concept of “purposes” with that of “destinations,” while the second equates “actions” with
“motions.” These metaphors are organized by means of a spatial-relations concept, namely that of a path, in which there is a source location, a destination, a path between source and destination, and an object moving along that path. This structure is a fundamental type of spatial-relations concept, providing our complex metaphor with a basis in bodily experience.

Not only does this metaphor have a bodily basis, it is also pervasive in our culture, giving rise to a plethora of beliefs. For example, people often believe they should have goals in life, which are simply destinations; people should have life plans they use to reach those goals, or travel itineraries; and there will be obstacles on the way through life, which need to be overcome, just as a road has bumps and obstacles. This complex metaphor also allows us to conceive of someone who has not “found a direction in life,” or who has “missed the boat.” This is a form of reasoning, in which we use metaphorical thinking to make inferences and develop conclusions. Also, as Lakoff and Johnson remind us, “conceptual metaphors go beyond the conceptual; they also have consequences for material culture. For example, the metaphor A Purposeful Life Is A Journey defines the meaning of an extremely important cultural document, the Curriculum Vitae” (Lakoff & Johnson, 1999, p. 63). And so metaphors are not simply literary devices, but rather are fundamental to our very way of thinking, and pervasive in discourse, cultural beliefs and material culture.

The visual arts, as a form of material culture, make ubiquitous use of metaphor. As we have seen, metaphor is a method of understanding one concept in terms of another. In other words, “metaphor is a deliberate category mistake” (Feinstein, 1982, p. 48). Lakoff and Johnson contend that the basis of metaphor does
not lie within verbal discourse, but rather within the very structure of our thoughts and our bodily interaction with the world. Thus visual metaphors are, like linguistic metaphors, simply another manifestation of an underlying metaphorical concept (El Refaie, 2003, p. 81). Taking this even further, El Refaie points out that some theorists in semiotics believe that all visual signs are metaphorical in nature because of the very process of sign production. “According to this view,” she says, “there can be no such thing as a completely ‘literal’ visual sign, because the process of sign making is always, to a certain extent, based on a process of analogy” (El Refaie, 2003, p. 82). If we relate this belief to the visual arts, we can make the inference that all visual art contains some underlying metaphorical structure, in that in all cases the visual elements of the work stand in analogy to the meanings the work conveys or explores. This is the view held by aesthetic theorist Susanne Langer, who believed metaphors are “basic to art itself” (Eisner, 1996, p. 10). A viewpoint such as this should change how we view the relative importance of the physical medium of an artwork in comparison to the conceptual meaning the artwork explores. In artmaking, we understand conceptual meanings in terms of the physical properties, or visual elements, of an artwork.

The work of contemporary sculptor and installation artist Josiah McElheny offers us a superb example by which we can begin to elucidate the underlying metaphorical structure of artmaking. McElheny is a glass artist who creates installations of handcrafted glass objects (see Image 12 below). In 2004, he created a series of installations for an exhibition at the Donald Young Gallery, in Chicago, entitled “Total Reflective Abstraction.” In these works, the artist uses reflective,
mirrored glass objects to explore the “notion that ‘the act of looking at a reflective object could be connected to the mental act of reflecting on an idea’” (“Press Release,” 2003). The very nature of the physical objects themselves is a metaphorical analysis of an abstract concept. In an interview with Art:21, McElheny says,

If you sit down and reflect on a philosophical idea, you enter a certain kind of state in your mind. If you look at a reflective object and become involved with looking at it, your mind enters a very similar kind of state. So looking at a reflective object and reflecting on an idea might be very similar experiences. My idea was that this could become a metaphor for how art worked, because basically it’s looking at an object and reflecting an idea. (“Total Reflective Abstraction,” 2001-2007)

The physical, visual nature of his reflective objects illuminates the nature of reflecting on a mental idea; his work allows him to “understand one kind of thing or experience in terms of another of a different kind” (Feinstein, 1985, p. 27). Through his works for “Total Reflective Abstraction,” McElheny is creating metaphor.

In order to clarify the exact nature of the way in which the physical, object-making properties of creating an artwork might enable a metaphorical exploration of an idea or meaning, it is helpful to return to Eisner’s conception of qualitative
reasoning, and to compare it with the process of metaphorical comparison. As we saw earlier, Eisner believes, like Dewey, that one of the primary skills involved in artmaking is the ability to perceive complex qualitative relationships (2002, p. 21). In my estimation, this can be understood by saying the subtle qualities of a physical medium or visual element in an artwork, and the ways in which an artist manipulates them, are qualitatively related to the meanings and ideas an artist is exploring. Gregory Euclidean, whom I discussed earlier, has a process of working in which the physical, object-making aspects of artmaking are qualitatively related to the meanings he explores. As he molds, tears, and sculpts his work, pooling paint and changing surfaces are qualitatively comparable to the ideas of changing, mutable landscapes that evolve through complex dynamics over time (see Image 13 above). This type of qualitative comparison can be found in an explication of metaphorical comparisons.

A brief exploration of how metaphor works to help us understand one thing in terms of another will show that qualitative comparison is at work. Feinstein offers a clear view of this process (1985). As she explains, in these types of metaphorical comparisons, we are able to consider how these two disparate domains are both similar and dissimilar. In this way, we “transfer attributes from one thing to another”
and “during such transfers, clusters of attributes belonging to one kind of thing interacted with those of another of a different kind. The attribute clusters of both became ‘filters’ (Black, 1955; Johnson, 1981) that highlighted, suppressed, or redefined certain associations” (Feinstein, 1985, p. 27). Put differently, during metaphorical comparisons we compare and contrast the qualities of two different domains of experience, and by doing so we come to a new, deeper understanding of those experiences. This, as Susanne Langer reminds us, is a process that “is not discursive and therefore does not really make a statement of the idea it conveys; but it formulates a new conception for our direct imaginative grasp” (1957, p. 23).

Metaphor is an imaginative process that occurs outside of language through the comparison of the qualities of different experiences. The ideation of metaphor and qualitative understanding as rooted in bodily experience, along with the notion of concepts themselves being based in bodily experience, gives us a much more complex understanding of the interaction between the physical and mental in artmaking.

*Embodiment Thus Far: A Synthesis and a Foreshadowing*

Returning, then, to the statement made by art educator Melinda M. Mayer, we can view the physical and the meaningful in artmaking with a new perspective. If you recall, Mayer states, “good art is always about something important; it is not solely the exercise of technical skills. Those skills are in service to an exploration of something meaningful” (2008, p. 78). Yet as we have seen, the very core of meaning itself is located not in some esoteric, wholly mental space, but in our bodily,
sensorimotor experiences in the world. Our sense-full, motile interactions with objects and people in our environments form the basis of our categories and basic concepts, out of which we build even the most abstract conceptual frameworks. Mind and meaning are necessarily embodied. Thus, when we reexamine Mayer’s perspective on technical skills, a viewpoint that seems to be shared by many art education theorists, it is possible to see the imbalanced outlook on the physical and the mental in artmaking. In my perspective, based on an understanding of the bodily root of meaning, technical skills should not be viewed as only something to be used in service to some greater meaning. Rather, the immersion of an artist in the physical materials and processes of artmaking, or the bodily, material basis of any art object or artistic performance, should be viewed as fundamental to the production of meaning.

In this way, object-making is meaning-making, and bodily, physical understanding is at the root of the artmaking process. The work of Merleau-Ponty, which puts forward for consideration the notion of sensory, bodily interaction with the world as the basis of all our knowledge of ourselves and the world (1945/2002), is enhanced by notions of the embodied mind and meaning that are being explored by contemporary cognitive science (Gibbs, 2005) and cognitive linguistics (Lakoff & Johnson, 1999). Taken together, these theoretical works offer a new perspective on the entwined nature of object-making and meaning-making. Next, we turn to the concept of tacit knowledge, as illuminated by Michael Polanyi (1966), a concept that is, as I will show, interrelated with Merleau-Ponty’s operative intentionality and cognitive science’s cognitive unconscious. The concept of tacit knowledge will be accompanied by a discussion of the development of expertise. A greater
understanding of the tacit knowledge that is at work within all domains of human
experience, complemented with an understanding of expertise development, will add
yet another dimension to our understanding of the experience of artmaking, and the
physical processes and materials that form the basis of meaning-making.
Chapter 4: The Roles of Tacit Knowledge and Expertise

Attending from the Brush to the Painting

Paul Gauguin once said, in reference to artistic technique, “With practice the craft will come almost of itself, in spite of you and all the more easily if you think of something besides technique” (Brown, 1998, p. 233). In a way, it is almost as if this highly esteemed artist is relegating the use of skillful technique to a position in which it is not explicitly considered at all. Indeed, this statement seems to echo the devaluation of skills in object-making seen in a review of the literature from Studies in Art Education, Visual Arts Research, and Art Education. Yet I question whether a statement such as Gauguin’s is, in fact, underestimating the value of skills and technique. Perhaps his statement simply reflects an internalization of these skills which enables the more practiced artist to attend to the essence and meaning of the emerging artwork as a whole. In other words, is Gauguin simply attending to the painting by means of the brush?

