Imagine you are standing in an art museum, mesmerized by an enormous canvas of turbulent paint. Though you find no recognizable images, you are fascinated by the swirling movements of rich azures and cobalt blues. Your eyes follow the artist’s long, energetic brush strokes across the work, and you feel a sense of motion inside your body. Suddenly, your attention is caught by a small area of densely applied paint—a deep crimson. You linger. The thick color glows. As your awareness of the surroundings dim, the bright spot on the canvas expands, and the sensuous color seems to flow into you. You are immersed. Instants later, the bond breaks, as your attention shifts to a nearby conversation.

What a viewer is experiencing in such moments of immersion is a shift in the ordinary sense of one’s bodily boundaries. For an instant, viewer and art work seem to merge.
Introduction

This paper introduces the hypothesis that viewers can use their somatosensory system to change the felt-sense of bodily boundary in order to bring themselves into intimate relationships with art objects. They experience this imaginary fusion when simultaneously attending to their own somatosensory sensations, which occur inside the body, and to qualities of the art work, which exist in the external world. At such moments viewers reinterpret their somatosensory sensations as a quality of the art work. When inside and outside are reinterpreted, viewers cross the conventional boundary between self and object. I characterize this as a somatosensory reinterpretation. It is a tacitly held, performance knowledge that evolves over our lifetimes and serves the positive function of enhancing our experience of the artwork. Somatic reinterpretation is a powerful phenomenon because the body is so intimately linked with our sense of identify and ego boundary that altering our sense of the body, although imaginative and temporary, involves changing what, in some theories, defines the self.¹ In this brief exposition, I try first to make vivid the different kinds of experiences that can be created by somatosensory reinterpretation and then go on to examine the means by which they occur.

First, I should identify what I mean by the somatosensory system. When we say we have a certain gut feeling, we are referring to a component of the somatosensory system, specifically, the visceral functions, those involving the regulation of muscles in the heart and lungs, the intestines, the blood vessels, the stomach, and the skin. The system also includes tactile sensations on the body’s surface, and, from deeper inside, our proprioceptive sensations, those detecting vibration and spatial position, as well as the kinesthetic senses of bodily movement and balance. Although the somatic sensation of temperature is also pertinent to this study, pain sensations are less so.

The Experience

The experience of losing one’s bodily boundaries and uniting with something outside the self is not limited to our encounters with visual art. Other
art forms create similar effects, which are expressed in ordinary language. Phrases like *being filled with music* and *absorbed in a story* speak to a shift in the ordinary extension of the body. The writer Virginia Woolf describes it vividly when writing of Mrs. Ramsey gazing at the lighthouse:

> Often she found herself sitting and looking, sitting and looking, with her work in her hands *until she became the thing she looked at*—that light, for example.

. . . .

She saw the light again. With some irony in her interrogation, for when one woke at all, one’s relations changed, she looked at the steady light, the pitiless, the remorseless, which was so much her, yet so little her, which had her at its beck and call (she woke in the night and saw it bent across their bed, stroking the floor), but for all that she thought, watching it with fascination, hypnotized, as *if it were stroking with its silver fingers some sealed vessel in her brain whose bursting would flood her with delight.*  (*To the Lighthouse, p. 97 and pp. 99-10, italics added*)

In this first passage Woolf identifies a projection—the sense of moving out of the body to meet the world, to become “the thing she looked at” and in the second—an introjection—the experience of the thing entering one’s own body: the light’s “stroking with its silver fingers some sealed vessel in her brain.”

These boundary shifts can also be observed first-hand. When speaking to audiences on this topic, I begin by introducing the notion of bodily intimacy with art objects, which primes the audience to respond to bodily feelings. Several slides are then projected on a large screen. With each slide I instruct the audience to perform a different task. The first, Paul Strand’s, *Leaves, 1929,* is a close-up photograph of long, blade-like, striped leaves oriented vertically. I instruct the audience to let their eyes slide up and down the leaves. After a few seconds, I ask them to feel a corresponding line moving through their bodies.
Some individuals reported that they first thought the instruction was impossible to perform but tried and found, to their surprise, that they produced the line. Were the viewer’s experiences further developed, the line within the viewer’s body might be felt to have a thickness to it, a palpability. This palpability would consist of the background feeling of the somatosensory system.

