

University of Montana

ScholarWorks at University of Montana

Graduate Student Theses, Dissertations, &
Professional Papers

Graduate School

2002

Surfing the Gray Embodying an Environmental Ethic

Melanie J. Kloetzel

The University of Montana

Follow this and additional works at: <https://scholarworks.umt.edu/etd>

Let us know how access to this document benefits you.

Recommended Citation

Kloetzel, Melanie J., "Surfing the Gray Embodying an Environmental Ethic" (2002). *Graduate Student Theses, Dissertations, & Professional Papers*. 9272.
<https://scholarworks.umt.edu/etd/9272>

This Thesis is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.



Maureen and Mike
MANSFIELD LIBRARY

The University of

Montana

Permission is granted by the author to reproduce this material in its entirety, provided that this material is used for scholarly purposes and is properly cited in published works and reports.

****Please check "Yes" or "No" and provide signature****

Yes, I grant permission

No, I do not grant permission

_____ ✓

Author's Signature: _____

William J. Kay

Date: _____

7/30/02

Any copying for commercial purposes or financial gain may be undertaken only with the author's explicit consent.

Surfing the Gray

Embodying An Environmental Ethic

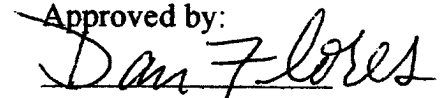
by

Melanie Kloetzel

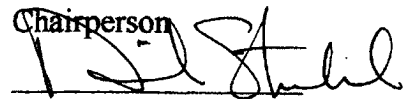
B.A., Swarthmore College, 1993

**presented in partial fulfillment of the requirements
for the degree of
Master of Arts
The University of Montana
July 2002**

Approved by:



Chairperson



Dean, Graduate School

7-30-02

Date

UMI Number: EP40074

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI EP40074

Published by ProQuest LLC (2013). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Surfing the Gray: Embodying An Environmental Ethic

Director: Dan Flores

D7

Dualism runs rampant in Western culture. We separate mind and body, self and the environment, wild and civilized, nature and culture, just to mention a few. As we create such oppositions, we cause damage to ourselves and to the environment as a whole. Yet, dualism as a theory scarcely holds water in our society any longer. Using developments in the fields of philosophy, quantum physics, and psychology in the last century, I explore the theoretical thrashing dealt to dualism to show that such a theory can no longer dominate our society. Many look to dualism's end as a positive step, and in particular, environmental ethicists from J. Baird Callicott to Arne Naess to David Abram laud its demise as they attempt to construct a holistic environmental ethic. However, while we herald the defeat of theoretical dualism, holistic practice has made little headway in our culture. It is my contention that due to our lack of practice at reconnection, we still suffer under dualism's yoke.

I present three movement techniques that integrate body and mind, self and the environment, to act as tools to reconnect humans and the environment. Drawing from the work of Mihaly Csikszentmihalyi on autotelic, or flow, activities, I demonstrate that movement methods that encourage flow state appear as the best mechanisms for achieving a holism of mind-body-environment. I first address Pueblo dance ritual as potentially one of the oldest flow activities that still exists. Through their dance rituals, the Pueblos encourage a healing of the divisions between humans and the natural/supernatural world, and thus, lay a strong base for their environmentally sound practices. A second method of reconnection, the Alexander Technique, also focuses on healing the body-mind rift to embody the sensation of holism. After demonstrating the scientific basis for the technique, I show that, due to its emphasis on responsibility and energy conservation, the Alexander Technique could effectively support a far-reaching environmental ethic. Finally, I explore contact improvisation, the youngest of these techniques. Contact improvisation not only embodies the revolutionary values of Leopold's land ethic, but provides an experiential perspective of both classical and quantum physics. By employing any of these three techniques of reconnection, we can achieve the holism sought after by environmental circles and, consequently, create sustainable methods of environmental protection.

Table of Contents

	<i>Abstract</i>	ii
	<i>Introduction</i>	1
1	<i>Fishing the Margins: Verbalizing an Environmental Ethic</i>	9
2	<i>The Pueblo Ritual: Embodying Connection</i>	39
3	<i>The Alexander Technique: Embodying Unity</i>	71
4	<i>Contact Improvisation: An Embodied Revolution</i>	114
	<i>Conclusion</i>	148
	<i>Works Cited</i>	151

Introduction

*When we try to pick out anything by itself,
we find that it is bound fast by a thousand invisible cords
that cannot be broken to everthing in the universe.
I fancy I can hear a heart beating in every crystal,
in every grain of sand and see a wise plan in the making
and shaping and placing of every one of them.
All seems to be dancing in time to divine music.
-John Muir*

Action. What images does such a term call to mind? Baseball? The Olympics? Arnold Schwarzenegger? Or do you understand it in terms of activism? The attempt by certain non-profit groups to change the status quo? Do you imagine some crazy EarthFirst! radical chaining himself to a tree? Or an antiglobalization advocate violently protesting a G8 summit? For many in modern America, action would end there. Either athletes or activists have action well in hand. They have no need of us. Yet, something is inherently wrong with such a belief. For action rests in the hands of all humanity.

Why is action so often ejected from association with people as a whole? Why do we segregate it from the masses? In the following chapters, I contend that such a dissociation from action lies in Western society's tendency to create oppositions. In particular, we support the opposition of mind and body, hierarchizing a disembodied mind over a flesh we perceive as riddled with weakness. And once we embrace the division between mind and body, we easily lump the rest of the physical world into the realm of the denigrated body as well. Passive, inert matter. Unenlivened and subject to the will of a superior mind. Thus, we consign the physical world, including nature itself, to a category wholly separate from and with little effect on us, that is, on our *minds*.

Many have written about body-mind separation in Western culture. Schooled in

the “I think therefore I am” logic of René Descartes, psychologists, physicists, and philosophers, among others, invariably stake a claim that soundly rejects, readily accepts, or uncomfortably waffles over the truth of body-mind opposition. I am no exception. To me, body-mind separation is not only illogical, it is damaging. For in such division lies our inability to *act*. As John Dewey, the famous American pragmatist, noted, the “notion of [mind-body] separation inevitably results in creating a dualism between ‘mind’ and ‘practice,’ since the latter must operate through the body.”¹ By disengaging our minds from our bodies, we feel no need to engage in action. We can go about our daily lives discussing the benefits of environmentalism or the horrors of globalization while continuing to drive three blocks to visit a neighbor, throwing away that recyclable can, or frequenting the nearest McDonald’s or Walmart. We trick ourselves into believing that we cannot change the status quo. That someone else is responsible for acting. That our everyday practice won’t make a difference. And who cares anyway if what we really are is a mind disconnected from our surroundings? I mean, everyone knows that our minds, souls, consciousness, or whatever, will live on past this physical world. Thus, we can disregard the fact that global warming is already causing unprecedented damage to the environment or that untold numbers of species disappear everyday due to our harmful practices. Why change? If the physical world of body and nature is merely matter that we will leave behind, why bother? If what we truly are has no connection to our surroundings, we can divorce ourselves from practice without concern.

Thus, connection surfaces as fundamental to practice. By dissolving the dualism of mind and body, we can reconnect to the true nature of ourselves. We can see ourselves as circumscribed into our surroundings, indissoluble from the nature that envelops us. And we can once again live as action-laden beings with all the responsibility and promise

¹ John Dewey, *Art as Experience* (New York: Minton, Balch & Co., 1934): 263.

inherent in such a description. For if we embrace the physical along with the mental, we can become practitioners or activists along with theoreticians. And it is only through practice that true protection and restoration will emerge.

Yet, what you have just read is a mere statement of purpose. In fact, anyone can use words to declare war on damaging oppositions. The question is: where do we go from here? We can all blather on about our beliefs or theories, but how do we make them practice? How do we reconnect mind and body to set us on the path to action? In the next few chapters, I present some possibilities for practices of reconnection. Further, my purpose is not only to outline possible practices, but to submit them as potential bases for constructing a stronger and more effective (or “Deep, Long-Range” as Arne Naess would say²) environmental ethic.

This is not to say that I abhor theory. Actually, I am quite interested in what theory can offer for reconnecting. To demonstrate this interest, I delve into theories of body-mind unity in chapter one, “Fishing the Margins: Verbalizing an Environmental Ethic.” Drawing from the philosophical schools of pragmatism, phenomenology, and materialism as well as from the theoretical ventures in quantum physics and the neurosciences, I demonstrate that twentieth century theory has all but deflated any notion of Cartesian dualism. And such a rejection of dualism has not gone unnoticed in the community of environmental ethicists. In fact, many ethicists from J. Baird Callicott to Arne Naess to David Abram see the end of dualism as important for an environmental ethic. They recommend mind-body holism as a base for realizing Aldo Leopold’s dream of humans as members rather than masters of the biotic community. For, as Arne Naess would say, once humans discover a holism between mind-body-environment, “the greater

² Arne Naess, “The Shallow and the Deep, Long-Range Ecology Movements: A Summary,” in *Deep Ecology for the 21st Century: Readings on the Philosophy and Practice of the New Environmentalism*, George Sessions, ed. (Boston: Shambhala Publications, Inc., 1995): 151-5.

care we will take.”³ Yet, I argue in this chapter, environmental ethicists do not propose a *practice* that will reconnect mind-body-environment. And without a practice that provides the experience of holism, the *practice* of continued protection and preservation of nature lies in jeopardy.

But, as I delineate in subsequent chapters, hope remains. In fact, as I searched for possibilities that could reconnect humans to their environment, many options surfaced. All of the options presented here stem from movement, or *action*, techniques. For I believe that it is only by finding a movement practice that provides us with the *sensation* of holism that we will truly reconnect. On a fortunate jaunt into the bowels of the University of Montana library, I came across Mihaly Csikszentmihalyi’s work *Beyond Boredom and Anxiety*. Rather than researching pathology or neuroses as most psychologists are wont to study, Csikszentmihalyi decided to probe the psychological underpinnings for creativity and joy. In doing so, he found what he called “flow” activities. These activities, which included dancing, rock climbing, and composing, to name a few, not only appeared as the most fulfilling activities for the people involved, but also those that tended to encourage a sense of holism both within the person and with the person and their surroundings.⁴ Using this theory, I then searched my own background for activities that encouraged this flow state.

And just what is it in my background that would steer me in such a direction? For starters, I am a fundamentally active person. As I search the annals of my memory, I see images of me tumbling around my backyard, hurling myself incessantly into the pool, and being reprimanded for not sitting still in school. After playing softball for a number of years (extremely poorly) and then competing as a gymnast (only a bit better), I finally

³ Arne Naess, *Ecology, community and lifestyle: Outline of an Ecosophy*, trans. and ed. David Rothenberg (Cambridge: Cambridge University Press, 1989): 175.

⁴ Mihaly Csikszentmihalyi, *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*, 25th anniversary ed. (San Francisco: Jossey-Bass, Inc., 2000).

settled on dance as a movement practice that could satisfy that deep-seated desire for action. While working as a dancer and choreographer in New York, I ran across the inevitable injuries that sent dancers searching for healthful practices that would facilitate a long life in the dance world. As I searched for a such a practice, I stumbled upon the Alexander Technique. This technique, which has existed for over one hundred years, not only worked wonders for me in terms of healing, but also provided me with an impressive sensation of holism. Thus, when Csikszentmihalyi's thoughts on flow jumped off the page, I immediately thought of the Alexander Technique. For here was a practice that beautifully healed those rifts between mind and body so ingrained in our culture.