Illustrating this point, Nelson and Rawlings found, in their study of artistic creativity, that a significant portion of artists reported a phenomenon such as this. They said that while creating an artwork the artist often “is not aware of the technical skills allowing him to do so. These technical aspects are ‘assumed’ in the artist’s activity, fading into the background of awareness” (Nelson & Rawlings, 2007, p. 231). In other words, as these artists were involved in the artmaking process, they
relied on technical skills, but they did so in such a way that they recede from conscious awareness. It is my assertion that this phenomenon reflects the use of tacit knowledge of object-making skills, a knowledge that becomes more and more embodied as an artist develops an expertise in artmaking. However, in order to argue this point, we must also develop a more general understanding of the structure and function of tacit knowledge.

Just as any consideration of the body as the source of all knowledge must address the work of Merleau-Ponty, any consideration of tacit knowledge must consult the work of Michael Polanyi. In fact, the term “tacit knowledge” was originally coined by Polanyi, and simply reflects the idea that “we can know more than we can tell” (Collins & Evans, 2007, p. 23; Polanyi, 1966, p. 4). Put differently, as human beings, we possess knowledge and understanding of the world of which we are not necessarily consciously aware. It is the basic structure of tacit knowing that will offer some key insights into the usefulness of artistic technique. Additionally, an understanding of tacit knowledge adds dimension to the concepts of embodiment and intentionality. Moreover, this elaboration of embodiment in terms of tacit knowing will continue to explicate how the use of skills and tools form a part of bodily knowing.

To begin with, if we return our attention to Merleau-Ponty’s conception of operative intentionality, we already have a basis from which we can understand the structure of tacit knowing. The basis of intentionality lies in the idea that consciousness is always directed toward something, it is always about something.
Operative intentionality, then, is that form of intentionality that works just below the surface of our awareness to create a coherent understanding of the world (Merleau-Ponty, 1945/2002, p. 162). In this way, intentionality always has a directional structure, as does tacit knowing. Polanyi’s conception of tacit knowing is an elaboration of intentionality, in which there is not only something to which consciousness attends, but also something from which it attends. The object of our intentionality is that of which we are focally aware. However, our awareness of the whole, focal object relies on an underlying awareness of the subsidiaries, or particulars, of that object. Those subsidiaries are not consciously discerned but rather exist in a bodily understanding of the details of the object. “Hence thinking is not only necessarily intentional… it is also necessarily fraught with the roots that it embodies. It has a from-to structure” (Polanyi, 1966, p. xviii). Tacit knowledge is based upon a directional relationship between that which we explicitly know and that underlying knowledge of the world of which we are not necessarily consciously aware.

This underlying awareness can be found in the artmaking process, indicating the importance of tacit knowing. Contemporary sculptor Ursula von Rydingsvard uses wood to create her massive sculptures, a practice which she attributes to the time and place of her birth in Poland.
just after World War II (see Image 14 above). While the artist was raised in the United States, she believes an underlying knowledge of the importance of wood as a building material in Poland affected her choice of medium. In describing her first visit to her birthplace, she says she discovered that,

All the villages, all the homes there, were made of wood. There were stacks of wood, doors, and troughs of wood. Wood was the building material. So it’s somewhere in my blood, and I’m dipping into that source. The way in which I manipulate the cedar is very important to me, but I have a feeling that I even learned from things that I never saw. Working with it and looking at it feels familiar. (“Childhood & Influences, 2001-2007)

In the case of von Rydingsvard’s artmaking, she has a subsidiary awareness of the meaning and qualities of her chosen medium, which she translates into the explicit use of that material in artmaking. Here, there is a directional relationship between a subsidiary knowing of the artistic medium and the object of focus, the overall artwork.

A further demonstration of the directional structure of tacit knowing can be found in two compelling examples offered by Polanyi. First, he points out that we can immediately recognize the face of a person we know without being able to point out exactly how we know. “We know a person’s face,” he says, “and can recognize it among a thousand, indeed among a million. Yet we usually cannot tell how we recognize a face we know. So most of this knowledge cannot be put into words” (Polanyi, 1966, p. 4). We have a focal awareness of a familiar person’s face and we can distinguish it from other faces. Yet the particulars of that face are not necessarily
something of which we are conscious; they exist in our subsidiary awareness. In
facial recognition, we attend from the subsidiaries to the focal object of attention.
This two-term structure of tacit knowing is also present in a second example offered
by Polanyi. In this illustration he uses the practice of hammering a nail to
demonstrate tacit knowing. He says,

When we use a hammer to drive in a nail, we attend to both nail and hammer,
but in a different way. We watch the effect of our strokes on the nail and try
to wield the hammer so as to hit the nail most effectively. When we bring
down the hammer we do not feel that its handle has struck our palm but that
its head has struck the nail… I have a subsidiary awareness of the feeling in
the palm of my hand which is merged with my focal awareness of my driving
in the nail. (Polanyi, 1962, p. 55)

In this example, the feeling of the hammer in the hand forms his subsidiary
awareness, while the actual nail as it is being driven is that of which he is focally
aware. Polanyi gives these two terms of awareness the designations of “distal” and
“proximal.” The distal term is that to which we are consciously attending, the object
of our focal awareness, or in this case the nail. Contrarily, we are only tacitly alert to
the proximal term, in this case the feeling of the hammer in the hand. It is the
proximal term “of which we have a knowledge that we might not be able to tell”
(Polanyi, 1966, p. 10). The proximal and the distal terms, in tacit knowing, then exist
in relation to each other. Yet more importantly, this relationship is functional in
nature, as we shall see.
The functional nature of this relationship is the defining characteristic of tacit knowledge. What this means is that focal awareness of the second, distal term does not simply coexist alongside subsidiary awareness of the first, proximal terms. Rather, we depend upon our subsidiary awareness of the proximal terms in order to attend to the distal term. The proximal term is thus instrumental in that “we know the first term only by relying on our awareness of it for attending to the second” (Polanyi, 1966, p. 10). Returning to Polanyi’s example of hammering a nail, we can see this operative structure. That of which we are focally aware is the nail as it is being driven. In the act of hammering, we focus on the nail itself in order to ensure that we are hitting it correctly, and make adjustments as needed. However, we are only able to do this by relying on our subsidiary awareness of the hammer. We have an implicit knowledge about the feel of the hammer in our hands, and what slight muscular adjustments might need to be made in order to improve our strikes, and the relative resistances we encounter as the nail goes deeper, and any number of tiny, particular cues. Yet we do not focus on these subsidiaries, nor can we directly verbalize all of them. Rather, we know them only because we rely on them for attending to that object of our focal awareness. Such is the functional structure of tacit knowledge, a type of knowledge that is always present as we move and interact with the world (Zhenhua, 2008, p. 1).

Tacit knowing is thus present both in the performance of a skill and in the use of tools. In both of these cases, an action “is achieved by the observance of a set of rules which are not known as such to the person following them” (Polanyi, 1962, p. 49). In other words, there are specific rules, which must be known tacitly in order for
the overall goal to be achieved. For example, Polanyi often discusses the skills involved in riding a bicycle, in particular the way in which a cyclist keeps balance, the exact mechanics of which are not commonly known. Explicitly, we can say that if we begin to lose balance on a bicycle, “we must take a curve of which a radius is proportional to the square of the bicycle’s velocity over the angle of imbalance” (Polanyi, 1968, p. 33). However, as Polanyi points out, this explicit information is completely useless in the actual performance of riding a bike “unless it is known tacitly” (p. 33). In other words, we must have a tacit, subsidiary awareness of the particulars of balancing in order to accomplish the focal, overall goal of riding a bike. This dynamic, functional relationship that comprises tacit knowing becomes more complex when we examine the use of tools.

The use of tools involves an act that Polanyi calls “indwelling,” an important component of all tacit knowing, yet one that is mostly easily understood in terms of tool use. Indwelling is, simply put, the process by which we internalize knowledge and experience so that it becomes something of which we are aware of in a tacit, bodily way (Polanyi, 1966, p. 18). This knowledge then becomes a part of the body, and can function as the proximal term of tacit knowing. “In this sense, then, to make something function subsidiarily is to interiorize it, or else to pour one’s body into it” (Polanyi, 1968, p. 33). In terms of tool use, it is through indwelling that we can then incorporate a tool into our body, thereby making it function as an extension of our body and as the proximal term of knowing. It becomes not something to which we consciously attend, but something with which we consciously attend. It becomes a natural extension of our bodies (Polanyi, 1962, p. 55). This act of indwelling, as it
pertains to tool use, is analogous to Merleau-Ponty’s envisaging of the incorporation of tools into our body through the development of habit and bodily synthesis, a subject already touched upon in the previous chapter.

An example used by Merleau-Ponty, and one that could just have easily been found in Polanyi’s work, is that of a cane as it is used by a person who is blind. As Merleau-Ponty describes, “the blind man’s stick has ceased to be an object for him, and is no longer perceived for itself; its point has become an area of sensitivity, extending the scope and active radius of touch, and providing a parallel to sight” (1945/2002, p. 165). This does not mean, however, that a person who is blind must continuously compare the length of the cane to objects that it touches, in order to judge their exact location. Rather, if we were to begin practicing using a cane such as this, eventually we learn to “have it ‘well in hand,’” just as to use any tool is “to be transplanted into them, or conversely, to incorporate them into the bulk of our own body” (Merleau-Ponty, 1945/2002, p. 166). In both Merleau-Ponty’s discussion of habit and bodily synthesis, and Polanyi’s treatment of indwelling, we can see the act of incorporating a tool or technique into the body, so that it becomes something that functions as the term of subsidiary awareness. This is also true of tools used in the artmaking process.