Our somatosensory experiences can include more than a sense of linear movement. For example, there might be a focal point on a canvas or sculpture that can serve as a connection from the eye to the body. One might gaze intently at a color and feel it enter the body, as described in Rilke’s reflections on Cézanne’s *Portrait of Madame Cézanne*:

> In my feeling, the consciousness of their presence has become a heightening which I can feel even in my sleep; my blood describes it within me, but the naming of it passes by somewhere outside and is not called in. Did I write about it?--A red, upholstered low armchair has been placed in front of an earthy-green wall in which a cobalt-blue pattern (a cross with the center left out +) is very sparingly repeated (1985, p.79).

Note, the color/thing has become associated with Rilke’s fluid, bodily interior. Even in sleep, when unconscious, the bond holds firm: The sleeper/dreamer experiences his own bodily heat, pulsations, respiration—a sense of heightening—as the thing itself.

Another experience of reinterpretation is provided by Edvard Munch’s lithograph *The Cry* (1895). I instruct the audience to let their eyes slide rhythmically around on the lines and to become conscious of their own breathing. Standing before the same lithograph in a Munch exhibition at Boston College, I brought this question to a viewer willing to share his responses:

Q: Can you make this work connect to your own breathing?
A: Oh sure. . . . breathing out takes those figures in the background away from me and breathing in brings them towards me. (Personal Interview, February 7, 2001).
One’s lungs expanding and contracting, one’s heart beating, and one’s pulse throbbing might all be experienced in the dual capacity as subjective, as belonging to the self, or objective, when ascribed to the external. Munch’s figures on the page might be drawn into one’s own body--one might say *sucked in*, or they might exercise their will on the observer, drawing him into their immensity. Such feelings would be in keeping with Munch’s own experiences of being forcefully and palpability gripped by his own paintings.

The spectator’s breath can serve both as a means of changing one’s psychological distance to the external object, by inhaling and exhaling, and of changing the nature of the self and the object. The use of breath can be a highly charged somatic reinterpretation because of its strong emotional and cognitive associations. In many contexts the intake and release of air is thought to have a transformative quality. The ancient Hebrews used the same word for both spirit and wind, the Navajos linked the notions of awareness and air, and the Buddhists conceived of the Chi as an interior, spiritual breath (Abram, 1996). Furthermore, psychodynamic theories like Bioenergetics and the Feldenkrais method all conceive of one's breathing as a conduit for emotion and consciousness.

The Model

My proposed model of somatosensory reinterpretation is grounded in the somatic marker hypothesis of Antonio Damasio. According to Damasio, we have an ongoing awareness of the somatosensory system—the feeling of chemical changes, movements, contractions and expansions. Noting that the brain continually receives feedback signals from the body’s autonomic processes, Damasio argues that this feedback provides us with a constant background awareness of our body’s somatosensory system: “The background body sense is continuous, although one may hardly notice it, since it represents not a specific part of anything in the body but rather an overall state of most everything in it,” (*Descartes Error*, 1994, p.152). In recent writings Damasio refers to this as background state as *background emotion*, the term I will use.
Damasio explains that when we experience a situation positively or negatively, we store memory images of this experience, which are associated with the negatively or positively felt bodily state that occurred with the experience. When we reexperience these images, in perception or memory, we also reexperience the positive or negative bodily states that mark these images. He calls the latter somatic markers. For example, suppose you once had bad luck in the stock market and are now thinking about making a high risk investment. The past experiences—the tactile image of dialing the broker’s telephone, the auditory image of the words “let’s buy,” the visual image of a graph with falling prices—are stored as multi-sensory images that are associated with, or marked by specific, negatively evaluated bodily states. When posed with this new financial opportunity, you might have an unpleasant feeling, which causes you to proceed with caution. This unpleasant feeling, a so-called gut feeling, is a negatively felt bodily state that marks images of risky investment and helps guide your future action.  