In chapter three, I discuss the Alexander Technique as a holistic practice, but I go further. I maintain that this technique constitutes an excellent base for an environmental ethic. Probing the sentiments of F. Matthias Alexander, the founder of the technique, as well as those of teachers and students of the form, I note the holism these people find between mind and body in their practice of the technique. Due to the technique's relative obscurity within our culture, I also delve deeply into the scientific underpinnings of the form, as found in the fields of anatomy, physiology, ethology, and quantum physics. Further, although neither those in environmental circles nor in Alexandrian circles have bridged the chasm between the two communities to appreciate the significance of such holism, I assert that the holism inherent in the movement technique extends past body-mind holism to a human-environment holism as well. Thus, Alexandrians experience the connection between themselves and nature sought after by environmental ethicists.

Yet another movement practice that I ran across in New York that fostered flow state was contact improvisation. A relative newcomer to the "flow" scene, contact improvisation began in a college gym in Ohio in the 1970's. Existing somewhere in the

realm of dance, wrestling, or martial arts, contact improvisation typically appears as a duet form in the dance community. As two people begin the duet, they discover the exceedingly semi-permeable nature of their flesh. Skin slides against skin and the partners lose the sense of themselves as enclosed, limited beings. Awareness expands to encompass the partner and then extends further to envelop the environment. And as this extended awareness guides the duet, a sense of interconnection pervades the movers. Holism becomes the essence of the duet. In chapter four, I focus on contact improvisation as a recently developed practice that cultivates flow state. I delve into the writings of Steve Paxton, the acknowledged discoverer of the technique, to demonstrate the impressive links between contact improvisation and environmental holism. I outline contact improvisation as a particularly effective form for embodying the ethical values of the French Revolution and, by extension, Leopold's land ethic. In addition, contact improvisation, as the dissolver of dualities, subverts the divisions between classical and quantum physics to expunge the damaging effects of rationalism. Thus, contact improvisation takes its place as an exceptional base for environmental holism.

While personal experience presented the two aforementioned forms as excellent promoters of flow state, I knew that other movement practices with similar effects surely existed. And I was particularly curious to discover if such practices existed outside of Western culture. It so happened that at the time of my expanding interest, I was taking a course in Native American history. As I perused the assigned texts, a description of Pueblo dance ritual caught my eye. Following this lead, I began to search for more accounts of the rituals themselves and the purposes inherent in such rituals. After a journey to view the dances in the Southwest, I knew that I had found an example of flow state outside the confines of Western society. I also knew that I had to be particularly

cautious with approaching such dances both as an outsider and as an outsider from a culture that stereotypes all Indians as environmentalists. However, as I continued my investigation, I found an impressive array of material that discussed ritual not only as a method for connecting to the natural/supernatural world, but also as a mechanism for healing imbalances between humans and the environment. Such suggestions, arising as they were from individuals within the Pueblo community, seemed to point to the ritual as a flow activity that mended the divisions between the human and natural worlds. Thus, Pueblo ritual moved into the text ahead of both the Alexander Technique and contact improvisation, as an ancient method for fostering mind-body-environment holism.

A few last thoughts. I have arranged my work in terms of historical development. As I continue to work on this text to develop additional chapters, I am interested in demonstrating the development *over time* of various flow activities in different cultures. I believe that the sensation of holism has been an attractive one to many cultures at different times in their development. And I am curious to see if or how such a belief will be supported as I continue my research. Do flow activities develop at particular times due to perceived disconnection from the environment? Do cultures foster flow activities when they migrate and are attempting to integrate with a new place? And last but not least, will flow activities be recognized as an excellent method for reconnection and be picked up by certain communities in their work to protect the environment?

I have been asked who might be interested in or who might benefit from the following research. And I have to say that such a question confounds me. Certainly, I am interested in the dance community's response. Do they truly recognize and/or relish the connective power of the activities in which they participate? Will continued practice eventually stimulate a greater flourishing of environmental activism in this community?

Hard to say. Of course, I am also interested in the environmental community's take on my musings. Do they see the benefit of movement practices? Will these activities enjoy future incorporation into environmental activism? Again, hard to say. Perhaps, and this is the hope of possibly every writer out there, my ideas can expand beyond the confines of these communities and connect with a wider audience. Perhaps my sentiments regarding action will encourage a greater move toward diverse dance and bodywork practices that foster holism. Or perhaps my thoughts will collect dust until some future generation looks for links between practice and theory.

However, as I worry about the esoteric nature of my thoughts or the relative obscurity lurking in my future, I keep coming back to the actual experience of the aforementioned flow activities. Simple, enjoyable, fruitful, and practical, these activities fall far from the esoteric tree. As we engage in flow state and float in the languid pool of sensation, we notice the tangible threads of nature's web that sustain us. And once we engage in the process of reconnection, we can practice a sustainable future. For it is practice that will lead us on.

Chapter One

Fishing the Margins: Verbalizing an Environmental Ethic

*Turn away from your animal kind,
Try to leave your body just to live in your mind,
Leave the cold, cruel Mother Earth behind...*

-James Taylor

Opposites attract. Or so the saying goes. And even if the saying has only an ounce of truth, it is hard to disguise humankind's fascination with opposites. Black and white. Wild and civilized. Yin and yang. Us and them. Unfortunately our love affair with duality creates more problems than it solves. Although certain cultures or philosophies genuinely work through opposing tension to find an ultimate unity, Western culture has gotten itself stuck straddling an uncomfortable and harmful fence. One of the more debilitating oppositions we create is between our minds and our bodies. Somehow we have allowed our minds to float free from our bodies; and then we deny that either our minds or our bodies have any connection to the surrounding environment. We are left in limbo, uncertain of our place. But perhaps all is not lost. Is it possible to discover or rediscover a sense of self that unifies mind, body, and environment? Can we create a philosophy from the new developments in science or psychology or religion or bodywork that will reconnect these supposedly disparate "parts"? Why is it even important?

Finding a philosophy that unifies body, mind, and the environment is crucial for further development of an environmental ethic. In fact, a common theme among environmentalist ethicists today is discovering just such a unity. Arne Naess, founder of

the deep ecology movement, believes we need to expand “beyond narrow selves” to find a unity with nature; J. Baird Callicott, a well-known environmental ethicist at the University of North Texas, dreams of “the eventual institutionalization of a new holistic, nonanthropocentric environmental ethic;” and Don Marietta, Jr., an ethicist at Florida Atlantic University, sees holism as the most critical base for an environmental ethic.⁵ Yet, while environmental ethicists search for a unity that could ground and support the environmental movement, their theories have fallen short. Most humans still conceive of themselves as wholly separate from the environment. Thus, environmentalists are forced to battle for each protective and restorative step while environmental degradation too often continues unchecked. After all, one doesn’t have to search far to see examples of our environmental damage. The United States government refuses to sign the Kyoto Protocol; battles over new sites for nuclear waste disposal litter the airwaves; loggers and environmentalists fight over the fate of burned forests; George W. Bush tries to pretend global warming is a silly phantom of deranged scientists. While impressive strides are also made toward protection--the Endangered Species Act, the Clean Air Act, the Clean Water Act, etc., can we see evidence of a majority touting a true environmental ethic of preservation? Unfortunately, it seems human use and abuse of the environment still hold preeminence over protection. In fact, in a society where we see little or no relation between humans and an inert, passive environment, terms such as use and abuse seem irrelevant.

But why do epithets regarding “inseparability between humans and nature” or “ecological holism” that incessantly issue from the mouths of environmentalists find no

⁵ Arne Naess, *Ecology, community and lifestyle: Outline of an Ecosophy*, trans. and ed. David Rothenberg (Cambridge: Cambridge University Press, 1989): 173; J. Baird Callicott *Beyond the Land Ethic: More Essays in Environmental Philosophy* (Albany: State University of New York Press, 1999): 33; and Don E. Marietta, Jr. *For People and the Planet: Holism and Humanism in Environmental Ethics* (Philadelphia: Temple University Press, 1995).

purchase in our society? A major difficulty in discovering such a unity stems from the lack of unity humans experience within themselves. Due to Western culture's continued devaluation of the body as both less important than, and wholly detached from, the mind, we disconnect from our own grounding in nature--our bodies.⁶ This division of mind and body represents the first of many divisions within Western culture that isolates us from the environment. Gregory Bateson, an environmentalist and esteemed scholar, outlines this process of division. We first create a distinction regarding a particular aspect of life. Whether that distinction is body and mind or nature and culture, the distinction eventually becomes a separation, and finally an opposition.⁷ So our history progresses until our invented oppositions alienate us from both our physical selves and our surrounding environment. And once we have convinced ourselves that nature exists as an alienated opposite, we can easily rise to the quest of destroying the "other."

Many environmentalists have searched for the root cause of our environmental destruction, and, while many see alienation as a basis for destruction, they pinpoint other problem areas without *focusing* on the issue of opposition. Donald Worster, for instance, in his body of work (*Rivers of Empire*, written in 1985, is an example), criticizes capitalism as the main reason for modern environmental degradation. Paul Ehrlich bemoans the human penchant for overpopulation; Barry Commoner points a finger at technology. And Lynn White, Jr., while also blaming technology, sees Christianity's

⁶ Although I am choosing Western culture as my main focus due to the significance of Descartes' dualism for Western philosophy, this is not to say that difficulties with the mind-body problem do not crop up in other cultures of the world (i.e. the "East"). Yet, interestingly enough, within Eastern cultures, the mind-body problem has surprisingly different connotations. For example, in the introduction to *Self as Body in Asian Theory and Practice*, Thomas Kasulis claims that within Asian philosophy, the emphasis in the mind-body discourse is not to plump up the mind-body distinction, but rather to get beyond it through training. As Kasulis notes, "[t]he unity of mind and body is not to be discovered, but achieved," a very different sentiment than found in Western culture. Thomas Kasulis with Roger T. Ames and Wimal Dissanayake, eds., *Self as Body in Asian Theory and Practice* (Albany: State University of New York, 1993): xx.

⁷ Gregory Bateson, *A Sacred Unity: Further Steps to an Ecology of Mind*, ed. Rodney E. Donaldson (New York: Harper Collins Publishers, 1991): 309.

view of human dominion over nature as the philosophical support for our technological destruction of the environment. Although I have no problem accepting all these theories as valid, I believe that they fail to delve deeper for the *root* cause. Each of these theories, perhaps unwittingly, rests on a human belief in mind as separate from and superior to the physical world. Underneath destruction based on capitalism, technology, or overpopulation lies humans' dualistic conceptions of the world. In other words, developments such as capitalism, technology, and overpopulation figure as symptoms of a deeper problem. For if humans dissociate their *minds*, i.e. their supposed essence, from the physical world of body and nature, dissociating from the degradation of nature is no problem. Further, if we never recognize the root cause behind these symptoms and fail to discover unity, we risk continued damage to our surroundings. As Gregory Bateson asserts, it is "important for our notions of responsibility...that we accept very firmly that body and mind are one."⁸ By finding a believable philosophical model that deconstructs the mind-body dichotomy, we will find the basis for rooting out the other destructive dualities that keep us from healthy living on a healthy planet. And by dissolving unhealthy dualities, we will have the chance to discover a unity of mind, body, and environment and, thus, identify with our natural surroundings. As Arne Naess claims, "[t]he greater our comprehension of our togetherness with other beings, the greater the identification, and the greater care we will take."⁹ Thus, through the process of identifying with the natural world that envelops us, we can develop the necessary empathy to protect rather than destroy our surroundings. But in order to facilitate this identification, we need a succinct and realistic view of the relationship between mind and body as well as between self and the environment.