While the number and nature of instruments used in the artmaking process will naturally vary from artist to artist, the use of tools in artmaking in general is pervasive. With the pluralistic nature of visual art today, anything and everything can be used as an artmaking tool, from traditional paintbrushes to blowtorches.
Contemporary sculptor Judy Pfaff is emphatic about her love of tools, and their importance in her artmaking process (see Image 15 below). She says when working on an object, “there’s usually some tool between it and me (scissors, burning, stencils, dots stuck on)…. I have to keep myself a little bit distanced…. There has to be a scrim—a structural scrim, a physical scrim, a tool scrim” (“Installation & Drawing,” 2001-2007).

For Pfaff, the intervening use of a tool is essential to her artmaking process. The tools, then, become that by which she attends to the artwork; they become the proximal terms of subsidiary awareness. A corollary of this would be using the brush to attend to the painting, or using the graphite to attend to the drawing. The indwelling that occurs during the use of a tool is an example of embodied knowledge. However, it is not only in this instance that indwelling is at work.

Rather, indwelling is at work during all instances of tacit knowing, including the use of language and the comprehension of meaning. For Polanyi, indwelling is simply another manner of describing the phenomenologist conception of being-in-the-world. Furthermore, it is from indwelling, as being-in-the-world, that all knowing and meaning is ultimately derived. “All understanding is based upon our dwelling in the particulars of that which we comprehend,” Polanyi says. “Such indwelling is a participation of ours in the existence of that which we comprehend; it is… being-in-
the-world” (1964, as cited in Zhenhua, 2008, p. 1). So in all understanding of the world, and all comprehension of meaning, we must tacitly dwell within the particulars in order to attend to the larger meaning. A simplified way of understanding this claim becomes apparent if we examine the indwelling present in denotative meaning. Polanyi and Prosch compare this function of indwelling to simple instances of denotative meaning, such as a name for an object, by stating that the word itself has no intrinsic interest. Rather, we must come to dwell within the word, along with all of our tacit knowledge of that which it denotes, in order to attend to the larger meaning (Polanyi & Prosch, 1975, p. 70). For example, the word or visual symbol “tree,” taken by itself, has no particular referent. It could just as easily stand for an object such as a car as it could for an actual tree. However, as we learn and interiorize a language, we come to dwell within the words we use. The word “tree” becomes one tacit particular of all the other tacit particulars we know about trees, such as their overall shape, their colors and any number of factors, and as such point to a larger meaning. “Words,” Polanyi and Prosch say, “understood in this way, function as indicators, pointing in a subsidiary way to that focal integration upon which they bear” (1975, p. 70). And so, in the simple act of naming, and in all denotative meaning, tacit knowing is at work through the use of indwelling. However, indwelling might be present, not only in these simple instances of denotative meaning, but also in more complex instances, such as the exploration and comprehension of meaning in art.

One example of indwelling in artmaking can be seen in the work of Laylah Ali. As a contemporary painter, Ali makes work that incorporates elements both
from her own personal history, and the unfolding narrative of the world around her. However, when asked to discuss the meaning behind an artwork, she has a difficult time putting it into words. Often, when looking at previously completed paintings, she discovers elements from her childhood that she was unaware of before. Ali states that she often has to live with an artwork for a time before she can verbalize the meanings it explores (see Image 16 above). For example, when asked to describe the meaning of a work still in progress, she says, “I’m working on this right now and I couldn’t honestly tell you what this painting is about. It would take for me to finish it, look at it, live with it—and then I could maybe start telling you about it” (“Meaning & Influences, 2001-2007). In order to fully grasp the meaning of her own work, then, Ali must have time to examine and experience the physical elements of the work. This could be viewed as a type of indwelling, a process of internalizing the particulars, so that they can be used to attend to the overall meaning.

The work and commentary of installation artist Ann Hamilton offers a second example of indwelling in the comprehension of meaning. In an interview with Art:21, Hamilton describes her interest in installation work arising from the active
engagement it elicits from both the viewer and the space it occupies (see Image 17 below). She says,

To work in installation is to work in relation to a particular place and all of the confluences and complexities of whatever it is that creates that (space). And so, as a viewer, to come in, it's the experience the minute you cross the threshold: it's the smells, it's the sounds, it's the temperature, it's how all of those things have everything to do with the felt quality of ultimately what the thing becomes. (“ghost: a border act,” 2001-2007)

In this way, both the artist and viewer must incorporate all those felt qualities of the installation space, all of the sensory, bodily experiences. All of these things are integrated into the ultimate meaning of the work. This can be viewed as a further example of tacit knowing through indwelling, in which the felt qualities of a space are internalized and used to attend to the larger, overall meaning of the work.

And so, tacit knowing through indwelling is active in the comprehension of meanings, both simple and complex, as it is in the exercise of a skill or the use of a tool, or any other interaction with the world. In fact, tacit knowledge is always at work, because “we are immersed in an embodied world of experience in which the
lived is always greater than the known” (Küpers, 2005, p. 117). Our experiences in the world are comprised of a multiplicity of happenings, the great majority of which we are only implicitly aware. Yet if this is true, if the greatest amount of our knowledge in the practice of skills and our interaction with the world is tacit and unarticulated in nature, we can ask, what is the point of addressing it?

The answer to this question lies in two final, key aspects of tacit knowing. First, it “concerns knowing, not in the sense of storage places and their contents, but as performing processes (e.g. perception, judgment, action, thought, discernment, contrivance) underlying all human dispositions and also all explicit knowledge” (Küpers, 2005, p. 117). In other words, tacit knowing is an act, which is evident only through its use in the practice of interacting with the world. Second, tacit knowledge is not a static resource. “Rather, it is viewed as an adaptive intellectual resource stemming from the active interaction between individuals and their dynamic environment” (Cianciolo, Matthew, Sternberg, & Wagner, 2006, p. 613). Tacit knowing, therefore, is malleable and adaptive in nature, and can be reinforced or changed through practice. Furthermore, the development of expertise in any area involves the development of tacit knowledge (Cianciolo et al., 2006, p. 621). This idea has vast implications for the way we teach the visual arts, and how we understand the development of skills in object-making and meaning-making. In order to explore these subjects, we can now turn to the development of expertise, and the role it might play in the artmaking process. It is my contention that the development of tacit knowledge and expertise in object-making as meaning-making allows the artist to attend to the overall essence of an artwork. In other words, as expertise and
tacit knowledge of artmaking processes develop, the artist becomes increasingly able
to attend from the brush to the painting, and from the painting to the overall meaning
of the work.

*From Novice to Expert: The Shifting of Awareness*

In any artmaking process, as Michael Jarvis points out, the “artist has an
interaction with materials to a greater or lesser extent,” where one can “define
‘materials’ in as wide a spectrum of practice as possible, from clay to film, from paint
to performance, from working alone to collaborating with other practitioners” (2007,
p. 206). What is also true to the artmaking process is that the artist will approach
those materials with a certain amount of practical knowledge of their potentials and
properties, and that knowledge might range from no experience, to an incredibly vast
reservoir of understanding. Furthermore, an artist who does have a strong
understanding of any particular medium may have gained that knowledge from
explicit, formal instruction and practice, or from individual experimentation.
Whatever the case, each time an artist approaches a material with the goal of creating
an artwork, a certain amount of tacit knowledge is at work.

The key thing to remember is that “tacit knowledge is practical ‘know-how,’” and furthermore, “it is learnt and incorporated by individuals only through practice…
acquired over time and by means of embodied activity” (O’Loughlin, 2006, p. 114).
This implies that tacit knowledge is a developable resource. As we saw earlier, the
functional structure of tacit knowledge is such that it provides a subsidiary awareness,
from which we can attend to a specific, focal object. Pablo Picasso has stated, the
“artist must forget painting when he paints” (Brown, 1998, p. 6). Put differently, the artist must be able to allow the specific techniques and processes he is using recede into subsidiary awareness, in order to attend to the larger work. An examination of the course in which expertise develops will offer some insight into the processes by which this occurs. Although there are a variety of ways to study the acquisition of expertise, one common approach is to compare the relative knowledge of novices to that of experts in a given domain, and the range of abilities in between (Chi, 2006, p. 22). For the purpose of studying the acquisition of tacit knowledge in object-making skills, and how they might provide the basis for meaning-making, this approach is the most appropriate.

Collins and Evans outline a basic five-stage model that is suitable for examining the development of a variety of abilities, including “the ‘internalization’ of physical skills” (2007, p. 24). To begin with a basic description of each level, the initial stage in this model is that of “novice,” in which the learner of a skill must focus on explicit guidelines and rules in order to accomplish a task. At this stage, slight nuances of situations are often not noticed or taken into account, and decisions are highly calculated. However, as the learner gains more experience, he or she moves into the second and third stages of “advanced beginner” and “competence,” where situational variances become more noticeable, and reactions become increasingly more intuitive. By the time the learner reaches the fourth stage, “proficiency,” he or she is able to view the task in a “holistic” manner, although some conscious decisions about the best course of action must be made. Finally, as a learner reaches the fifth stage of “expert,” “complete contexts are unselfconsciously recognized and
performance is related to them in a fluid way using cues that it is impossible to articulate and that if articulated would usually not correspond, or might even contradict, the rules explained to novices” (Collins & Evans, 2007, p. 25). In other words, by the time learners reach the expert level, they typically know more than they can tell, and this knowledge forms the basis of their practice. As this model shows, at each stage there is an increased reliance on a growing pool of tacit knowledge, which is used to attend to the larger, overall task.