My hypothesis of somatosensory reinterpretation grows out of Damasio’s theory of somatic markers. I begin by accepting his assertion that the somatosensory system provides us with the feeling of a background emotion that is available to consciousness and that we correlate our bodily state with events in the world, which are perceived and remembered as images. At this point, we begin to track different events. In Damasio’s hypothesis, when a positive or negative somatosensory state marks an image, the somatic marker remains extrinsic to the image. The body is associated with the graph of a stock crash but the body does not become it. By contrast, with somatosensory reinterpretation, I hypothesize that a somatosensory state marks an image in such a way that it imaginatively becomes it—or part of it. You could say that the somatosensory system is being renamed, labeled, ascribed, which are all terms used in psychology or poetics to identify how one thing acquires the properties of another. This is somewhat the way metaphors function, insofar as one term is redefined or focused through another term.
Converging Support: Merleau-Ponty

Although the somatosensory hypothesis remains speculative, several converging theories offer support. The first concerns the polarities of different sensory systems, a topic central to the work of Maurice Merleau-Ponty. The polarities of the sensory systems refer to the origin of the information that is conveyed by the senses—whether the information refers to the subjective pole of the self or the objective pole of the external world. Vision is not usually considered a bipolar sense. Oriented to the external world, vision gives us information about objects outside the body—a tree, a cup. Conversely, touch is bipolar. By touching, one can acquire information about an external object—the feel of the thing in the world. Moreover, touch is also oriented to the subjective polarity, for one can acquire information about an internal object—the subjective feeling of being touched. Visceral functions and other somatosensory states, which are not bipolar, give us information only about the inner world.

The systems of touch and vision work together in infants but they gradually become separated into distinctive channels during maturation. However, a close relationship remains. For this reason I suggest that when we want to touch something in the external world but cannot, touch can “fulfill” its ability to give information from the object world by acquiring the external object that properly belongs to vision. We can then imaginatively touch the visually-acquired object. But this same experience of touch can also orient itself to the subjective pole, and it can give the sensation of being touched by the object of vision. In this case the thing that does the (mental) touching is the external object of vision. The combination of these two polarities bridges the physical distance between the visually perceived object and the viewer, bringing the palpability of the object seen into the subjective, bodily boundaries of the subject.

Merleau-Ponty applies these polarities to visual art. Touch and vision blend together, such that “There is even an inscription of the touching in the visible, of the seeing in the tangible” (Visible and the Invisible, p.143). In viewing paintings, then, the sense of self associated with the eye that touches the
painting becomes part of the painting as an object, and qualities of the painting become incorporated into the self—self as constituted by a seeing/touching eye.

I suggest that these changes in bodily boundaries can be experienced throughout the entire somatosensory system, not just its touch component, the sense that Merleau-Ponty favors. When visually engaged with the object, the background feel of the somatosensory system can be reinterpreted as the feel of certain qualities of the object viewed. Indeed, these sensations can be interpreted to feel like the very substance of the object—its weight, density, or movement, in which case our somatosensory system is being projected onto the object in the world. Our somatosensory system can also be interpreted as being touched by the object viewed—in which case the object is being introjected into one’s body. Whatever the location, subjective or objective, the experience retains both components.

In contrast to Merleau-Ponty’s theory, the reinterpretation hypothesis does not presume that human beings have an innate synesthesia that learning has obscured. What creates the somatosensory reinterpretation is the desire of the subject to approach the object—a desire that is not experienced as a physical movement towards the object but as an interest, a curiosity to learn or experience more. This desire is what motivates the reinterpretation.

Converging Support: Sensori-motor theories

To better understand how desire facilitates somatic reinterpretation, I turn to sensori-motor theories of perception. Such a theory posits a deep connection between movement and perception: “Perception is simulated action” (Berthoz, p. 10). Differing in terms of where the origin of the motor intention is located—whether in a central or a peripheral source, all versions of sensori-motor theory hold that the notion of five, independent senses is misleading. Sensory perception does not occur without the use of motor images, which are schemas of motor activity stored in memory and deployed in connection with the various senses to achieve specific goals. Jeannerod argues that such motor images can become conscious under circumstances where one’s unconscious preparations
to perform a motor action are frustrated (190). I suggest that the viewing of art creates just this situation. When prohibited from touching the art work, a spectator might nonetheless engage in a kind of imaginative play with an object that constitutes a form of motor preparation, though it never results in action. The very lack of action would bring this motor preparation to awareness as a motor image, which might be reinterpreted.