When René Descartes voiced his famous words, "I think therefore I am," he hit on

⁸ Bateson, 309.

⁹ Naess, *Ecology, community and lifestyle: Outline of an Ecosophy*, 175.

a perception of self common to 17th century Europe. "Self" was a separate entity, a subject that could transcend the object, flesh. In fact, a version of the dualistic self had existed since the time of Pythagoras in the sixth century B.C.E.,¹⁰ as J. Baird Callicott explains. Pythagoras' notion of a "divine soul in an alien mortal body" became the basis for Platonic philosophy, and thus for Western culture in general.¹¹ Yet, though the seeds of dualism existed prior to Descartes' declaration, his *cogito ergo sum* cemented the mind-body disconnect and took dualistic perception to its height. Heavily influenced by the Christian doctrine of his era, Descartes entirely segregated his mind from his physical self.¹² Such a division was necessary for both Christian theology and the new scientific discoveries of the era. The church, married to the notion of dualism, could claim the soul as its private domain and continue vilifying the flesh, and Galileo¹³ and Newton could get on with the task of documenting the "lesser" substance, i.e. matter. Thus, Descartes reserved our "true selves," our minds (or our consciousness),¹⁴ for the religiously and/or philosophically inclined, while allowing the Newtonians to begin their dissection and reduction of the physical self, as well as the environment, to an "objective" reality. And although Newton busied himself mapping and predicting the mechanical world, even he

¹⁰ B.C.E. translates as "Before the Christian Era" and is identical in terms of date to B.C.

¹¹ J. Baird Callicott, *Earth's Insights: A Survey of Ecological Ethics from the Mediterranean Basin to the Australian Outback* (Berkeley: University of California Press, 1994): 26-30.

¹² Descartes toyed with the idea of the connection of mind and body through the pineal gland, but, for the most part, his legacy is dualism in its most extreme form.

¹³ Galileo was already in serious trouble with the church for displacing humans from their central place in the universe. By still reserving the soul for the church, he could continue his quantifying of the physical world.

¹⁴ For our purposes, I will use mind and consciousness interchangeably. In this chapter, I am interested in exploring the mind as a mystery, and while some philosophers define mind and consciousness separately, most see consciousness as the part of the mind that happens to hold the lion's share of the mind's mystery. I am also assuming that the concept of "soul," which is, needless to say, widespread, can be linked to consciousness. Most people who believe in any form of afterlife, from reincarnation to heaven, believe in something transcendent about ourselves, either 'consciousness' or 'soul,' as the aspect of self that lives on, therefore I shall link them. But personally, I am of the opinion that, as Friedrich Nietzsche explained it, "soul is just another word for something about the body..."

saw the problems in the division.¹⁵

In the ensuing centuries, Newton's explanation of the physical world remained ascendant, but the Cartesian philosophical treatise began to stumble. During Descartes' own time, Baruch Spinoza attempted to collapse Descartes' mind-body dualism by "declaring all things to be of one substance" and pointing to the immanence of God in nature.¹⁶ Not surprisingly, Spinoza was excommunicated from the Church. David Hume, in the 18th century, very tentatively posited that matter may actually be the cause of thought.¹⁷ And in the twentieth century, dualism came under further assault. Philosophers and psychologists alike attacked dualism as not only improbable, but impossible. Pragmatists, phenomenologists, materialists, and neuropsychologists, while all positing unique notions of mind/body unity, agree on one principle: Descartes' conception of a dualistic world is inaccurate.

The first to land a truly effective blow at the notion of dualism were the pragmatists. At the turn of the century, William James, a renowned philosopher/psychologist, developed a theory of consciousness that denied the separation between mind and body. For James, the most important quality of existence was "experience." Rather than zeroing in on matter or mind, James saw experience as the only descriptor of human life. As James notes, "no dualism of being represented and representing resides in the experience.... [T]here is no self-splitting of it into consciousness and what the consciousness is 'of.'"¹⁸ John Dewey, a pupil of James',

¹⁵ Noam Chomsky, *Powers and Prospects* (Boston: South End Press, 1996), 39-41. As Chomsky points out, Newton desperately sought a connection between passive matter (the physical) and active forces (the spiritual), which he pinned on a semi-divine "aether." But his "trialism," as Chomsky calls it, never caught on and Newton died wrapped in the unsolved dilemma with his theories supporting mind/body dualism rather than the proposed trialism.

¹⁶ K.L.F. Houle, "Spinoza and Ecology Revisited," *Environmental Ethics* 19 (Winter 1997): 419-420.

¹⁷ Chomsky, *Powers and Prospects*, 40. Spinoza has been borrowed by many of today's environmental ethicists for his holistic theories.

¹⁸ William James, *Essays in Radical Empiricism* (New York: Longmans, Green & Co., 1912; reprint, 1922): 23.

strode even further down the path toward unity. Criticizing popular psychology as “infected by the idea of the separateness of mind and body,”¹⁹ Dewey believed in an organic and holistic view of humans and the environment. In Dewey’s view, humans damaged themselves by taking mind out of nature. In his words, “[m]ind that bears only an accidental relation to the environment occupies a similar relation to the body. In making mind purely immaterial..., the body ceases to be living and becomes a dead lump.”²⁰ Dewey went on to say that if separation occurs between mind and body, humans detrimentally conjure theories that “mind, soul, and spirit can exist and go through their operations without any interaction of the organism with its environment.”²¹ But Dewey believed such a notion of separation was not only ludicrous, but dangerous. For Dewey, mind was “formed out of commerce with the world,” thus, “nothing can be further from the truth than the idea which treats it as something self-contained and self-enclosed.”²² Humans are not a mind locked in a mechanistic body, but a body-mind that is part of a whole system of nature.

Shortly after the flourishing of pragmatism, another philosophical discipline emerged that focused on unity in terms of experience. Edmund Husserl, writing in the early 1900’s, was disappointed by the scientific attempts at objectivity and in reaction developed a school of thought based on subjective experience. Phenomenology, as this school is called, attempted to jog scientists out of their pretense at objectivity and remind them that all knowledge stems from our subjective experiences in the world.²³ Further, by stipulating that subjective experience reigns supreme, phenomenologists allowed the body, as the medium of experience, to regain its status. Without the body, experience is

¹⁹ John Dewey, *Art as Experience* (New York: Minton, Balch & Co., 1934): 262-3.

²⁰ Dewey, 264.

²¹ Dewey, 263.

²² Dewey, 264.

²³ David Abram, *The Spell of the Sensuous* (New York: Vintage Books, 1996): 35.

non-existent, so to value the mind over the body is ridiculous, according to Husserl and to Maurice Merleau-Ponty, another shaper of phenomenology. After all, to discuss the “mind’s experience” is an oxymoron. Mind cannot be some separate substance from body, but rather is one with the body in the experience of the world. As Monika Langer states in her analysis of Merleau-Ponty, “we *are* our body,” nothing more, nothing less.²⁴ David Abram, another phenomenologist, argues in his book *The Spell of the Sensuous*, that “[t]he human mind is not some otherworldly essence that comes to house itself inside our physiology. Rather, it is instilled and provoked by the sensorial field itself, induced by the tensions and participations between the human body and the animate earth.”²⁵ In such a scenario, the body is far from limited. Rather the body becomes a “body as being-in-the-world” or an “organic unity” with the experience in which it engages.²⁶ Mind, body, and world all stand together as part of a relational, subjective whole. We engage in a “lived experience” through our “lived body.” Since experience is again the only appropriate term of description (as it is with the pragmatists), phenomenologists point out that mind, body, and environment unite within the whole of experience.

Shortly after the phenomenologists and pragmatists began discussing experience as the unifier of mind and body, Alfred North Whitehead emerged on the scene. Whitehead, a philosopher and mathematician, founded the panpsychist school of philosophy in the 1920s. Sounding very much like the phenomenologists, the panpsychists see mind, body, and the environment as inseparably linked due to their experiential base. Inspired by the new developments in the field of physics, Whitehead saw everything in the universe, including mind and matter, as made up of interacting electromagnetic particles (variously

²⁴ Monika M. Langer, *Merleau-Ponty's Phenomenology of Perception: A Guide and Commentary* (Tallahassee: The Florida State University Press, 1989): 39.

²⁵ Abram, *The Spell of the Sensuous*, 262.

²⁶ Langer, *Merleau-Ponty's...*, 40.

called energy or actualities). Further, Whitehead claimed that each of these particles has a *lived experience*. Panpsychists, or panexperientialists as they are sometimes called, stipulate that each particle, though perhaps without any specific location, does endure a lived duration, or, as Whitehead put it, a “life history.”²⁷ And while these particles join their experiential knowledge together to form “a body such as we ordinarily perceive,”²⁸ at base, everything is made up of experience. In such a scenario, experience is not limited to humans, but rather everything from subatomic particles to politicians enjoys experience. Not only does this place mind and body into the same pool, but the environment can jump in as well. Because all elements of the universe rely on the same experiential base, relational interdependence becomes the watchword of existence.

But such a notion of experiential interdependence was not widely accepted in Whitehead’s day. Whitehead believed that philosophers dismissed such a view of a unified, and more fluid, nature of reality because they stumbled on “the fallacy of misplaced concreteness”²⁹ inherent in Cartesian physics. As Whitehead explained, many philosophers, schooled in the Newtonian conception of the physical world, blindly accept the Cartesian explanation of physical matter as inert without questioning the validity of their “objective” premises. Yet, as the contemporary panpsychist David Ray Griffin maintains, by attempting to explain mind in terms of passive matter, most philosophers have not come any closer to explaining how inert gray matter miraculously produces consciousness.³⁰ For Griffin, Whitehead offers the only “cosmology that explains the fact that our minds seem to be fully natural.”³¹ Thus, with Whitehead

²⁷ Alfred North Whitehead, *Science and the Modern World: Lowell Lectures, 1925* (New York: Macmillan, 1925): 223.

²⁸ Whitehead, 222.

²⁹ Whitehead, 75.

³⁰ David Ray Griffin, *Unsnarling the World-Knot: Consciousness, Freedom, and the Mind-Body Problem* (Berkeley: The University of California Press, 1998): 117-24.

³¹ Griffin, 118.

naturalizing mind along with body, dualism suffered another blow.

However, not all philosophers have found it necessary to dismiss the objectivity of science. In fact, philosophers from the so-called materialist school directly appeal to science (even in that supposedly outdated Newtonian realm) for overturning dualism. Since the 1950's, materialism, more so than pragmatism, phenomenology, or panpsychism, has dominated the philosophical conversation. For materialists, dualism falters not based on experience or subjectivism, but because the mind is no more, and no less, than the brain. Philosophers and psychologists from J.J.C. Smart to Daniel Dennett, although varied in their materialist stance, nevertheless unify mind and body, by reducing all aspects of mind to matter.³² While some philosophers remain squeamish about such a reduction of the mind's supposed mysteries,³³ neuroscientists continue to provide philosophers with the appropriate fodder for linking all mental events, including that oh-so-mysterious consciousness, to the brain.