The development of tacit knowledge in learning a skill, and the increase in practical expertise that accompanies it, is at play as artistic techniques and skills are developed. Sociologist Erin O’Connor, through her ethnographic research on practical knowledge development, clearly describes how this occurred as she learned the art of glassblowing. O’Connor begins her account after she had already been blowing glass for several months, just as she is beginning to learn the new techniques involved in blowing a glass goblet. As someone who had become proficient in the more basic techniques of gathering glass from the furnace, blowing an initial glass bubble from the blowpipe, and using basic tools, learning to create a goblet presented her with a unique opportunity. This process would allow O’Connor “to combine the learned with unlearned,” and “to evaluate how glassblowing is read by the glassblower, in varying stages of proficiency, specifically to reflect upon the ebb and flow of sensations, techniques, and modes of consciousness” (2005, p. 185). Thus, her work presents us with a valuable account of the tacit knowledge that is at work, as she uses her proficiency in more basic techniques, including tool use, to attend to the larger object of blowing a goblet.
O’Connor points out that in blowing any glass piece, the first step is to gather glass from the furnace, a skill which she had already begun to develop several months before she attempted to create a goblet. During the gathering process, the blower twirls a blowpipe in a steady rhythm, and at the correct speed, balancing it on the edge of the furnace while dipping the tip into the reservoir of molten glass, similarly to gathering honey out of a jar (see Image 18 below). When initially learning how to gather glass, O’Connor says the technique “had been broken down into successive moments,” each of which could be practiced individually from each other (2005, p. 186). However, as she became more practiced, the individual components of gathering glass, “upon which [her] attention had been riveted in [her] first days of glassblowing,” merged and receded into her subsidiary awareness, and she began to sense the deftness of her gathers as a cohesive whole (p. 188). Just as described by Polanyi, O’Connor began relying on a tacit knowledge of the particulars, such as a steady twirl of the blowpipe and proper balance, in order to attend to the focal objective of a skillful gather.

The process, by which O’Connor was able to develop her tacit knowledge of the individual components of gathering glass, and begin synthesizing them until she was able to focus on the overall objective, was one of vacillating attention. For instance, she says,
By bringing the technique into focal awareness, we could hone it. But we were quickly urged to allow what had become a momentary object of focal awareness, a movement of attention, which having consciously attempted to make the technique more similar to the expectation, forged a slow process of restructuration. (O’Connor, 2005, p. 189)

In other words, her instructors actively encouraged O’Connor to swing her attention to the specific components of the technique, in order to consciously correct mistakes, and then back again to the primary focus, the molten glass on the end of the blowpipe, a process of restructuring her practice. However, it is not only through the explicit directions of her instructors that O’Connor was able to improve her skills. She points out that her body itself has its own awareness of sensations that enabled these transformations. She already had a corporal alertness to the extreme heat of the glass, and how to prevent accidents by moving slowly and steadily. Thus, the novice’s “body ‘catches’ already-known components of glassblowing, like heat and retrieval, and with some adjustments handles and gets through the new situation with greater and lesser degrees of success” (p. 191). As a novice glassblower, then, O’Connor learned the skill of gathering through a fluctuation of attention, elicited by both direct instruction and her own embodied awareness of the circumstances.

The direct instruction and embodied awareness by which O’Connor developed a tacit knowledge of gathering correlate to two specific methods for enhancing tacit knowledge in a variety of situations. First is the process of bringing tacit knowledge into direct awareness in order to share and polish underlying skills. This is often best accomplished through specific training, such as that O’Connor received from her
instructors. In this way, “methods that stimulate the process of thinking about what one is doing and why, and talking about it with others, will facilitate the development of expertise” (Cianciolo et al., 2006, p. 623). Direct instruction can make one aware of those tiny nuances of a situation, of which a more proficient practitioner of a skill is already aware. O’Connor also enhanced her tacit knowledge in a second way by relying on her own ability to use “knowledge acquired from past experience,” which she then “compared to new knowledge to inform decisions and action” (p. 625). For O’Connor, these experiences were bodily in nature. She applied her past experiences with heat and precarious circumstances to the new information she encountered in the glassblowing studio. This type of “adaptation is not conscious; it happens at the level of the body” (O’Connor, 2005, p. 191). Thus, tacit knowledge is enhanced both by bringing practice into focal awareness through direct instruction, and by allowing bodily experiences to guide actions in new situations.

The marked progress that O’Connor made in learning to gather glass is clearly a manifestation of growing tacit knowledge and expertise. However, her increasing proficiency becomes even more indicative of emerging expertise in the overall practice of glassblowing when we examine her subsequent use of this skill. Specifically, O’Connor learned to tacitly rely on the particulars of gathering to attend to the overall deftness of the gather. Then, as she attempted to learn the even more complex techniques of blowing a glass goblet, she learned to rely on her subsidiary awareness of the overall deftness of the gather, along with proficiency in skills such as blowing the initial bubble, to attend to this new focal objective. When O’Connor then completed the gather out of which she would create her first goblet, she “sensed
the ‘rightness’ and did not need to double-check, [she] had done it time and time again” (2005, p. 185). The internalization of increasingly complex skill sets described by O’Connor, and their consequentially intuitive use to attend to increasingly complex focal objectives, marks the development of practical expertise.

An important tangent to explore in regards to O’Connor’s rendition of learning the art of glassblowing is the importance of tools to the practice. As in other forms of artmaking, the growth of the skill sets used in glassblowing involves a bodily incorporation of the tools required by the practice. Through the works of both Merleau-Ponty and Polanyi, we have already explored the process by which tools become synthesized into the body and we come to dwell within them as “an extension of our body” (Polanyi, 1962, p. 60). However, this picture is further enhanced by the detailed account O’Connor provides us of her first encounter with a new glassblowing tool used for trimming the edges of hot glass, the shears (see Image 19 above). As she points out, “tools are one of many resources necessary for artistic creativity” (O’Connor, 2006, p. 177). In glassblowing, these instruments take on an even greater significance, as it is only through tools that the artist is able to come into contact with the molten glass medium.

As O’Connor advanced from a novice understanding of the use of the shears, to a more embodied, proficient knowledge, her relationship with this tool changed.
“The novice’s relation to tools is characterized initially,” she says, “by a sense of them as spatially discrete things, needing to be pointed out by the instructor as ‘this thing here’ and ‘that thing there’” (O’Connor, 2006, p. 179). It is not until the first time a novice takes a tool in hand that bodily incorporation begins. Nonetheless, at this early stage, O’Connor still characterizes the tool, and the novice’s understanding of it, as “dumb.” It is not until the novice begins learning to sense the medium through those tools that they begin taking on a lived character, receding from direct awareness into the body. “The tool,” she says, “cannot appear amidst the performance of the glass—in this sense the ‘tools seem to disappear’, indeed must, in the hands of the glassblower” (O’Connor, 2006, p. 186). This is the mark of increasing proficiency. Thus tool use becomes increasingly embodied, as do all artmaking techniques and skills, as expertise and tacit knowledge develop through experience.

These embodied practices then form a foundation from which the artist works. The “beginning experience of the practice becomes the ‘fundamentals’ of the craft, those embedded dispositions and schematizations” upon which the artist relies in order to attend to the overall artwork (O’Connor, 2005, p. 191). As more experiences and skills are encountered and internalized, they become part of a growing repertory of tacit knowledge that can then be used to attend to increasingly complex tasks. This progressive incorporation of skills is described by Merleau-Ponty as obtaining a “maximal grip.” In other words, new circumstances encountered in the world solicit responses from the body. “Maximal grip names the body’s tendency to respond to these solicitations in such a way as to bring the current situation closer to the agent’s
sense of an optimal gestalt," or overall experience (Dreyfus, 2002, p. 367). In the
growth of tacit knowledge, the body itself adapts and improves its reactions. A
glassblower once commented to O’Connor,

[G]lassblowing has to become something that’s in your body and not
something that you’re thinking about and that only comes from doing it. It
doesn’t come from thinking about it. And that’s why it is important to go
through the process again and again. (Interview with Gus Jenson,

Developing expertise in a practice, such as glassblowing, is a process of restructuring
skills and tacit knowledge, so that there is a gradual accumulation of resources as the
learner progresses.

This advancing structure raises some interesting questions about the
relationship between practical knowledge and the ability to think creatively and
explore meaning in the artmaking process. To this point, we have examined the
accumulative development of physical artmaking skills in a very specific domain, that
of creating a blown-glass object. However, we still have not looked at the connection
between the growth of object-making expertise in general, and the ability to probe
strong concepts in artmaking. Indeed, this is an area of research that can certainly be
expanded. However, if we return to the quote made by Picasso as a starting point, we
can begin making some inferences about this relationship. If you recall, Picasso once
said, the “artist must forget painting when he paints” (Brown, 1998, p. 6). From
O’Connor’s detailed description of her experiences as she learned the practice of
glassblowing, the progressive internalization of learned skills and habits might be said
to reflect the forgetfulness of which Picasso spoke. I believe that the interiorizing of object-making skills, so that they become a reserve of tacit knowledge upon which the artist can draw, might become a foundation for the exploration of meaning in two ways. First, I believe bodily, technical know-how becomes an increasingly strong base of subsidiary awareness as expertise increases, and as such is the base from which the artist can attend to the focal objective of meaning-making. Second, this embodied, tacit expertise provides the artist with a sense of his or her own agency in object-making, enabling confident experimentation.