Converging Support: Psychoanalysis

Freudian theory contains a number of concepts that bear a close relationship to the proposed notion of bodily reinterpretation. Notably, there is the condition known as *hysteria*, a situation in which a person suffers a bodily affliction, such as blindness, paralysis, or memory loss that does not appear to have an organic cause. In treating such patients, Freud concluded that the disabilities were produced by conflicts within the mind involving the unconscious and that the bodily affliction was a symptom of an underlying problem that was psychological. Thus, with hysteria the somatic body becomes marked as a sign of a conflict existing in another domain. In the case of somatic reinterpretation, the body is also marked as a sign of something outside of itself. However, in this case the marked body is felt to become the specific thing that is represented, not only to mark it indexically, as with hysteria.

Also related to the reinterpretation hypothesis are the key psychoanalytic notions of projection and interjection. According to psychoanalysis, projection occurs when one’s own wishes and feelings are ascribed to another person or object. Analogously, introjection occurs when qualities of external objects are ascribed to the self. Whereas the psychoanalytic notion of projection and introjection concern feelings and wishes, according to the reinterpretation hypothesis, the spectator engages in these boundary-altering strategies with regard to a different range of object and self properties and with different motivations. The reinterpreting spectator exercises more volitional control over the transfers than in cases where projection and introjection are psychoanalytically applied. In both theories, however, the subject ascribes
aspects of the self or the non-self to the other entity, thus shifting the boundaries of the self.

**Converging Support: Linguistics and Metaphor Theory** [excerpt]

Various linguistic theories utilize the notion of projection, and in these cases what is projected is related explicitly to bodily systems (Johnson, 1987, and Lakoff, 1987, Fauconnier and Turner, 2002). Language, which offers numerous metaphors of boundary change, is said is build upon image schemas of the body, a foundational set of bodily metaphors that orient us in time and space.

**Converging Support: Cognitive Psychology** [excerpt]

Within the discipline of cognitive psychology the theory that contains the most closely related concept of reinterpreting somatosensory states is attribution theory (Schachter and Singer, 1962). Although their findings have been challenged, their conclusion that emotion is produced by one’s interpretation of what is happening in any specific, social situation—one’s attribution, along with a general state of bodily arousal, remains a dominant model in psychology. What attribution theory has in common with somatic reinterpretation is that both involve an interpretive operation that we impose upon our own bodily sensations. With attribution theory, however, what one imposes is not a quality of an external object but a feeling state, an emotion, and thus the interpretation does not serve the function of changing our bodily boundaries.

**Converging Concepts: Phantom Limbs** [optional/extra]

The final analogy is perhaps the most interesting in its power to advance the theory of somatic reinterpretation, though the research is speculative in its original context. Exploring the phenomenon of phantom limbs, in which a subject feels sensations in a body part that is no longer attached to the body, V. S. Ramachandran and William Hirstein induce phantom limb type experience in those with intact bodies. For instance, they report creating contexts in which a
subject feels as if his nose has been displaced to a different location. This illusion is created by an experimenter taking the left index finger of the subject and tapping it on the face of another person, who is sitting next to the subject, looking in the same direction. The experimenter then taps the subject’s nose in exactly the same pattern as that being used with the subject’s left finger. They note that 12 out of 18 subjects reported that their nose felt dislocated.

Their explanation for this sense of displacement is that we take the similarity of patterned tapping on the nose and on the finger not to be coincidental. Thus, we unify the two taps under one category, in accord with what they describe as Bayesian logic (“Three Laws of Qualia,” p.452-3).

Concerning a related demonstration having to do with a subject gazing in a mirror at a dummy’s face, the experimenters write: “The subject comes to experience the dummy’s head as being his own to such an extent that it is now hooked up to his own limbic system and autonomic output” (“Three Laws of Qualia,” p.453).