Stephen Pinker, a psychology professor at MIT, and Daniel Dennett, a philosopher from Tufts University, stand out as particularly eloquent champions of the materialist view. Pinker, in *How the Mind Works*, cheerfully likens our mind to a computer without any fear of stating that a person is similar to a machine. He proposes that the mind is merely a highly advanced information processing system that evolved over time to solve the problems presented by the environment. However, the complexity of this processing system makes us about as similar to a computer as an airplane is to a kite.³⁴ Dennett confirms this depiction. In *Consciousness Explained*, Dennett portrays

³² Materialism is an admittedly simplistic term to describe a very large and very diverse group of philosophers. For our purposes, I am placing functionalists, emergentists, supervenience theorists, and identity theorists within this group. For more information regarding these different schools of thought, see the work of Jerry Fodor, Jaegwon Kim, William Bechtel, Fred Drestke, and Daniel Dennett, among others.

³³ Jaegwon Kim, *Mind in a Physical World: An Essay on the Mind-Body Problem and Mental Causation* (Cambridge: The MIT Press, 1998): 118-120.

³⁴ Steven Pinker, *How the Mind Works* (New York: W.W. Norton & Company, 1997).

the mind as “a ‘virtual machine,’ a sort of evolved (and evolving) computer program that shapes the activities of the brain.”³⁵ Dennett dismisses any notion of mystery surrounding mind as matter; for him, consciousness, or our idea of “self,” is merely “a valuable abstraction, a theorist’s fiction rather than an internal observer or boss.”³⁶ Any notion of mind as distinct from body dissolves as mind becomes brain and, thus, body.

Dennett and Pinker derive much of their view from advances in the neurosciences. In fact, neuroscientists are quickly jumping on the mystery of consciousness, all the while undermining the notion of mind as separate from matter. In two conferences, and later, in two collected volume of papers entitled *Toward a Science of Consciousness I & II*, neuroscientists, physicists, and mathematicians shared the halls with philosophers as they presented their new theories regarding mind. Neuroscientists, unabashedly reductionist in their perspective on consciousness, attempt to show that the mystery of consciousness actually stems from neural activity in the brain. As these neuroscientists try to find the “neural correlate of consciousness” and, thus, reduce all aspects of the mental sphere to objectivist science (I can just hear Husserl groaning), they introduce widely different theories. Unfortunately for us, most of the jargon tossed around regarding the brain’s neural systems is incomprehensible. For example, Susan Greenfield claims that consciousness is an “emergent property of nonspecialized and divergent groups of neurons that is continuously variable with respect to, and always entailing, a stimulus epicenter,” while Joseph Bogen argues that consciousness involves interaction between the intralaminar nuclei of the thalamus and the cortex.³⁷ All in all, staggering propositions that leave us scratching our gray matter. But they still point to the

³⁵ Daniel C. Dennett, *Consciousness Explained* (Boston: Little, Brown & Co., 1991): 431.

³⁶ Dennett, 431.

³⁷ Susan A. Greenfield, “A Rosetta Stone for Mind and Brain?” and Joseph E. Bogen, “Locating the Subjectivity Pump: The Thalamic Intralaminar Nuclei,” in *Toward a Science of Consciousness II: The Second Tucson Discussions and Debates*, eds. Stuart R. Hameroff, Alfred W. Kaszniak, and Alwyn C. Scott (Cambridge: The MIT Press, 1998): 234, 236-46.

conclusion that mind cannot be separated from matter.

Yet, even with all these assertions from both neuroscientists and materialists that every mental event can be explained with our current model of matter, most admit that they are far from a clear model of consciousness. While materialists *believe* in the unity of mind and body based on their concept of matter, many beg for more time to describe the mysteries of consciousness. As Susan Greenfield notes, “for the foreseeable future, your private world is likely to remain inviolate from probings by scientists and philosophers alike.” Objective scientists are just not quite prepared to offer us a full illustration of the mysteries of the mind. In fact, some materialists even claim that they will never be able to complete the mind’s diagram. In defeatist tones, these materialists assert that, as humans, our physical construction forbids an explanation of consciousness. For example, Stephen Pinker, after confidently laying out his computational theory of mind, screeches to a stop in front of certain unexplained aspects of consciousness such as free will and sentience. Is it possible that sentience and free will exist in another plane or dimension that cannot be accessed by our minds? Pinker suggests as much. He meekly submits that “[o]ur thoroughgoing perplexity about the enigmas of consciousness, self, will, and knowledge may come from a mismatch between the very nature of these problems and the computational apparatus that natural selection has fitted us with.”³⁸

Colin McGinn, another philosopher from the materialist camp, goes even further to point out that we may *never* be able to find the part of the brain responsible for consciousness. He calls it a “causal nexus that we are precluded from ever understanding.”³⁹ While he is quick to say that consciousness has a biological, rather than a supernatural, base, he assumes that we are actually biologically *unable* to find the

³⁸ Pinker, *How the Mind Works*, 565.

³⁹ Colin McGinn, *The Problem of Consciousness* (Oxford: Basil Blackwell, 1991): 3.

physical link to consciousness. He names this bias a “cognitive closure.”⁴⁰ But McGinn goes further to document why we possess such a closure. Pointing to our modes of perception either through sensation or introspection, McGinn stresses that we have the capability for sensation *or* for introspection but that we have difficulty linking the two perceptual modes. We can know our internal sense of consciousness in complete exclusion of others or we can perceive the outer world, but we will inevitably fail to mesh these modes. Therefore, we will never solve the mind-body problem; body provides sensation, mind introspection, and never the twain shall meet. McGinn suggests that in our confusion we are prone to project this unsolvable enigma onto the supernatural, but that such a projection is unnecessary. Introspection does not necessarily prove the existence of an otherworldly soul that lies in opposition to our sensing, material selves. As he points out, “there is no metaphysical mind-body problem; there is no *ontological* anomaly, only an epistemic hiatus.”⁴¹ We are undoubtedly all physical matter, but we will never embody such a notion.

But even Noam Chomsky, the well-known professor of linguistics at MIT, has difficulty with the limitations of materialism. After outlining McGinn’s thesis of cognitive limits, Chomsky pulls the rug out from under the materialists. Sounding oddly reminiscent of the panpsychists, he asserts that the limits of Newtonian physics end up not physicalizing the mind, but rather mentalizing the body. New developments in the physical sciences have reconceptualized matter to such a degree that we can no longer assume a solid physicalism. He comments that “not only the mental aspects of the world, but all others as well, fall beyond the scope of the material.”⁴² Matter and, by extension, the body become as ephemeral as mind. Can this truly be the answer? Does

⁴⁰ McGinn, 15.

⁴¹ McGinn, 31.

⁴² Chomsky, *Powers and Prospects*, 41.

Chomsky's notion of the physical world as well as the phenomenologists' and panpsychists' difficulties with objective, Newtonian physics delegitimize all scientific ventures to chart the mind as physical?

At the very least, it appears that new theories regarding both mind and matter need to be entertained. Luckily, all of the philosophies listed above provide an excellent start to charting our new, holistic vision of reality. Perhaps the experiential route of the pragmatists, phenomenologists, and panpsychists can begin the adventure. And perhaps we can still rescue certain scientific precepts as outlined by the materialists. But a new pathway demands innovative approaches. While philosophy, psychology, and neuroscience have, as we have already seen, provided much fodder for dissolving dualisms, I feel the need to plumb one additional field in order to present a satisfactory vision of mind-body-environment unity. And that field is quantum physics. In fact, as I mentioned, many philosophers were either directly or indirectly influenced by the radical developments in physics in the twentieth century as they created their unified theories of mind and body. Further, many even see a marriage of physics and philosophy as essential for explaining consciousness. But what is it about quantum physics that appears so beguiling to so many who fling themselves at dissolving the mind/matter dichotomy?

Quantum physics, which burst onto the scene at the dawn of this century, provides us with possibly the best strategy for unifying mind and body. When Planck, Einstein, and Heisenberg almost begrudgingly presented their new theories, Newtonian duality had to run for cover. This is because, in their attempts to chart the simple mechanisms of the subatomic realm, quantum physicists turned the assumptions of Newton, Galileo, and Descartes on their heads. While the view of the macroscopic world

of Newton appeared clearly mechanistic and predictable, nothing in the microscopic world followed the same rules. Subatomic particles just didn't want to obey those foregone, Newtonian conclusions. Dualism after dualism fell with each new quantum mechanical discovery. And the first dualism to fall was that of mind and matter. When conducting experiments with light, quantum physicists found that photons (or any subatomic particle for that matter) could exist as either waves *or* as particles, a seemingly ridiculous notion. If scientists looked for wave-like properties, they found them; but if they sought particle-like properties, they found them too. And with photons existing *simultaneously* as waves *and* as particles, a concept known as "coherent superposition," any notion of duality dissolves;⁴³ there is no apparent reality to the Newtonian description of solid, passive matter since matter itself has no consistent quality. Put another way, matter that has properties only when observed for those properties questions the very nature of matter.

As if such a pronouncement wasn't disturbing enough, quantum physicists then discovered that they could no longer play the role of the objective observer. As they studied the phenomena of photons further, they found that while photons typically existed as waves, *upon observation* the waves collapsed into particles, a theory known as the "observer effect." In other words, only the consciousness of the experimenter could create the photon's existence as a particle. Suddenly the experimenter determined reality, for without the experimenter's observation, the photon would still reside in the wave-like state. Such a discovery rejected the concept of an objective scientific world, and scientists with their experiments all became part of a subjective universe.

Heisenberg's uncertainty principle takes this notion of subjective reality even one step further. Through the uncertainty principle, Heisenberg proved that we can only

⁴³ Stuart R. Hameroff, Alfred W. Kaszniak, and Alwyn C. Scott, eds., *Toward a Science of Consciousness: The First Tucson Discussions and Debates* (Cambridge: The MIT Press, 1996): 435.

measure natural processes to a limited degree because, while measuring one aspect, say the position of a particle, momentum of that particle becomes uncertain. In other words, if an observer chooses to focus on one measurement, that aspect of measurement may become clear, but *the observer* is creating the uncertainty of any other measurement. Any certain evaluation of subatomic particles or waves becomes meaningless and without any independent predictive power, “[t]he whole idea of a causal universe is undermined...”⁴⁴ We are left holding a subjective, rather than objective reality. As Alistair Rae puts it, “[q]uantum theory tells us that nothing can be measured or observed without disturbing it.”⁴⁵ Thus our split between inner and outer reality becomes irrational as even the concept of objective reality vanishes. We cannot remove ourselves from the equation, in fact the outcome of the “objective” equation rests entirely on our attempt at observation. And it is such a dissolution of subject-object that undermines any perception of humans as separate from the environment. Any pretense that humans can exist in our minds without effecting or being effected by the environment becomes suspect. Humans can once again take their place at nature’s table since separation from the environment has lost its validity.

To go even further, Einstein’s relativity theory questions any assumed perception of physical reality. By positing a four-dimensional space-time continuum that inseparably links space and time, we can no longer hold on to the concept of linear time as accurate. Space and time both become relative concepts. Many of these fundamental shifts are clearly beyond our ordinary sensory experiences and our understanding, but perhaps not forever. An interesting implication of the relativity theory has been “the

⁴⁴ Alistair I.M. Rae, *Quantum physics: Illusion or Reality?* (Cambridge, England: Cambridge University Press, 1986): 113.