Whether obtained through explicit instruction, or individual experimentation and practice, the development of expertise in object-making skills is a foundation that enables conceptual exploration. “If technical challenges are extremely difficult,” art educator Sydney Walker points out, “it will be hard to focus on other concerns. The technical aspects of the project will be all-consuming” (2001, p. 50). Consequently, an artist who possesses a stronger tacit knowledge of technical skills will encounter these frustrating situations less frequently, enabling he or she to focus on the overall meaning of the work. “Rather than the artist forcing himself through the artwork, ideas for the piece emerge fluently and consistently” (Nelson & Rawlings, 2007, p. 230). Furthermore, with a larger pool of physical expertise to draw upon, the artist has the ability to act on a greater number of ideas. The tacit knowing that comes with practical expertise forms a subsidiary awareness that allows the artist to focus on the larger meaning. The work of Janine Antoni offers an excellent example of the manner in which this can occur.
In an interview with *Art:21*, Antoni describes the sequential creation of two artworks that illustrate how the development of skills can serve as a springboard for the exploration of meaning. The first artwork Antoni describes is “Moor,” a piece in which she uses fabrics and other materials from friends and family to braid a large, colorful rope that would form an installation artwork (see Image 20 below). In creating this artwork, Antoni researched and developed skills in rope-making, a very traditional craft. In this way, Antoni relied upon growing expertise in specialized abilities, so that she would be able to use very untraditional materials, such as cassette tapes and holiday lights. This work, she says, “went through many manifestations of…actually trying to make the rope” (“Touch & Moor,” 2001-2007). However, after these trials, Antoni began to think about a variety of concepts that the artwork touched upon, one of which was the idea that she might be able to learn to walk on the rope she had made. The skills she had developed in making “Moor,” thus enabled her to conceive of the idea for a second artwork, “Touch” (see Image 21 above). Antoni spent considerable time learning how to walk a tightrope in order to create this video artwork, in which she appears to be walking across the ocean’s horizon line.
near her childhood home (“Touch & Moor,” 2001-2007). In this case, the technical skills that Antoni used to create her earlier artwork, “Moor,” facilitated her investigation into complex meanings, which then gave rise to the idea for a new artwork, “Touch.” This sequence of events parallels the structure of tacit knowledge and expertise in object-making, in which skills form a subsidiary awareness, used to attend to the focal point of meaning-making.

A second interesting point to note about Antoni’s two artworks is the fact that, while there are technical and conceptual starting points that are similar, the final pieces are very structurally different. Antoni is able to shift her artmaking expertise between two dissimilar mediums, video and sculptural installation. This raises some provocative questions about the transfer of fundamental physical skills to novel media and artmaking contexts. Chi points out that it is commonly believed that highly specialized experts encounter limitations in that their abilities are domain and context-dependent. This is believed to be because experts’ reliance on tacit situational cues is so strong, that when encountering a novel situation, their abilities often fall short of expectations (Chi, 2006, p. 24). However, if we consider the individual dispositions and corporal skills that are at play during the object making process, this viewpoint seems questionable.

Merleau-Ponty, for example, contradicts this stance by pointing out that “forming the habit of dance is discovering…the formula of the movement in question, and then restructuring it on the basis of… the use of previously acquired movements, those of walking and running” (1945/2002, p. 165). Dance, as an art form, incorporates already acquired abilities, and hones and transforms those abilities with
each new dance learned. Therefore, it seems highly possible that visual artists who acquire highly specialized skills in one medium would be able to transfer those physical aptitudes to another medium, on the basis of their corporal roots. This brings us to the second way in which I believe the development of expertise in object-making provides a foundation for meaning-making. Namely, a strong tacit knowledge of technical skills and media furnishes the artist with a strong sense of his or her own abilities to create an evocative art object, regardless of the media or processes involved, encouraging experimentation and adventure.

In today’s artworld, contemporary artists frequently work in several different media. This habit results in the ability to explore concepts in a much more probing manner, as they can then be addressed through a variety of forms. Yet to do so, requires the physical skills to work with a range of materials. I believe these artists are able to transfer an understanding of one medium to another because, through their development of tacit knowledge and expertise in object-making, they have also evolved a strong sense of their own agency when working with physical materials. Kiki Smith, a contemporary artist who works in a variety of mediums, aptly describes this phenomenon. She says,

Once you do know about one thing physically, at a certain point it’s easy to translate it then into other mediums and quickly understand it. Like if you have enough information in your body from doing something, you can then move it around. Like I can sew well if I need to, or I can do ceramics. I can do different things just from having enough physical experience. (“Learning by Looking,” 2001-2007)
Smith is at ease working with mediums as diverse as bronze sculpture, to printmaking, to installation (see Images 22, 23 & 24 above). She transfers her physical know-how to a variety of visual art domains, showing a clear sense of flexibility and experimentation.

This description made by Smith, in which she is able to translate an understanding of the physical nature of one medium into a completely different medium, seems contradictory to the nature of expertise in a skill. After all, “the concept of expertise involves an ‘automatic’ mode of responding, where the individual does not think about what he or she is doing” (Weisberg, 2006, p. 767). Contrarily, flexibility and experimentation in artmaking involve the ability to make innovative decisions, meaning the artist must think creatively. As Weisberg points
out, many researchers into the nature of expertise argue that the ability to think creatively is unrelated, or perhaps even opposed, to the development of expertise. However, he also reminds us, experts in a given domain have evolved, over time, very rich, multifaceted conceptual structures, that form the basis of their reasoning. Furthermore, those conceptual structures are often based not only on very domain-specific skills, such as those used in a distinct artistic technique, but also on general expertise, such as a developed ability to reason logically or qualitatively. Some researchers argue that these different types of general and specific types of expertise serve as a foundation for creative thinking. In fact, “Ericsson proposes that creative innovations are the highest levels of achievement in any domain because the creative individual goes beyond the boundaries of the domain and redefines it (1996, 1998)” (Weisman, 2006, p. 768). Thus, considering these arguments about the relationship between expertise and creativity, one inference we can make is that artists who display innovation by experimenting with different mediums do so based on a general physical expertise and highly specific skills. Just as Smith describes, artists such as these might possess an overall understanding of the material world, and that knowledge enables them to think creatively about how those materials might be manipulated to make an artwork. Here again, an expertise in object-making is the foundation from which meaning-making springs.

Embodiment Thus Far: A Synthesis and a Foreshadowing

And so it is possible to see, based on an understanding of the from-to structure of tacit knowledge as developed by Polanyi, and on the modes in which expertise is
developed and utilized, how skills in object-making enable the ability to make
meaning in art. As we encounter a new skill, experience, or a new tool, we begin to
understand it, to develop a bodily, tacit knowledge of it, until “we incorporate it in
our body—or extend our body to include it—so that we come to dwell in it” (Polanyi,
1966, p. 16). In this way, the development of tacit knowledge is the development of a
kind of practical expertise, a physical know-how. The artist, over time and through
experience, develops an increasingly large resource of embodied understanding of the
material world, and the mediums and techniques with which she makes her art. The
internalization of these skills thus empowers the artist to think creatively about
complex meanings, by both serving as the proximal term of subsidiary awareness,
from which she can attend to the larger work, and by instilling her with a sense of
agency that encourages experimentation. In this way, a strong tacit knowledge of
object-making processes allows the artist to shift her awareness from the brush to the
painting, and from the painting to the meaning.

Thus, through Polanyi’s description of tacit knowledge and an understanding
of the development of expertise, through the development of tacit knowledge, we can
see an intriguing theoretical framework for studying the relationship between object-
making and meaning-making. Taken together with Merleau-Ponty’s conception of the
embodied mind, and the perspectives from cognitive science and linguistics that
outline specific mechanisms by which meaning arises from a bodily interaction with
the world, this theoretical construct raises some serious questions about the implied
separation of thinking and doing found in a wide range of art education literature.
Therefore, in the next, and final, chapter, I will briefly revisit some of the important
points in each chapter, before outlining just a few of the broadest avenues of research exposed by a framework that proposes a synthesized view of body and mind, and object-making and meaning-making.
Chapter 5: Embodied Artmaking Moving Forward

Revisiting the Divide

Making art means moving materials around and using physical processes. The musician moves air molecules to produce sound, the actor and the dancer move their bodies to convey meaning, the poet moves spoken and written words, the performance artist treats the human body as an artistic medium, and other visual artists manipulate materials as diverse as bronze, paints and pigments, and even found objects. Whatever the medium, in artmaking, the expression of meaning is manifested through the corporal world. The materials an artist uses are necessary partners. As highly respected artist Robert Rauschenberg once said,

I’m opposed to the whole idea of conception—execution—of getting an idea for a picture and then carrying it out. I’ve always felt as though, whatever I’ve used and whatever I’ve done, the method was always closer to a collaboration with materials than to any kind of conscious manipulation and control. (Brown, 1998, p. 239)

The artist relies upon some type of physical interaction with the world, the manipulation of some type of material, in order to explore and convey ideas and meaning. This is true whether an artist begins with a well-developed concept before approaching a medium, or the artist, like Rauschenberg, likes to allow ideas to arise from the making (see Image 25 below). It is only after the bodily interaction of the artist and his or her chosen processes and materials that an art object exists for the
viewer to make meaning of through interpretation. Yet despite this fundamental truth, I have found that in current art education literature, the material is often treated as subservient to the meaning, and the doing is subordinate to the thinking.