The most striking demonstration of this occurs in an experiment in which Ramachandran and Hirstein had subjects rhythmically stroke chairs and tabletops while they were having their own hand stroked in the same rhythm. Although the subject is stroking inanimate objects, she feels that the sensation of his or her hand emanates from these objects. The researchers explain:

You will start experiencing taps and strokes as emerging from the table surface even though your conscious mind knows perfectly well that this is logically absurd. Again, the sheer statistical improbability of the two sequences of taps and strokes—one seen on the table surface an one felt on your hand—lead the brain to conclude that the table is now part of your body. (Phantoms in the Brain, 1998, p.60).

From the evidence that you “can actually project your sensations to external objects” (“Three Laws of Qualia,” p.60), Ramachandran concludes that “your body image, despite all its appearance of durabilty, is an entirely transitory internal construct that can be profoundly modified with a few simple tricks” (Phantoms in the Brain, p.62).
The claim that the boundaries of our body image are malleable is consistent with views articulated by Paul Schilder (1950) and others. Although the hypothesis of reinterpreting one’s somatosensory system does not seem to describe something as strikingly illusory as the feeling that one’s nose has been displaced, it does involve manipulating one’s sense of bodily boundaries so as to give the sense that one inhabits things in the world. In this respect, Ramachandran and Hirstein’s demonstrations support the reinterpretation hypothesis.

Their demonstration, however, need not be used only to reinforce the general claim that body images are malleable. Concluding this section on a speculative note, I raise the possibility that the analysis of dual touches in the demonstration might be applicable also to the perception of visual art. Just as Ramachandran and Hirstein’s subjects move their hands back and forth over a table top, so too, with the photo of Strand’s Leaves, the spectators move their eyes back and forth over the leaves. In place of having an experimenter stroke the subject’s hand in a pattern that corresponds to what the subject is actually doing to the table, spectators of the artwork stroke themselves—imaginatively. They produce an imaginative, bodily stroking, which corresponds to what the spectator’s eyes are doing with the photograph. Perhaps the coordination between a spectator’s rhythmic eye scanning and rhythmic, internal stroking changes the spectator’s bodily relationship to the art object.8

Conclusion

To explore more fully the issues raised in this paper it would be helpful to expand the limited and sometimes misleading descriptions of internal experience that are available in our language—a problem noted by William James (1918, p.194-5) and reiterated by others (Jeannerod, p.187). This is accomplished not only by sharpening our introspective techniques and our analytical descriptions but also by broadening the questions posed for experimentation and humanistic study. I note below several areas that I aim to develop this year:
Re: Theory of spectatorship:

Building on the work of scholars who are already attuned to these differing states of affective and cognitive engagement (Crary, Freedberg), I propose to investigate, through interviews and experiments, the performance knowledge of individual spectators that creates such alterations of bodily boundaries. A form of cultural memory, an individual’s performance knowledge evolves over one’s lifetime, shaped by historical and biological factors that include one’s cognitive style, abilities, beliefs, and the immediate context of viewing.

Re: Empathy Theory:

The hypothesis of somatic reinterpretation is also integral to constructing new models of artistic empathy and for rethinking traditional notions of aesthetic experience and aesthetic pleasure. Whereas empathy is generally deemed to be intrinsically valuable and often said to constitute the ultimate aim of the art object, especially if it gives aesthetic pleasure, the concept of somatic reinterpretation decouples these three components, permitting a more precise analysis of the issues.

Re: Art Scholarship:

Moreover, somatosensory reinterpretation can influence interpretation. Where a spectator somatically engages an object, she might discover aspects of her own bodily involvement with the art work that become thematically central to the interpretation of the work, to the artist’s creative process, and to the artist’s style. It has been argued, for example, that the pictorial space of painters such as Cezanne, Courbet, and Miro provide metaphors for the bodily immersion of the painter into the painting’s surface (Shiff, Fried, Palermo). This kind of pictorial space can be most readily discerned when a spectator enters it through her own somatosensory experience. This is an interpretive practice that is sometimes undertaken by art historians but is under-theorized and under-utilized. I will argue that somatosensory reinterpretation provides a unique perspective for
knowing the art work, an epistemological claim relevant to the question as to whether knowledge of a work requires direct experience of its sensuous properties.