⁴⁵ Rae, 3.

realization that mass is nothing but a form of energy.”⁴⁶ If this is the case and all matter is actually energy (i.e. $E=mc^2$), a decidedly less-than-solid matter makes up reality. The world as we know it becomes a sea of interactive energy. Energy is absorbed and projected, transferred and returned constantly. Nature, as described through quantum mechanics, assumes this constant dynamism as its main property, a scientific base very similar to ecological dynamism. Matter as energy shows that any distinctions we place between mind and body or self and environment are false. Because we are all interactive energy, on a subatomic level our mind and body are parts of a unified, interactive whole that includes the environment in our energy circuit.⁴⁷

What can we take from this venture into the microphysical world? As I mentioned, the whole notion of mind and matter changes due to the precepts of quantum theory. And while we have undermined the notion of solid, inert matter, what has *mind* become through this dive into the subatomic realm? Can we actually attempt an explanation of the mystery of consciousness using quantum physics? Well, while most quantum physicists use their new view of matter to study deep space or the everyday elements of the macrophysical world, certain physicists have decided to apply their theories to the mind. And according to these physicists, quantum theory offers the best option to uncover the mind’s mysteries. Stuart Hameroff and Roger Penrose, for example, believe that consciousness develops from a quantum wave function “self-

⁴⁶ Fritjof Capra, *The Turning Point: Science, Society, and the Rising Culture* (New York: Simon and Schuster, 1982): 89-90.

⁴⁷ Clearly, there are differences regarding the interpretation of quantum theory. The 1927 Copenhagen Interpretation, which said that quantum mechanics works in every possible experimental situation, admitted that because the observer essentially created the observed, they had no clear way of accessing physical reality and that a level of indeterminism was unavoidable. However, Einstein questioned this interpretation and this led to multiple branches including Bell’s Theorem, a many-worlds interpretation, and to rejections of all of the above. See Rae, Capra, Zukav, and multiple authors in *Toward a Science of Consciousness I & II*.

collapse” in the microtubules of brain cells.⁴⁸ Fred Alan Wolf, on the other hand, believes that we become self-conscious based on superposition of quantum automata in glial cells and neurons.⁴⁹ Clearly quantum physics rests on a jargon seemingly even more complex than that of the neuroscientists. Yet, regardless of how confusing such assertions may seem, we must admit that explaining the nature of consciousness is far from simple. And the possibility that the interesting insights of quantum theory may have relevance for our study of consciousness bodes well for our future understanding. At the very least, we can glean one main kernel for our holism under construction after this short study of the subatomic realm: dualisms of any sort just cannot stand.

Where does this leave us? From our present vantage point, dualism must be a thing of the past. Discoveries or logical puzzles regarding the nature of reality in the areas of philosophy, the neurosciences, and quantum physics have left us a legacy of unity. And what about the environmental ethicists? Are they noting the importance of the end of philosophical dualism in these areas? Will they put such knowledge to use in their construction of an environmental ethic? As a matter of fact, many in the environmental ethics community see the implications of holism in the exact schools of thought we have discussed.

For example, many in environmental ethics have caught on to the appeal of quantum physics and its implications. J. Baird Callicott muses on the new physics’ attraction: “Ecology and the new physics present interesting theoretical analogues” as both rest on an idea of interdependence.⁵⁰ This interdependence reinstates nature’s value,

⁴⁸ Stuart Hameroff and Roger Penrose, “Orchestrated Reduction of Quantum Coherence in Brain Microtubules: A Model for Consciousness,” in *Toward a Science of Consciousness: The First Tucson Discussions and Debates*, eds. Stuart R. Hameroff, Alfred W. Kaszniak, and Alwyn C. Scott, (Cambridge: The MIT Press, 1996): 507-40.

⁴⁹ Fred Alan Wolf, “On the Quantum Mechanics of Dreams and the Emergence of Self-Awareness,” in *Toward a Science of Consciousness: The First Tucson Discussions and Debates*, eds. Stuart R. Hameroff, Alfred W. Kaszniak, and Alwyn C. Scott, (Cambridge: The MIT Press, 1996): 451-67.

⁵⁰ Callicott, *Earth’s Insights*, 91.

as nature becomes subject along with self. As Naess points out, objects lose their “primary qualities” of mass and momentum as all beings become subjects and all properties subjective. Naess invokes the need to “abandon fixed, solid points, retaining the relatively straightforward, persistent relations of interdependence.”⁵¹ Callicott goes further to suggest that quantum theory’s dissolving of boundaries in the energy sea could pose a possible solution to the intrinsic value problem in environmental ethics. He points out that quantum mechanics suggests a continuity between self and nature. And if we assume the self has intrinsic value, nature, as continuous with self, has value as well. By implication, “the injury *to me* of environmental destruction is primarily and directly to my extended self, to the larger body and soul with which ‘I’... am continuous.”⁵² Both Naess and Callicott see quantum theory as potentially beneficial, but neither are willing to take quantum theory as the final solution. They believe that quantum theory, as another offshoot of a science that has created much of the environmentally disruptive technology in the world, should be approached cautiously.

But Fritjof Capra is not sure such caution is warranted. In *The Turning Point*, Capra puts faith in our ability to use quantum physics and relativity theory to extend our awareness beyond the everyday experience of the physical world. He notes that quantum physics has created “an inseparable cosmic web that includes the human observer and her consciousness.”⁵³ All divisive dualities are thus null and void. Capra sees quantum theory as a necessary ingredient for constructing an effective environmental ethic. He notes that “modern physics has transcended the mechanistic Cartesian view of the world and is leading us to a holistic and intrinsically dynamic conception of the universe.”⁵⁴

⁵¹ Naess, *Ecology, community and lifestyle*, 50.

⁵² J. Baird Callicott, “Intrinsic Value, Quantum Theory, and Environmental Ethics,” *Environmental Ethics* 7 (Fall 1985): 275. The italics are Callicott’s.

⁵³ Capra, *The Turning Point*, 91-92.

⁵⁴ Capra, 97.

Through Capra's use of quantum physics, mind-body-environment creates a whole greater than and inseparable from its parts. And although we attempt to create dualist illusions for our eminently rational minds, our conceptual framework is undermined by our own scientific development. We are forced to admit a holistic, impermanent reality.

Panpsychism offers environmental ethicists more meat for their holistic view. David Ray Griffin, John B. Cobb, Jr. and Charles Birch see panpsychism as the best possibility for ending our ecological crisis. As I mentioned, the panpsychists' view of nature that everything consists of interacting energy has much in common with quantum theory. But, claims Griffin in his distrust of Western science, although quantum physics has described energy as the foundational unit, this description stops before providing energy with intrinsic value.⁵⁵ Griffin postulates that imbuing the smallest units of nature (energy, photons, subatomic particles, etc.) with experience provides each unit an inherent worth. Since each unit of nature is experiential whether involved in the creation of a rock or a human, all of nature has intrinsic value. As Birch and Cobb muse, "if there is intrinsic value anywhere, there is intrinsic value everywhere."⁵⁶ Further, within this view, there is never a full separation of self and environment because of the constant interaction of these smallest elements in the environment. Griffin astutely observes that energy's continuous state of interaction suggests that "our bodily units must incorporate within themselves aspects of the world beyond themselves."⁵⁷ Cobb and Birch, who have renamed Whitehead's 'philosophy of organism' an 'ecological model of life,' believe that such a theory of reality leads to "emphasising the internal relatedness of living things to their environment..."⁵⁸ As these ethicists mine the writings of Whitehead, they offer an

⁵⁵ Griffin, *Unsnarling the World-Knot*, 123.

⁵⁶ Charles Birch and John B. Cobb, Jr., *The Liberation of Life: From the Cell to the Community* (Denton, TX: Environmental Ethics Books, 1990): 152.

⁵⁷ Griffin, *Unsnarling the World-Knot*, 143.

⁵⁸ Birch and Cobb, *The Liberation of Life*, 94.

image of mind-body-environment as an interdependent ecosystem made up of units of experience.

Another school of philosophy that the environmental ethicists probe for possible implications is the materialist school. Environmental ethicists who join hands with materialists typically remain content in the Cartesian world with little desire to plumb the theories of quantum mechanics. But ethicists find much to support their theories from other parts of the scientific world, particularly from conservation biology and ecology. Perhaps the best-known champion for the marriage of materialism and ethics is E.O. Wilson. Wilson, the Frank B. Baird Jr. Professor of Science and curator in Entomology at Harvard University, is the founder of sociobiology, which attempts to bring ethics back into nature. For Wilson, because both mind and matter fall easily into the realm of the biological sciences, all products of the mind can also stay within the field. For Wilson, the human mind is merely the body's instrument for survival and reproduction, and even if we can't necessarily understand the full physical reality of the mind itself (a la McGinn), we can rest assured that the mind is no more and no less than another material aspect of the self. But Wilson takes science one step further into ethical interstices of the mind. As he claims in *On Human Nature*, "science may soon be in a position to investigate the very origin and meaning of human values, from which all ethical pronouncements and much of political practice flow."⁵⁹ Mind, developing as it did within nature (and nature, for Wilson, being the domain of science), allows the *products* of mind to fall under the folds of nature's cloak. And due to the mind's construction within

⁵⁹ Edward O. Wilson, *On Human Nature* (Cambridge: Harvard University Press, 1978): 5. This is not to say I agree with all Wilson's pronouncements. In *On Human Nature*, Wilson would give almost anyone pause as he attempts to reduce all aspects of culture to biology. He skates on particularly thin ice as he tries to excuse acts of sexism based on so-called innate gender tendencies. For Wilson, since behavior is merely a natural product of our genes, we are left with less responsibility for reprehensible ones, a problematic contention not only for feminism, but for environmentalism as well.

nature as an “organ of survival,” humans should recognize themselves as nature itself.⁶⁰ In doing so, we will deepen our conservation ethic as we embrace “the reverence for life for purely rational reasons.”⁶¹ Wilson believes that if humans accept their natural love and reverence for all living things, a tendency that Wilson calls biophilia, we will work to protect all life.⁶²

Yet, while certain ethicists are satisfied by the materialistic holism apparent in the Cartesian realm, not all environmental philosophers can accept the dualism and passivity of matter inherent in Descartes’ view. David Abram, for example, sees too many problems in the Cartesian-based sciences to accept the materialists’ theories as ecologically sound. After all, by reducing the body to mere passive matter, the very medium of experience is denied any active, participatory role. In such a scenario, humans may too easily cut themselves off from both their bodies and their surroundings. Within phenomenology, however, resides greater possibility for an environmental ethic. According to Abram, because phenomenology brings the body back into the equation, we can once again accept the unity of self and environment. Citing the work of phenomenologist Maurice Merleau-Ponty, Abram claims that “[f]ar from restricting my access to things and to the world, the body is my very means of entering into relation with all things.”⁶³ In such a relational scenario, humans and environment fuse. For it is only in human-environment interaction that any lived experience can surface. As Abram notes, we only need to breathe to understand this. Breath becomes the ultimate exchange with the environment as it enters and exits our lungs. Such a conception of the world, rather than closing us off from the environment, depicts “the boundaries of a living body

⁶⁰ Edward O. Wilson, *Biophilia* (Cambridge: Harvard University Press, 1984): 140.

⁶¹ Wilson, 140.

⁶² Also see *The Biophilia Hypothesis*, ed. Stephen R. Kellert and Edward O. Wilson (Washington, DC: Island Press, 1993). In particular, Holmes Rolston III’s article, “Biophilia, Selfish Genes, Shared Values,” and David Orr’s article, “Love It or Lose It: The Coming Biophilia.”

⁶³ Abram, *The Spell of the Sensuous*, 47.