Recalling my beginning foray into the research for this thesis, I based my initial estimation of this divide between object-making and meaning-making on a systematic review of the literature from three of the most prominent journals in art education: *Studies in Art Education, Visual Arts Research*, and *Art Education*. After combing the last ten years of research presented in these journals, I found little understanding of the relationship between physical technical processes, skills and media, and the exploration of meaningful ideas. In fact, this body of literature led me
to the conclusion that as a whole, art education theory was leaving the making out of artmaking. The immersion of the artist in the physical world of media, skills and tools was seen as being of secondary importance to the ideas that can be explored through artmaking. This attitude is reflected in several ways in this body of literature, and can be most prominently seen in three general trends that dominate current thinking in art education.

Each of these trends stresses the importance of meaning-making over object-making in different ways. The first trend I found, if you recall, is an approach to art education based on critical pedagogy, in which difficult social issues and explorations of multiculturalism dictate the content of art education curriculum. In this instance, the value of art is seen as its ability to raise questions about social justice, and object-making is often used solely as an exercise to emphasize these explorations (see for example, Chung, 2009). This trend leads into a second movement that stresses meaning over materials. Specifically, this is seen in the advocacy for curriculum structures that stress the content of artmaking over the object-making processes. In order to enhance students’ meaning-making abilities proponents of this movement believe the ideas should be developed prior to beginning to make an art object (see for example, Keifer-Boyd, 2007). Yet just as Rauschenberg points out, this is not necessarily the order in which artists work. While this content-first approach still encourages the making of an art object as a fundamental task in art education, the third and final trend found in *Studies in Art Education, Visual Arts Research*, and *Art Education* is that which proposes a visual culture approach to art education. Advocates of visual culture underline the value of all visual images, including fine
arts, as a fundamental tool for engaging in cultural studies (see for example, Duncum, 2002; Tavin, 2005). While these theorists still insist that artistic production is a fundamental component of visual culture art education (Freedman, 2003, p. 38), their overwhelming emphasis on the worth of interpretation undermines this assertion. This trend, along with the first two movements I examined, represent a tendency to diminish the role of physical materials, skills and techniques in favor of conceptual exploration in artmaking.

Taken together, these orientations to artmaking are specific approaches to art education that divorce and devalue object-making in comparison to meaning-making. Yet, if you recall, I also noted a much more subtle manner in which this occurs. Throughout the last ten years of *Studies in Art Education*, *Visual Arts Research*, and *Art Education*, I found no research that explicitly addresses the overall importance of skills in object-making, be they traditional or innovative, or how they might relate to the artist’s ability to make meaning. While there were some articles that addressed technical skills, they did so in a manner that was too focused to apply to artmaking as a whole, or only described methods for teaching specific skills. For instance, some theorists examined the usefulness of specific skills, such as drawing, as a behavioral output that could be used to study cognitive processes, such as the growth of symbolic systems (see for example, Hanes & Weisman, 2000). Other writers, in addressing technical skills, were simply offering an education resource for teachers who wish to introduce a specific new skill in the classroom, such as East Asian brushwork (see for example, Chung, 2006). Like the trends focused on meaning-making, these explorations offer valuable contributions to art education theory.
However, for the purposes of examining the relationship between object-making and meaning-making, they do little to narrow the gap between thinking and doing present in research from *Studies in Art Education, Visual Arts Research,* and *Art Education.*

In light of this, it is important to question where this divide originated. The task of examining the relationship between object-making and meaning-making becomes futile, unless we first understand why they are currently treated as dichotomous. To find the answer to this question, I moved my research outside of the first three journals I originally surveyed, and furthermore, outside the realm of visual art education literature, and into the field of Western philosophy. There I found a correlation between the dichotomous thinking about artmaking that I originally discerned, and the division of body and mind in Western thinking as a whole. It seems that Western philosophy, of which art education philosophy is a part, has been treating the body as separate and subordinate to the mind since at least the times of the ancient Greeks (Gibbs, 2005, p. 4).

This bifurcation of body and mind has resulted in an overwhelming philosophical precedent of dichotomous thinking, leading to, as John Dewey says, “a whole brood and nest of dualisms” (as cited in Rorty, 1976, p. 288). Furthermore, in each of these dualisms, there is an inherent, and often false, power structure. Simply think of white versus black, masculine versus feminine, reason versus emotion, and we can see this point illustrated. This is also true of the divisions present in art education theory, specifically that of thinking versus doing, or object-making versus meaning-making. However, despite the persistence of binary thinking in Western philosophy, I found that there are increasingly substantial arguments against this self-
imposed division of mind and body. These contentions offer some intriguing insight into the relationship between object-making and meaning-making in the artistic process.

*From Above and Below: The Emergence of a Theoretical Framework*

Under the weight of so much historical tradition, considerations of the mind as inherently embodied have often been suppressed before they have had a chance to inform our understanding of the human condition. As noted educational theorist John Dewey pointed out,

> Men are afraid, without even being aware of their fear, to recognize the most wonderful of all the structures of the vast universe—the human body. They have been led to think that a serious notice and regard would somehow involve disloyalty to man’s higher life. (as cited in Bresler, 2004, p. 8)

Yet despite Dewey’s notation of fear of the body, we have seen that the division of body and mind that is prevalent in Western thinking, and also apparent in much of art education literature, is beginning to receive a great amount of scrutiny from a variety of sources.

Over the course of this thesis, I have attempted to provide an overview of the arguments for an understanding of the mind as embodied, and how these arguments find parallels in the artmaking process. To begin, looking within arts education literature, I examined the work of some extremely influential theorists have already begun to question the divide between thinking and doing, including John Dewey (1934), Elliot Eisner (2002) and Maxine Greene (1995). The synthesis of body and
mind, as these authors portray it, is based on an understanding of the role of experiences in the world as the basis of understanding and knowledge. This viewpoint is fundamental to each subsequent argument for a synthesized view of body and mind, and object making and meaning-making. At this point, it is time to briefly summarize my findings, giving an overview of each of the primary arguments. Then, I will combine the major tenets of these arguments into key concepts that will serve as a theoretical framework for future explorations into the relationship between object-making and meaning-making.

To begin my summary, the works of Maurice Merleau-Ponty (1945/2002) and contemporary cognitive scientists and cognitive linguists, particularly Mark Johnson and George Lakoff (1999), have provided the bedrock upon which my theoretical structure is built. Both of these approaches to the embodied mind place our sensorimotor experiences in the world at the core of all knowledge acquisition and all meaning. For Merleau-Ponty, “there is no inner man, man is in the world, and only in the world does he know himself” (1945/2002, p. xii). As we have seen, Merleau-Ponty creates strong arguments for this position. He argues that knowledge and meaning first originate in our sensorimotor interaction with the world, and that this knowledge and comprehension of meaning occurs pre-linguistically. It is not textual, symbolic knowing, but “the motor grasping of a motor significance,” and is based upon the structure of our bodies, and the ways in which it is possible for the body to interact with the world (1945/2002, p. 165).

This is a belief that is echoed in the work of George Lakoff and Mark Johnson, who provide an elaboration of Merleau-Ponty’s ideas. These cognitive
linguists describe how the very structure of our thought processes, and subsequently our symbolic structures, are based upon the way our bodies interact with the world. From basic conceptual categories, to the metaphoric thinking that enables conceptual thought, our cognitive processes are based on our bodily make-up. Furthermore, these processes occur pre-symbolically; language and other symbolic manifestations of meaning, such as in artmaking, arise from bodily understanding. These ideas, posited by Lakoff and Johnson, are based upon substantial research in cognitive science. Their work shows that, as human beings, “we’re not who we thought we were” (Lakoff & Johnson, 1999, p. 553). We are not an esoteric, disembodied intellect tethered to a messy, unthinking body. Rather, we are an embodied mind, whose physical experiences in the world make us who we are.

The view of the embodied mind as presented by Merleau-Ponty, Lakoff and Johnson offers an overarching view of the artmaking process, specifically the relationship between object-making and meaning-making. For the purposes of visualization, we can say that this framework approaches the problem from above. Flying down from the distant, floating ethers in which meaning is seen as hovering over the art object or performance, and yet in some unfathomable way tethered to the world, these theorists dig down into the physical, fleshy, guttural roots from which meaning actually springs. Now, moving from the opposite direction we can examine Michael Polanyi’s conception of tacit knowledge, which is further enhanced by an understanding of the development of expertise.

Together, tacit knowledge and expertise provide the enhancing features of my theoretical structure. The concept of tacit knowledge as elaborated by Michael
Polanyi (1962, 1966, 1968; Polanyi & Prosch, 1975) anchors our knowledge and abilities to the body. To review, the basic premise of tacit knowing is that “we can know more than we can tell” (Polanyi, 1966, p. 4). As we move about the world, attending to various objects and performing various tasks, Polanyi points out that our consciousness is always directed in a from-to structure. Everything we know, and everything we are aware of, relies on an underlying awareness of things of which we know but cannot tell. If you recall, in one example I previously explored, Polanyi describes how when we see a face we know, we can point it out among many other faces. However, the tiny particulars that comprise that face are not things of which we are consciously aware. Rather, we understand them in an internalized, bodily way (p. 4). These subsidiary awarenesses are the instruments by which we can attend to the focal object. Tools and other instruments can also become instruments of subsidiary awareness. When a painter, for instance, picks up a brush, she internalizes the tool, or expands her body to include it, so that it becomes something with which she can attend to the focal object, the painting. Tacit knowledge, or that of which we cannot tell, is thus a developable resource. It is evident in the internalization of skills and abilities, so that the particulars of a practice become bodily and subsidiary in nature (O'Loughlin, 2006). This internalization of abilities, through the development of tacit knowledge, is fundamental to the growth of expertise in any domain. Because of this, an examination of the process by which this occurs offers insights into the artmaking process.