Re: Aesthetics:
A final claim for somatosensory reinterpretation is for its role as a complement to historical and linguistically-based interpretations. While not a substitute for them, I will argue that the spectator’s somatic reinterpretation and subsequent reflection on this immersion constitutes a valuable experience of art. According to the phenomenologist Gaston Bachelard, the imagination is enriched when we deeply inhabit the image.

Re: Anthropology and Cultural History:
Beyond these specific issues in art history, somatosensory reinterpretation might be useful to the more anthropologically-oriented question as to why humans find art objects so animate and powerful (Freedberg). Whether we approach material objects as totems or fetishes, I will argue that their vitality can be created from our own breath and bodily feeling—functions of the somatosensory system. Michael Taussig’s anthropological work on shamanistic mimesis and W.J.T. Mitchell’s work on totems offer rich material for study.

The changes in our experience of the bodily perimeter that I characterize as somatosensory reinterpretation occur not only in the arts but in many facets of life—though not necessarily in the same contexts or with the same volitional control or for the same purposes. Religious, therapeutic, erotic, and healing practices, as well as pathological conditions, can all involve the body as a site of fusion with objects and others in the world.

In short, the possibilities are rich for exploring the subtle ways that we move our embodied selves through the object world that envelops us.
Bibliography


1 The idea of projecting one’s self into an object--empathy--was explored in depth by a number of writers whose work is tied to the intellectual traditions of the 19th century. The German Romantic poets provided general notions of merger with nature, and psychologists like Robert Vischer (1927) and Theodor Lipps (1897) further developed the idea under the name of empathy (*Einfühlung*). Though the bodily component become more specific in these aesthetic theories, their concepts reflect the dominant philosophical influences of their culture.

2 Damasio also points out that full bodily circuits, *body loops*, need not be involved in our use of these markers. The brain has the capacity to respond to a stimulus by creating the kind of brain state that would be configured were a message to have been received from the full body. Called an *as-if loop*, this brain state permits quicker changes in our registration of different somatic markers than would be possible through use of the full body. I suggest that the production of as-if loops might be particularly valuable in the experience of visual art, for it would permit rapid transitions between bodily states, which might thereby keep up in tempo with the reader’s moment to moment experience of the art work.

3 Based on his work with brain-damaged patients who cannot feel the bodily state, Damasio hypothesizes that we use these somatic markers in the reasoning process. As we can produce these bodily states more quickly than we can rationally calculate risks and benefits, they might help us in sorting various possibilities for action and calling to attention options that have potential benefits or drawbacks. What we call *intuition* might be a reasoning process that uses these somatic markers.

4 I say the reader “imaginatively” experiences this state because a real confusion between what is inside and outside of the body would generally be considered pathological. This operation is more akin to a *willing suspension of disbelief* than a hallucination.

5 In poetics the device of metaphor has been broadly used to characterize an exchange of properties between two terms. Sometimes one term receive some of the qualities of the other, and in other cases both terms receive qualities from the other term—a case of mutual modification.

6 Compared with the model of somatic reinterpretation, Merleau-Ponty’s concept of bodily engagement is both narrower, as he omits visceral processes, and broader in its analysis of viewing experiences, for it is not attentive to viewer differences based on gender, contexts, and specific qualities of artworks. Speaking to the narrowness of Merleau-Ponty’s bodily model, Drew Leder notes in *The Absent Body*, “The lived body he [Merleau-Ponty] describes is never
complete. There is little discussion of metabolism, visceral processes, birth, and death” (Leder, 1990, p.36). Whereas Leder goes on to investigate the way in which visceral processes are powerful but absent from awareness, “My corporeal depths disappear not only from perception but relative to my structure of will and action” (p.45), I explore how they become present to consciousness.

7 Because the eye of the self sees objects and the bodily self is an object, so too, objects see the self. This explains why, Merleau-Ponty notes, painters say that “things look at them” (Visible and the Invisible, p.167).

8 If the changes in bodily boundaries are effected through some kind of internalized, rhythmic motions, it would be interesting to explore musical rhythms of viewing as a means of creating out-of-body states. I refer to the intriguing work of William H. McNeill, Keeping Together in Time: Dance and Drill in Human History and to Ellen Dissanayake’s provocative Art and Intimacy: How the Arts Began.