[as] open and indeterminate; more like membranes than barriers, they define a surface of metamorphosis and exchange.”⁶⁴ For Abram, by reawakening our senses and acknowledging ourselves as porous creatures open to our surroundings, we will recognize and, thus, respect the environment in which we are immersed. In fact, Abram asserts, a new ethic “will come into existence not primarily through the logical elucidation of new philosophical principles and legislative structures, but through...a rejuvenation of our carnal, sensorial empathy with the living land that sustains us.”⁶⁵ By reinvesting in our sensual selves as holistic beings, we have a chance for crafting an effective ethic.

Pragmatism too offers possibilities for creating a holistic ethic for environmentalism. Larry Hickman, a so-called environmental pragmatist, finds the pragmatists’ focus on unity to be particularly fruitful. For, within such a breakdown of divisions, humans can reinsert themselves into nature. As Hickman states, John Dewey’s conception of nature and culture as one allows humans to see themselves within the pool of nature; “culture is...continuous with and a part of nature.”⁶⁶ By dissolving this dualism, humans can immerse themselves into the environment on many conscious levels, from the intuitive to the cognitive. And it is through such conscious immersion, that we will value protecting our surroundings. Sandra Rosenthal and Rogene Buchholz, both professors at Loyola University in New Orleans, understand this dissolution of the nature/culture boundary as the potential for moral growth. As our consciousness expands to include our environment, we will be exposed to “a deep-seated harmonizing of the self with the totality of the conditions to which it relates.”⁶⁷ Rosenthal and Buchholz go on

⁶⁴ Abram, 46.

⁶⁵ Abram, 69.

⁶⁶ Larry A. Hickman, “Nature as Culture: John Dewey’s Pragmatic Naturalism,” in *Environmental Pragmatism*, eds. Andrew Light and Eric Katz (London and New York: Routledge, 1996): 57.

⁶⁷ Sandra B. Rosenthal and Rogene A. Buchholz, “How Pragmatism Is An Environmental Ethic,” in *Environmental Pragmatism*, eds. Andrew Light and Eric Katz (London and New York: Routledge, 1996): 43.

to claim that all questions of intrinsic versus instrumental value of nature dissolve as well under the gaze of the pragmatist. "At no point can pragmatic ethics draw the line between human welfare and the welfare of the environment of which it is a part."⁶⁸ As part of the environment, humans must pay attention to the requirements of the environment as a whole. This sentiment, claims Larry Hickman, a philosophy professor at Southern Illinois University at Carbondale and the Director of the Center for Dewey Studies, shows the incontrovertible tie between Dewey's naturalism and Aldo Leopold's land ethic. As Hickman states, "Dewey's naturalism is capable of supporting Leopold's land ethic, i.e. the view that humans ought to act to preserve the integrity, stability and beauty of natural systems."⁶⁹ But, the ever-practical Dewey reminds us, while all this discussion is useful for our theoretical base, it is only through practice that true protection of our surroundings can occur. As he notes, if we continue to dismiss holism, "[t]his notion of...separation inevitably results in creating a dualism between 'mind' and 'practice'."⁷⁰ Pragmatism, in its astute focus on dissolving dualisms in an active manner, places it in a perfect position to shoulder an environmental ethic.

A most interesting development within the field of environmental ethics is the beginning of truly cross-disciplinary study. Rather than borrowing from only one of the above schools of thoughts, certain ethicists have begun the task of bringing the threads together. Recently, I happened across a book intriguingly entitled *The Primal Roots of American Philosophy: Pragmatism, Phenomenology, and Native American Thought*. The author of this tome, Bruce Wilshire, is a philosophy professor at Rutgers University. Wilshire, who risks the margins of multiple disciplines, finds kernels for an environmental ethic in many of the aforementioned fields. Claiming that "a deeper attunement to the

⁶⁸ Rosenthal and Buchholz, 45.

⁶⁹ Hickman, "Nature as Culture..." 66.

⁷⁰ Dewey, *Art as Experience*, 263.

environment calls for a reappropriation of phenomenological impulses in the earlier pragmatism,”⁷¹ Wilshire goes on to construct an ethic from the teachings of James, Merleau-Ponty, Whitehead, and quantum theory while also seeing the seeds for his ethic in Native American thought. A truly ingenious joining and a pattern which offers possibility for our ethic under construction.

So, as I have outlined, many environmental ethicists hail the end of dualism. Yet, has the announcement truly gone out to humanity at large? Is there evidence of *practice*, as Dewey would say, that shows a new understanding of unity? Do the environmental ethicists’ words convert to action within society? Certainly, as I mentioned, exceptional steps have occurred in the political arena with the Wilderness Act of 1964, the Endangered Species Act of 1973, and the Clean Air and Clean Water Acts, among others. Environmental organizations have enjoyed impressive gains in membership in the last thirty years. Recycling has entered common lingo in our society. Environmental issues even make it into election campaigns (although considering the election of George W. Bush, one must wonder on which side of the environmental fence Americans truly fall). Yet, does the concept of preservation truly govern our daily practice? In our consumer society of plastic gadgets, sport utility vehicles, and excessive energy use (with decidedly minimal emphasis on alternative energy), can we see an environmental ethic guiding our actions? And, if not, is it possible that the long-standing effects of dualism may be undermining our attempts at protection and restoration?

In fact, recent research shows that dualism’s detrimental effects extend beyond stifling continued gains in the legislative arena. For, according to certain psychologists, our disconnection from the environment puts our very psychological state at risk. As we deny our connection to our surroundings and ignore the perpetual damage to the

⁷¹ Bruce Wilshire, *The Primal Roots of American Philosophy: Pragmatism, Phenomenology, and Native American Thought* (University Park, PA: The Pennsylvania State University Press, 2000): 176.

environment, we erode our psychological health. Those psychologists, or ecopsychologists as they call themselves, who speak out about such a problem see the seeds of alienation between humans and their environment in the mind-body split and attempt to heal the split through therapy, both on the couch and in the wilderness. Robert Greenway, a former psychology professor and wilderness leader, points out that dualism is “the source of our pervasive sense of disconnection.”⁷² And disconnection of this sort can lead to domination and exploitation as we devalue the “otherness” of our environment. Ralph Metzner, another ecopsychologist, sees this alienation between self and the environment as pathological. In fact, he terms this pathological split a type of dissociative disorder. The dissociative split “between human consciousness and the rest of the biosphere” leads to ecological disaster.⁷³ As we attempt to transcend our animal nature to mesh our spirit with a transcendent deity, we demonize our animal instincts. Eventually our desperate efforts to control our natural, physical selves extend to manipulating the natural world around us. Anita Barrows builds on this idea. She points out that it is a “construct of the Western mind that we believe ourselves living in an ‘inside’ bounded by our own skin...”⁷⁴ She notes that this separation is less visible in children who still possess a clear idea of intersubjectivity between themselves and the environment. But as we age, society encourages us to craft boundaries that disintegrate our interrelatedness. Barrows bemoans “the illusion of bodily separateness that... accounts for our loneliness, that isolates us and leads us to exploit and violate one

⁷² Robert Greenway, “The Wilderness Effect and Ecopsychology,” in *Ecopsychology: Restoring the Earth, Healing the Mind*, Theodore Roszak, Mary E. Gomes, and Allen D. Kanner, eds. (San Francisco: Sierra Club Books, 1995): 131.

⁷³ Ralph Metzner, “The Psychopathology of the Human-Nature Relationship,” in *Ecopsychology: Restoring the Earth, Healing the Mind*, Theodore Roszak, Mary E. Gomes, and Allen D. Kanner, eds. (San Francisco: Sierra Club Books, 1995): 55-67.

⁷⁴ Anita Barrows, “The Ecopsychology of Child Development,” in *Ecopsychology: Restoring the Earth, Healing the Mind*, Theodore Roszak, Mary E. Gomes, and Allen D. Kanner, eds. (San Francisco: Sierra Club Books, 1995): 106.

another, the world we live in , and ultimately ourselves.”⁷⁵ She argues that we need to transform the concept of the isolated self to one that is permeable.

John Crook, an ethologist who crafted the comprehensive work *The Evolution of Human Consciousness*, voices thoughts remarkably similar to the ecopsychologists. In his behavioral studies, Crook discovered a link between depressive conditions and rigid boundaries. Withdrawn personalities frequently lack the ability to invest in their own physicality as well as in the surrounding environment. Such disconnection can eventually lead to clinical depression.⁷⁶ And while many psychologists note the need to soften such rigidity, Sarah Conn cautions against a complete dissolving of such partitions between self and the environment. Although Conn encourages a deeper self-world connection, she notes the danger of too diffuse boundaries that disintegrate our individuality. Acknowledging the fact that rigid boundaries separate us from our environment, she also asserts our need to discover “semipermeable boundaries that are neither too rigid nor too diffuse.”⁷⁷ And once we understand ourselves as open to the environment without losing ourselves, we will have an understanding of a healthy connection to the environment. It is from this standpoint that the ecopsychologists counsel and dispense advice, advice to heal a damaged world.

But are there other ways to reconnect environmentally? Is lying on the therapist’s couch and bandying words about connection the same as connecting? And while the answer to this might be yes, is therapy the only answer to create a true understanding of the mind-body-environment whole? Certainly, our previous exercise of sifting through the margins of each discipline also helped us comprehend holism. But, as

⁷⁵ Barrows, 109.

⁷⁶ John H. Crook, *The Evolution of Human Consciousness* (Oxford: Clarendon Press, 1980): 321-22.

⁷⁷ Sarah A. Conn, “When the Earth Hurts, Who Responds?,” in *Ecopsychology: Restoring the Earth, Healing the Mind*, Theodore Roszak, Mary E. Gomes, and Allen D. Kanner, eds. (San Francisco: Sierra Club Books, 1995): 165.

we unearthed a surprising wealth of hypotheses to root out our dualities, did you really *sense* unity? Did the mere knowledge of the philosophical or scientific belief in unity really make you *feel* connected to the environment? In other words, to put it bluntly, does all this *talk* clarify a practical path to an environmental ethic? I would hesitate to say yes. Although I see the need for attempting to delineate a new philosophy through words, these words only take us so far. We may peek at the implied holism that we delineate, but will the abstraction of words really grant us comprehension of interrelatedness? I've spent a lengthy time arguing for the necessity of a *verbal* base for environmental ethics especially for the strength and feasibility of the environmental movement, but I see the need to go further. Words can give us a glimpse, but only through action or practice can we embrace the whole picture and make real progress. As Don Hanlon Johnson, an expert in the area of somatic innovation, notes, while dualism may be "roundly discredited in every field of thought..., [w]e can't loosen its grip on our muscles simply by rational analysis; a true transformation requires practical strategies..."⁷⁸ In other words, while *explaining* holism can act as an interesting and even vital exercise, *experiencing* the mind-body-environment connection serves as the only full comprehension of the concept. In fact, I would argue that only by experiencing holism can we take the step that will result in a real protection of our fragile ecosystems. But what is the practice that can take us there?

I am not a runner. But the one time I experienced a runner's high left me with little doubt. I glimpsed oneness with my surroundings and became more intimately in tune with myself than at any other time. Rigid boundaries disappeared and I discovered myself and the environment to be inseparable. This kind of deep involvement to the point of dissolving boundaries is rare, but nonetheless achievable. Mihaly

⁷⁸ Don Hanlon Johnson, *Body: Recovering Our Sensual Wisdom* (Berkeley: North Atlantic Books, 1983): 153.