Reviewing my examination of the development of expertise and tacit knowledge, we saw that a common approach is to view expertise as a series of stages,
ranging from novice to expert. At each stage along the way the learner develops a larger pool of tacit knowledge upon which to draw, relying less and less on explicit rules, until reaching the level of expert. At this stage, the expert possesses an “immediate intuitive response” and does not consciously make decisions about the best course of action, but rather, simply acts (Dreyfus, 2002, p. 372). This action is made possible by the progressive internalization of increasingly complex particulars of a situation, so that they become instruments of subsidiary awareness by which the expert can attend to the focal objective. Recalling the work of sociologist Erin O’Connor, we saw that as she learned the practice of glassblowing, she interiorized increasingly complex skills, from gathering glass to using tools. As each ability receded into her tacit awareness, she was able to attend to increasingly more complicated focal objectives, such as making a glass goblet (O’Connor, 2005; 2006). This progression raised interesting questions about the relationship of expertise to the artmaking process as a whole, including meaning-making and creative thinking. Based on the statements of two artists, I speculated that artists with larger pools of tacit expertise in object-making might experience fewer moments in which technical skills were part of conscious awareness. This might enable them to use skills as objects of subsidiary awareness to attend to the focal objective of meaning-making. Furthermore, artists who frequently use a wide range of materials to create work might have a stronger sense of agency in their object-making skills, encouraging experimentation and innovation. Thus, taken together, the concepts of tacit knowledge and expertise add yet another dimension to our understanding of the artmaking process.
Contrary to the top-down approach we found in the work of Merleau-Ponty, Lakoff and Johnson, Polanyi’s conceptualization of tacit knowing, elaborated by an examination of expertise, approaches the relationship between object-making and meaning-making from the bottom-up. From this angle of my theoretical framework, we can dig up from those original abilities and skills, rooted in the ground of bodily know-how, and see how they facilitate the exploration of meaning in the artmaking process. Furthermore, we can see how the development of tacit knowledge and expertise in object-making might continue to strengthen the bodily roots of those skills and abilities, thereby encouraging the artist to grow towards the exploration of increasingly complex meanings, through a wide range of physical processes. Using this framework, both approaches to the relationship between meaning-making and object-making open wide vistas of possible explorations. From this theoretical perspective, we can ask questions not only about the nature of the artmaking process, but also about what happens in art learning and how best to structure curriculum in the visual art education curriculum.

Going Forward: Exploring Embodiment in Artmaking

As I stated, a theoretical framework based on the embodied mind as elaborated by the work of Merleau-Ponty (1945/2002), Lakoff and Johnson (1999), and Polanyi (1966), elicits provoking questions about the nature of the artmaking process. These questions, however, are so many and varied that to attempt to address them here would do them little justice. After all, as Lakoff and Johnson point out, a shift in our understanding of the mind as embodied is one “of vast proportions, and it
entails a corresponding shift in our understanding of what we are as human beings” (1999, p. 5). The purpose of this thesis is not to begin the monumental task of reassessing the role of the body and physical processes in artmaking in one go, but rather to develop a philosophical background, a theoretical framework that will provide the supporting ground for such future endeavors. Therefore, in this final section, I outline four basic questions from which to begin, about both the relationship between object-making and meaning-making in general artistic practice, and about how this connection should be addressed in art education curriculum. Remaining faithful to the structure of my theoretical framework, in both of these veins my questions will approach the link between conceptual exploration and physical artmaking processes from both above and below. To begin, I believe that any research or decisions about art education curriculum should ultimately be derived from our knowledge of artmaking in general. Therefore, the natural starting point is with the actual artmaking process.

**A Question From Above: From an embodied standpoint, how is meaning derived from bodily interaction in the artmaking process?**

In their theories of embodiment, Merleau-Ponty, Lakoff and Johnson all address the corporeal, antepredicative root of meaning in verbal language. As I quoted earlier, Merleau-Ponty says the meaning of words, “or more exactly, their conceptual meaning must be formed by a kind of deduction from a *gestural meaning*, which is immanent in speech” (1945/2002, p. 208). Put differently, the concepts and nuances of meaning that are attached to words, are derived from their gestural nature.
Fundamentally, words and speech indicate something out there, some kind of meaning ultimately derived from the world and our interaction with it. Verbal language, over the course of history, develops in such a way as to represent those meanings, but the meanings themselves existed prior to language (Gallagher, 1992, p. 4). In the artmaking process, could it be possible that we are trying to manifest pre-existing meanings in a way language can not? Perhaps the bodily interaction with the physical world that occurs during artmaking, whether of an actual object or a performance, captures or solidifies the meaning of the world in way that is closer to its corporal basis. This question, which approaches the link between object-making and meaning-making from above, opens an intriguing avenue of inquiry.

A Question From Below: How do physical object-making skills come into play if an artist no longer makes his or her own work, or works with a team?

In today’s artworld, artists frequently delegate the execution of their work to others. This is especially true when one considers monumental sculptures and other large scale works. Sometimes, it is a matter of necessity, when the work requires the use of heavy machinery or even engineers. However, at times, it is a conceptual decision. The “Wall Drawings” developed by conceptual artist Sol LeWitt are an example of this (see Image 26 below). For these drawings, LeWitt rarely picked up a pencil, brush or pen. Rather, he created detailed instructions that could guide others to make the drawings. However, these cerebral conceptions involve the physical involvement of a wide variety of people, from assistants to museum visitors. In this
way, “LeWitt introduced a human factor into what could otherwise have been a mechanical process” (Lacayo, 2008). Yet this process raises serious questions about the relationship between the artist and his materials, and the link between object-making and meaning-making. Indeed, LeWitt’s art appears to be entirely based upon the conceptual. Even so, if we consider what we understand about the structure of tacit knowing, we can view artistic practices such as this from a thought-provoking angle.

From Polanyi, we know that interactions in the world always involve a reliance on our subsidiary awareness of the particulars of a situation to attend to a focal object of awareness (1966). In artmaking, I have discussed how the physical processes of object-making might be considered the terms of subsidiary awareness. In a work such as that by LeWitt, there are several layers of this functional structure. LeWitt, while not executing the drawings himself, still relies on an awareness of form and color in creating his instructions. Furthermore, the actual materials used to execute the drawings not only involve paint and pencils, but the live performances of other human beings. Those participants also bring their own tacit abilities to bear when they execute LeWitt’s instructions. In terms of tacit knowledge and embodiment, work in which the artist uses the skills and abilities of others opens yet

**Image 26.** *Wall Drawing #260, by Sol LeWitt (1975).* The instructions for this drawing are: “on black walls, all two-part combinations of white arcs from corners and sides, and white straight, not-straight, and broken lines” (“Sol LeWitt,” 2010).
another complex avenue of exploration that could lead to a greater understanding of
the connection between meaning and physical processes in artmaking.

As shown in these examples of potential research directions, the embodied
nature of the mind and the structure of tacit knowledge and expertise offer an exciting
framework for understanding the artmaking process, particularly how meaningful
explorations relate to the materials used to create artworks. Yet in terms of art
educational theory, we still have not explicitly touched upon how these ideas might
influence the manner in which we teach art. If you recall, my initial research grew
from a frustrating lack of understanding when it comes to the balance between
teaching technical skills and using art as an impetus for delving into complex ideas.
The framework provided by my research into embodied knowing produces avenues
for theoretical inquiry that will begin to address this concern, from both above and
below.

**A Question from Above: How can we structure curriculum, both in
general and in terms of artistic technique and art content, so that it
reflects an embodied approach to knowledge and understanding?**

This question addresses some of the most serious implications of a shift in our
understanding of the mind as embodied. Dewey reminds us, “the division in question
is so deep-seated that it has affected even our own language” (as cited in Bresler,
2004, p. 8). Because of this, the avenues of research that grow from this inquiry will
be multifaceted, and will require a great deal of work and collaboration between a
variety of disciplines, including for example, cognitive science, education and
sociology. However, notable scholars have already begun this attempt, and educational theory, including art education theory, can begin incorporating their findings. From the viewpoint of the embodied mind, educators can begin approaching teaching in a way that places the learners’ own experiences at the forefront of curricular decisions. “The natural and social surroundings of young learners may thus be seen as the field in which their everyday experience, action, interaction and agency are located” (Papadopoulou & Birch, 2009, p. 271). In this way, curriculum is structured first and foremost, not around simply the content the student must learn, but around the experiential activities that will provide the student with the optimum circumstances for coming to understand that content. This includes both technical artistic skills, and the ideas that artworks explore.