Csikszentmihalyi, a professor and former chairman of the psychology department at the University of Chicago, has studied such absorbed activities, which he calls “autotelic” activities.⁷⁹ These autotelic activities, which include such activities as rock climbing, dancing, and chess, foster total involvement of an individual, a rewarding prospect for those involved. In fact, “autotelic,” which means “for its own sake,” indicates that those performing the given activity are motivated purely by intrinsic, rather than extrinsic (money, prestige, power), rewards.⁸⁰ Introspective and externally perceptive modes of awareness merge in autotelic activities; those involved experience a holistic sensation where dualisms disappear. Action and awareness merge to send the practitioner to a seemingly higher level of consciousness; they experience “flow.”⁸¹ Those studied used terms such as timelessness, spiritual connection, oneness with nature, and integration of mind and body to describe their experiences.⁸² Even Arne Naess comments on such activities. Naess points to absorption in either contemplating a natural being or in “vivid action” as moments when “there is no experience of a subject-object relation.”⁸³ Is this perchance our answer? Can we reconnect to the environment and be granted an understanding of holism by discovering those moments of deep flow? And can we readily incorporate such autotelic activities into our daily lives to take the next step to a societal understanding of reality?

From a personal stance, I see incredible potential in this path. And, even better, we have options. Perhaps the concentrative meditation of Buddhism, or hang-gliding, or hiking can facilitate our discovery; or perhaps we can discover other forms of practice to connect us to the environment through a highly physical, deep flow activity. In the next

⁷⁹ Mihaly Csikszentmihalyi, *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*, 25th anniversary ed. (San Francisco: Jossey-Bass, Inc., 2000): 10.

⁸⁰ Csikszentmihalyi, 13-8.

⁸¹ Csikszentmihalyi, 38-40.

⁸² Csikszentmihalyi, 38-48

⁸³ Naess, *Ecology, community and lifestyle*, 66.

three chapters, I will explore some potential flow activities that facilitate such a connection. These activities, including Pueblo dance rituals, the Alexander technique, and contact improvisation, developed at radically different times in history. Yet, they are all methods that employ movement to evoke flow. It is my contention that through movement we inherently active beings have the potential for embodying a mind-body-environment unity that can lead us down the path to a deep-rooted environmental ethic. For if we *embody* the value systems laid out in Leopold's land ethic or in Naess' deep ecology ethic or even in certain indigenous cultures' environmental beliefs, we'll be on our way to *action*. And it is only through action that real environmental protection occurs.

These three movement options figure prominently in my reasoning due to my own background as a dancer. But perhaps they offer only incipient suggestions for future directions. After all, our options may be limitless. But in order to catch a glimpse of a new ultimate reality shed of dualities, we need to go beyond a society riddled with attention difficulties to encounter deep flow experiences. And though my words in this paper can only create a pen-and-ink drawing of an environmental ethic based on the both-and theory of reality, certain practices mentioned may provide a route to the full oil painting. J. Baird Callicott calls our current state of being an "interregnum" between Modernity and a more advanced stage.³⁴ I would argue that in order to get to the next stage we require not only an outlined ethic, but a path of action. Will this be our answer? Will practice show us a new view of reality? We may not know until we test the path. But one thing is certain. Our first step on this path must be dissolving the divisive dualities that permeate our society. By surfing the gray areas between divisions, disciplines, and dualities, we may grasp a new understanding of our connection to ourselves and to the environment and gaze on a new image of reality.

³⁴ Callicott, *Beyond the Land Ethic*, 260.

Chapter Two

The Pueblo Ritual: Embodying Connection

*O our Mother the Earth, O our Father the sky,
Your children are we, and with tired backs
We bring you the gifts you love,
Then weave for us a garment of brightness:
May the warp be the white light of morning,
May the weft be the red light of evening,
may the fringes be the falling rain,
May the border be the standing rainbow,
Then weave for us a garment of brightness,
That we may walk fittingly where the birds sing,
That we may walk fittingly where the grass is green
O our Mother the Earth, O our Father the Sky.
-Tewa Song*

On a cold, bright New Year's Day in 2002, a line of men file onto a dirt plaza. Silently they face south and begin stamping their moccasined feet to the beat of a drum. Hot, deep breath slowly blossoms from their mouths in the form of song. The sound of rattles splits the heavens. As I watch the men stand bare-chested and bare-legged in the freezing morning air, I shiver just sensing the tender skin risking the elements. But gradually as the songs progress, their bodies maneuver through the repetitive footwork that describes the subtle musical shifts and the blood begins to flow. Claspng their gourd rattles and evergreen branches, the men transform as the dawn chill disappears. No longer are they mere men, but they are the best that men can be. The blood circulating in their veins joins to be one vein; a sense of community surfaces. And then the fingers of warmth extend past their communal skin to welcome the surroundings, their families, even the rich, white tourists who have come for the spectacle. Although many of the tourists, due to their cultural blinders, somehow dismiss the movement and song as some quaint

ritual from a dead culture, some tourists, myself included, are filled with awe. We are no longer separate from the event; rather we are there to witness and even participate in the proper execution of a vital ceremony. We are one with the performers and the surroundings and we offer this sense of connection as a prayer to the forces that be.

Sound romantic? Of course. Perhaps I, along with other non-Indians frequenting the Turtle Dance at Taos Pueblo since the time of the Spanish invasion in the sixteenth century, am just another Anglo woman romanticizing Pueblo culture⁸⁵ and projecting my own cultural desires onto them. As Margaret Jacobs tells us in her insightful work, *Engendered Encounters*, white women since the late nineteenth century have used the Pueblos in this way again and again. Rather than understanding Pueblo culture for its own sake, Anglos, due to their own interests, want to see Pueblo culture as either an ideal or as fundamentally flawed.⁸⁶ But, even attempting to avoid such pitfalls, can we see Pueblo culture for what it truly is? Or, similar to the antimodernists in the Southwest in the 1920's and 1930's and/or the environmentalists in the 1970's, will we fall into the trap of co-opting a worldview that we will never understand? If, as Calvin Martin tells us, Indians as a whole have such a radically different conception not only of values, but even of space and time,⁸⁷ can we find *any* form of intercultural communication? Maybe both Anglos and Pueblos should just pack up and scuttle home to our miniscule enclaves, closing our eyes to potential lessons held in the cultural jewels of the world's diverse peoples. But perhaps there's another way. Avoiding both romanticism and

⁸⁵ In many ways, I am loathe to use generic terms such as 'Pueblo culture,' 'the Pueblos,' and worse, 'Native Americans' due to the obvious lumping of many diverse tribes into one grand vat. For our purposes, however, many similarities exist between the Pueblo tribes with regard to the rituals themselves and this is particularly true of the specific movement in the ritual dances. For this reason, I will group the various Pueblo tribes under the term 'the Pueblos,' unless I refer to specific tribes such as the Tewa, Hopi, Keresan, etc. which are grouped based on language commonalities. When I use the even more generic term 'Native Americans', this is based upon the use of such a term in the literature to which I refer.

⁸⁶ Margaret D. Jacobs, *Engendered Encounters: Feminism and Pueblo Cultures, 1879-1934*, (Lincoln: University of Nebraska Press, 1999).

⁸⁷ Calvin Martin, "An Introduction aboard the Fidele," *The American Indian and the Problem of History*, Calvin Martin, ed. (New York: Oxford University Press, 1987).

appropriation, perhaps we can come to a place where we can learn from one another to improve both societies. As the world grows smaller through technological advances and as the earth's resources shrink, the need for crosscultural communication and the potential for intercultural learning appears not only possible, but essential. Without such efforts, our own sustainability as a human society seems suspect. So what lessons does Pueblo culture potentially hold for global citizens? Will one of the world's oldest communities have insights that may benefit humanity as a whole? Where will we find such knowledge in Pueblo culture? Is it possible that the Turtle Dance at Taos could yield some pearls of wisdom from an incredibly durable culture?

Pueblo rituals such as the Turtle Dance figure prominently in the Pueblo world. More than any other event or oral record of the Pueblos, these ceremonials, typically full day affairs that include music, dance, and dramatic elements, have acted as the storage facility for Pueblo myths, history, and worldviews throughout their long residence in the Southwest. As Sondra Fraleigh, a professor of dance at SUNY Brockport, claims, rituals are the "cultural repository" for a people.⁸⁸ Not only do the Pueblo rituals demonstrate their history, but they delineate religious beliefs, economic systems, and even socially appropriate behaviors. Writing about the Hopi, Joann Kealiinohomoku, a renowned dance ethnographer, asserts that the Hopi rituals function as microcosms of Hopi culture due to the complex organization, preparation, and performance of each ritual.⁸⁹ The rituals, in commanding immense time commitments from the participants as well as the involvement of the entire community, rejuvenate communal feeling and celebrate the most time-honored Pueblo beliefs. They figure as the embodiment of Pueblo history and they

⁸⁸ Sondra Horton Fraleigh, "Family Resemblance," *Researching Dance: Evolving Modes of Inquiry*, Sondra Horton Fraleigh & Penelope Hanstein, ed. (Pittsburgh: University of Pittsburgh Press, 1999): 14.

⁸⁹ Joann Kealiinohomoku, "Dance Culture as a Microcosm of Holistic Culture," in *New Dimensions in Dance Research: Anthropology and Dance - The American Indian*, by the Congress on Research in Dance, (New York: COR, 1974): 99-106.

flesh out the essentials of the Pueblo worldview. But beyond this, these rituals are transformative. As I mentioned, in watching the Turtle Dance through the course of a day, I stood in awe of the altered state not only of the dancers, but of the viewers as well. Fraleigh finds this unsurprising. In *Researching Dance*, she maintains that “[c]ultural rituals and ceremonies extend space and time beyond the ordinary sense, and as such they are transformative on both personal and communal levels.”⁹⁰ Certainly, at Taos, the total involvement as well as the incredible stamina of the performers indicated a high level of physical, psychological, and mental calm that bespoke a transformation. The performers seemed at peace in a way that suggested a holistic sense of themselves. In their transformed state, body, mind, and spirit became one. Even further, as the ritual progressed, the performers appeared inseparable from their surroundings. While many have commented on various Native American tribes’ ties to the environment and have romanticized such ties, little research has been done on the particulars of why Indian *ceremonies* seem to connect them to the environment. For example, what is it about the Pueblo ceremonials that creates such a connection? How does the ceremonial allow the Pueblos’ awareness to expand past their own body-mind to include the environment? And does this unity between body-mind-environment as it develops in the Pueblo ceremonials illustrate and/or encourage a respect for the environment?

Now I bet you’re assuming that I’m just another white environmentalist supporting the romantic view of the ecological Indian. Perhaps. But perhaps we’re throwing out the stereotype of the ecological Indian, along with many truths about Indian

⁹⁰ Fraleigh, “Family Resemblance,” 14.

interactions with their surroundings, a bit too quickly.⁹¹ Perhaps we're just using inappropriate terminology to describe their connection to the land. Of course, as J. Baird Callicott, an expert in the field of environmental ethics, points out, the Indians weren't ecologists in the Western sense of the word.⁹² Ecology is a science invented in the 1860's by whites. Yet, to dismiss the worldviews of Native Americans in general as either ecological or anti-ecological is ridiculously simplistic. In truth, it doesn't take a genius to recognize that Indians had to be decidedly enmeshed with their surroundings due to their subsistence methods. And it doesn't take too much of a leap to say that this is true for all Native Americans in the pre-contact period. As N. Scott Momaday, the well-known Kiowa author, purports, the Native American "heritage has always been rather closely focused, centered upon the landscape as a particular reality."⁹³ How did such a focus on the environment govern the beliefs and actions of Native Americans? For Momaday, the key term is appropriateness. Indians structured their interactions with the natural world by determining what is appropriate within the human-nature relationship. But this guideline for appropriate action stemmed from morality, not science. Rather than claiming Indians were a predecessor of modern ecological science, both Momaday and Callicott see Native Americans basing their actions on ethical premises. As Callicott

⁹¹ An interesting article that readily connects Indians and the modern environmental movement comes from George Cornell. His article, "The Influence of Native Americans on Modern Conservationists" from the Summer 1985 edition of *Environmental Review*, demonstrates that many of the founders of the conservation movement in the 1800's, such as George Bird Grinnell and Ernest Thompson Seton, gleaned their ideas for the conservation movement from having spent significant periods of time with the Indians. According to Grinnell, the conservation movement is "to some extent, an outgrowth of American Indian philosophy" (115), thus making it unsurprising that the environmentalists of today turn to Native American beliefs for inspiration.