In the art education curriculum, this might be reflected in a variety of ways. If you recall, early on in this thesis I described two separate learning environments that approached object-making versus meaning-making in different ways. In one art classroom, the teacher focused almost entirely on technical skills, spending extreme lengths of time on refining and honing those skills. The students at this site were not typically encouraged to explore meanings through the use of these skills. Rather, the objective was to produce an object that met a certain aesthetic standard, the result being a class full of beautiful works that all looked exactly the same. Contrarily, at a second school, the art teacher was so intent on exploring as many artistic concepts as possible that students were not given very much time to develop their technical abilities. The curriculum in this school jumped from one project and medium to the next after very short periods of time. As a consequence, student work explored a
variety of meanings, but was often so haphazardly crafted that the ideas were poorly examined and conveyed. Viewed together, the difficulties encountered in these classrooms seem to be indicative of dichotomous thinking toward the artmaking process.

An approach to artmaking that takes into account the embodied nature of meaning offers a new way to approach the curriculums in these very different classrooms. In both of these instances, learning was not centered on students’ experiences of the artmaking process as a whole. In the first classroom, students could have been encouraged to experiment with the skills they were learning, and see for themselves how they might be used to explore a variety of meanings. In the second classroom, students might have developed a stronger understanding of how art is used to explore ideas, had they been given enough time to develop skills and apply those skills to a more in-depth artistic analysis of a concept. Additionally, art teachers can explicitly encourage students to attend to the meaning of their work through the medium and skills with which they are creating. This might require students to actively engage in their own experiences with the artmaking process.

Using the framework I have outlined, research in the classroom could yield some helpful insights into these curricular dilemmas.

_A Question From Below: What are the best teaching methods for encouraging students to develop a strong understanding of art mediums and technical skills, without diminishing the importance of meaningful exploration of ideas?_
This potential research question is one that can readily be examined in the art classroom. Returning to the intriguing work done by Erin O’Connor, on the development of tacit knowledge and expertise offers a useful place to begin. In describing her experiences while learning to blow a glass goblet, O’Connor says her instructors’ methods “had consistently encouraged a shift towards [a] lived type of awareness” of the glassblowing practice (2005, p. 189). This was accomplished by a continuous redirection of her attention, back and forth between the techniques or skill she was trying to learn and the overall objective, the goblet she was creating. In this way, she says while her teachers “may instruct, ‘Twirl the pipe at an even pace’ – bringing [her] attention to what had been subsidiary – they often countered this with a quick counter-instruction to refocus on the project at hand” (p. 189). Through this movement of attention, the art of glassblowing took on a lived character in which O’Connor’s tacit knowledge was constantly brought to the forefront for restructuring and then sent back into subsidiary awareness. The teaching methods employed by O’Connor’s instructors reflect a known method of developing expertise through instruction, that of bringing tacit knowledge into direct awareness in order to hone it before allowing it to recede into the body once more (Cianciolo et al., 2006, p. 623). This method might also be a useful way of helping students polish and refine their own experimental techniques, and it could also prevent too much focus on skills from overwhelming the exploration of meaning.

The cadency of this teaching method could be appropriate for a number of educational objectives. However, we can briefly examine the two mentioned above. First, this method might be useful in encouraging our students to develop their own
innovative artmaking techniques. Using this swaying of attention, we can help them explicitly learn how to redirect their awareness from the specific physical processes they are choosing to use, and their affect on the overall artwork. Consequently, students learn how to be reflective in their own artmaking. They learn to swing between the intuitive mode of artmaking to a more analytic stance, just as we saw earlier from Nelson and Rawlings (2007, p. 235). This movement can also be applied to the art educator’s own teaching method, thereby ensuring a synthesized approach to both technical skills and meaning in curriculum. With each new artistic exploration, the teacher can swing back and forth between object-making and meaning-making, serving as a model for her students. Clearly, an understanding of the structure of tacit knowledge and the specific methods by which it develops into expertise could have a very strong affect upon both learning and teaching in the art classroom. In this instance once again, research questions framed around the embodied mind uncover exciting new paths of inquiry.

Together each of these briefly discussed research questions represent an overwhelming amount of knowledge that can be gained through an understanding of the mind as intrinsically embodied. A theoretical framework that is structured around this conceptualization can approach the artmaking process, and the relationship between object-making and meaning-making from both above and below. The work of Merleau-Ponty (1945/2002), Lakoff and Johnson (1999) provide a clear analysis of the body as the source of knowledge and meaning. Due to this, their theories enable us to approach the artmaking process from the top-down, finding the corporal, material root of artistic explorations of ideas. Contrarily, the work of Michael
Polanyi (1966) and researchers in expertise development (see for example, O’Connor, 2005; Cianciolo et al., 2006) allows us to approach armtmaking from the bottom-up. In this way, we can begin to visualize how the knowledge our body possesses in its core makes meaningful explorations in art possible. The implications for art education are far-reaching. I for one am eager to begin examining the armtmaking process, along with my methods of teaching art, through the lens of embodiment. Others before me have already embarked on this corporal journey, and I hope many still to come will contribute to these explorations of body as mind, and object-making as meaning-making.

As a last note, I wish to leave you with a few words from John Dewey, one of education’s most influential proponents of a synthesized view of mind and body. On the subject of art, he says,

It is proof the man uses the materials and energies of nature with intent to expand his own life, and that he does so in accord with the structure of his organism—brain, sense-organs, and muscular system. Art is the living and concrete proof that man is capable of restoring consciously, and thus on the plane of meaning, the union of sense, need, impulse and action characteristic of the live creature (Dewey, 1934, p. 26).

Artists, educators and learners all live, breath, play, innovate, interact, convey and create within the physical world. And, just as Dewey reminds us, it is within this material world that art becomes manifest. An understanding of the mind as inherently embodied will continuously remind us to truly live within our experiences in the world.
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Appendix A: Additional Research Directions

In addition to offering a framework for developing a greater understanding of the artmaking process, particularly the interaction between object-making and meaning-making, and how this understanding might influence art education curriculum, an embodied understanding of the mind offers several additional avenues of possible research. This appendix offers a brief outline of some of these research possibilities.

Possible Research Direction #1: Embodiment as a basis for understanding students with special needs.

Several of the ideas presented in this thesis offer a strong foundation from which to develop an understanding our students with special needs, and how we as educators can begin to address those needs in curriculum. For instance, Merleau-Ponty (1945/2002), and Lakoff and Johnson (1999), all describe the basis of knowledge and meaning as arising out of bodily interaction with the world and from how the basic structure of our bodies allows us to interact with objects and others in the world. A consideration of how the differences and similarities of the abilities of all of our students, and the general make-up of their individual bodies, could help us understand to a greater degree how those students derive meaning from the world around us. Additionally, we have seen from Michael Polanyi (1966) and Merleau-Ponty (1945/2002) that objects, such as tools, can be incorporated into our bodies, or
our bodies can be extended into objects in order to enhance our abilities to perceive and interact with the world. An understanding of the structure of tacit knowledge, and how the development of expertise allows us to synthesize these objects into our bodies can provide an intriguing framework for studying the use of adaptive tools in the classroom. Consideration of the individual bodies of our students will serve educators as we strive for greater inclusion through the use of curriculum adaptations.

Possible Research Direction #2: The interaction between artist, art object and viewer as seen through the lens of phenomenology and embodiment.

In today’s postmodern artworld, it is commonly believed that multiple interpretations of an artwork can both exist and be equally valid, and that the viewer of an artwork brings his or her own knowledge, experiences and judgments to bear upon the meaning of an artwork. Furthermore, artworks as a type of text can be understood on their own or as part of a socio-historical tradition. From this perspective, “the reader is no longer passive but active in reading and making meanings” (Barrett, 2008, p. 153). In other words, both the viewer and the maker ultimately play roles in the construction of meaning. This standpoint can be further complicated and therefore more deeply explored in conjunction with the ideas of phenomenology and embodiment. By considering the both the individuality and commonalities of experiences of humans as beings-in-the-world, phenomenology encourages the validation of multiple viewpoints. Indeed, phenomenological researcher Tone Roald points out that “art appreciation does not derive from a single frame of mind, but rather, that divergent experiences with art emerge as distinct...
responses,” and these responses may be emotional, bodily or cognitive in nature, or any combination of the three (2008, p. 210). In this way, phenomenology can offer a new philosophical framework for understanding how individual differences of experience mediate the meaning derived from an artwork.

Possible Research Direction #3: The bodily basis of knowledge and meaning as grounds for advocating for the importance of the arts in education.

As I have previously stated art educator Kimberly Powell points out, “in the arts, the body is, and always has been, the place and space of reasoning, knowing, performing, and learning” (2007, p. 1083). This viewpoint has the power to place arts education in an unprecedented position of authority as an understanding of the mind as inherently embodied gains strength in the cognitive science theory and educational theory. As our understanding of the bodily basis of all knowledge and meaning becomes clearer and more developed, educational approaches that neglect the body as a site of knowledge acquisition in favor of purely mental processes must be continuously called into question. This includes not only standardized testing practices, but also attitudes that denote the purportedly more “cognitive” subjects, such as math, science and language studies, as higher in educational value than those such as the arts, that embrace action, feeling, individuality and ambiguity. However, in order to capitalize upon new developments in cognitive science and educational theory that support an embodied understanding of the mind, arts education theorists must begin their own crucial research into the place of the body in the arts.
Furthermore, as a field we must begin to ardently defend and celebrate this bodily basis of the arts as that which entitles our disciplines to a unique, valuable, and protected place in school curriculum.
Appendix B: Image Reference List