⁹² J. Baird Callicott, "Traditional American Indian and Western European Attitudes Toward Nature: An Overview," *Environmental Ethics* 4 (Winter 1982): 309. Callicott speaks in his article of Native Americans as a whole, although he points out that "there is no *one* thing that can be called *the* American Indian belief system" (293). But he also notes that "recognition of the diversity and variety of American Indian cultures should not obscure a complementary unity to be found among them. Despite great internal differences there were common characteristics which culturally united American Indian peoples" (294).

⁹³ N. Scott Momaday, "Native American Attitudes to the Environment," in *Stars Above, Earth Below: American Indians and Nature*, Marsha Bol, ed. (Niwot, CO: Robert Rinehart Publishers and the Carnegie Institute, 1998): 3.

notes, Indians saw themselves as integrated into a world alive with both human and non-human beings:

[T]he typical traditional American Indian attitude was to regard all features of the environment as enspirited. These entities possessed a consciousness, reason, and volition, no less intense and complete than a human being's. The Earth itself, the sky, the winds, rocks, streams, trees, insects, birds, and all other animals therefore had personalities and were thus as fully persons as other human beings.⁹⁴

With such a perception of personhood in every aspect of the living world, Indians saw humans and the natural world constituting one, not two, communities.

How did this idea of one unified community dictate behavior? Due to their non-hierarchizing of the natural world (which obviously includes humans), Native Americans saw morals that governed human interactions regulating all human-environment interactions as well. Thus, reciprocity became the watchword for all behavior, particularly among Pueblos. As Byron Harvey, III explains, "Reciprocity is a key term in the Pueblo equation."⁹⁵ Callicott links this development of reciprocal relations to the inclusion of the natural world into the Native American social order. With an understanding of the natural world as a community of people,

it is necessary to one's well-being and that of one's family and tribe to maintain good social relations not only with proximate persons...but also with the nonhuman persons abounding in the immediate environment...Existence in this larger society, just as existence in a family and tribal context, place people in an environment in which reciprocal responsibilities and mutual obligations are taken for granted...⁹⁶

Alfonso Ortiz, a Tewa Pueblo and noted historian, sees this integration of natural and social spheres among the Tewa even in the present. As he states, "when the Tewa think of their social and cultural system, including their relationship to the natural world, they think of it as a single, integrated system."⁹⁷ And in such a context of an extended social

⁹⁴ Callicott, "Traditional American Indian..." 305.

⁹⁵ Byron Harvey, III, "An Overview of Pueblo Religion," in *New Perspectives on the Pueblos*, Alfonso Ortiz, ed. (Albuquerque: University of New Mexico Press, 1972): 208.

⁹⁶ Callicott, 305-6.

⁹⁷ Alfonso Ortiz, *The Tewa World: Space, Time, Being, and Becoming in a Pueblo Society*, (Chicago: The University of Chicago Press, 1969): 97.

order, behavior follows the rules of human etiquette. The same moral principles guiding your conduct toward your next-door neighbor dictate your relations with the environment.

But does this image of Native Americans bring us right back to the ecological Indian stereotype? Did their inclusive worldviews stop them from damaging the environment during the fur trade or the infamous bison decline? Didn't these same ethical principles result in a detrimental salinization of the land in the Southwest? Naturally, as Shepard Krech points out in his highly debated work, *The Ecological Indian*, Indians did not necessarily follow "the premises of Western ecological conservation."⁹⁸ Yet, to dismiss Indian ethical standards toward the environment as inherently *non-ecological* based on single examples seems hasty and unsubstantiated. As Callicott astutely observes, pointing to such instances and concluding that Native Americans had no land ethic is "very much like pointing to examples of murder and war in European history and concluding therefrom that Europeans were altogether without a humanistic ethic of any sort."⁹⁹ While Native Americans' moral standards dictated respectful conduct toward the natural world and were largely successful in these ends, certain actions by individual Indians or even tribes may have rejected the guidelines at certain times. However, for the most part, Native American behaviors and their ethical premises meshed to guide Indians to positive, and even environmentally sound (by Western standards), behaviors toward the environment.

But can we find beneficial environmental practices among the Pueblos in particular which demonstrate these ethical standards? Christopher Vecsey, a professor of religion and Native American studies, certainly finds the Southwest replete with environmentally

⁹⁸ Shepard Krech III, *Ecological Indians: Myth and History* (New York: W.W. Norton and Company, 1999): 212.

⁹⁹ Callicott, "Traditional American Indian..." 311.

sound practices. In *American Indian Environments*, Vecsey marvels at the the Pueblos' unique adaptations to the almost impossibly dry climate of the Southwest. Vecsey points to the Indians' careful use of every piece of such wild plants as mesquite, screwbean, yucca, sotol, beargrass, and agave to meet their subsistence needs. Such use of their surroundings also points to an impressive knowledge base. The Tewa, Vecsey claims, know plants so intimately that they have "forty names for different parts of each leaf."¹⁰⁰ But beyond knowledge of their environment, the Pueblos effectively maintained their surroundings with minimal damage. As Vecsey notes, they nurtured delicate grasses, prevented flooding, and raised crops in an arid climate using exceptional cultivation and irrigation techniques.¹⁰¹

Richard Ford, a professor of anthropology and an expert in paleoethnobotany, is also clearly impressed by the Pueblos' land use. Ford demonstrates in *Biodiversity and Native America* that Pueblo methods of water collection were not only efficient, but improved the biodiversity of the Rio Grande area. Through the construction of lithic mulch fields, barrow pits, irrigation ditches, terraces, and hillside holding tanks, the Pueblos maximized the minute precipitation of the desert climate and encouraged the growth of grasses, conifers, and rare medicinal plants. Ford asserts that "prehistoric disturbance did not diminish biotic diversity; it enhanced it."¹⁰² David Stuart, another champion of ancient Pueblo cultures, finds Pueblo society almost miraculous in its efficiency. Stuart, in his book *Anasazi America*, particularly appreciates the Pueblos'

¹⁰⁰ Christopher Vecsey, "American Indian Environmental Religions," *American Indian Environments*, Christopher Vecsey, ed. (Syracuse, NY: Syracuse University Press, 1980): 9.

¹⁰¹ Vecsey, 10.

¹⁰² Richard I. Ford, "Human Disturbance and Biodiversity," *Biodiversity and Native America*, Paul E. Minnis & Wayne J. Elisens, eds. (Norman, OK: University of Oklahoma Press, 2000): 219.

ability to learn from past mistakes¹⁰³ as they demonstrated in their thirteenth-century settlements along the Rio Grande. During this period, the Pueblos not only maintained smaller population levels while gradually integrating themselves into their new environment, but they had the acumen to develop strips of land that included diverse ecological zones based on elevation. In doing so, the Pueblos proved that they understood the advantages in multicrop strategies. According to Stuart, the Pueblos flourished due to their incorporation of four main principles of survival: egalitarianism, economic diversity, conservation, and efficiency.¹⁰⁴ Even today, the Pueblos' efforts toward specific environmental goals in the face of Western encroachment demonstrate their continued environmental practices. For example, Isleta Pueblo just won a large victory when the Supreme Court ruled in 1998 that the pueblo has the right to order the city of Albuquerque to end its dumping in the Rio Grande River. In addition, the Sandia Pueblos currently seek protection from further development for Sandia Mountain due to its significance as a religious site. Unfortunately, their requests languish in Congress and they are forced to watch their most important religious site get trampled by construction from the ever-expanding Albuquerque suburbs:

But, as we noted, do individual instances of environmentally sound practices demonstrate a true environmental ethic? And if we can't look to these examples, where should we turn to find proof of such an ethic? I would argue that even more than these single illustrations of environmental sensibility, looking to the Pueblo ceremonials will make evident their ethical base. In the pre-contact era, the Pueblo rituals acted as the

¹⁰³ David E. Stuart, *Anasazi America: Seventeen Centuries on the Road from Center Place*. (Albuquerque: University of New Mexico Press, 2000): 121-4. Stuart discusses the downfall of Chacoan society as one of these past mistakes. In Stuart's view, Chacoan society engaged in "psychological denial and social myopia" (121) as their drive toward massive building overextended the fragile environment. Thus, by dismissing the necessity of balance with the environment, the Chacoans' fell; yet the Pueblos lived on and refrained from making the same errors of overextension.

¹⁰⁴ Stuart, 147-68.

major repository for the Pueblo worldview for a people without a written language. Further, they contained a map for creating appropriate connection to and use of their surroundings. As Stuart claims, hunting, gathering, and agricultural skills survived through the ages mainly due to Pueblo ceremonial practices. He shows that “knowledge was encoded into religious ceremonies, dances, chants, and harvest-time procedures that were reenacted annually for the benefit of the entire community.”¹⁰⁵ During the pre-contact era, then, the rituals functioned as an active demonstration of Pueblo cultural values.

Even today, the ceremonies work to maintain cultural survival and traditional values in the face of environmental and social adversity. Edward Dozier, a Pueblo historian writing in the 1970’s, found the ceremonies demonstrative of the Pueblo relationship to the environment as well as a cultural method for maintaining social order. “Rites and ceremonies properly performed keep the seasons moving, allow the sun to rise and set properly, bring rain and snow, quell the winds, and insure a well-ordered physical environment and society.”¹⁰⁶ The rituals show the Pueblo belief that their actions, as part of the natural world, directly effect their environment. Even under the onslaught of modern Western culture, the Pueblos hold to the tenet that if the Pueblo perform the rituals correctly, nature will in turn smoothly progress through the agricultural seasons in a steady, balanced manner. Dozier suggests that “[t]he Pueblo ceremonialism is best understood as an aspect of the general Pueblo concept of the interrelatedness and cooperative nature of the universe. Ceremonial activity is the Pueblo’s contribution to maintaining a harmonious balance, which is believed to be the natural state of affairs.”¹⁰⁷ Thus, by affirming their connection to the environment through the rituals, the Pueblos ensure the continuance of their society in a balanced world.

¹⁰⁵ Stuart, 155.

¹⁰⁶ Edward P. Dozier, *The Pueblo Indians of North America* (New York: Holt, Rinehart, and Winston, Inc., 1970): 151.

¹⁰⁷ Dozier, 200.

The Pueblos are particularly invested in discovering balance in a world of perceived duality. In fact, in Alfonso Ortiz's classic, *The Tewa World*, the Tewa Pueblos appear obsessed with dualism due to their understanding of seasonal opposition. Split into two groups or "moieties," the Tewa belong to either the Summer or Winter moiety from which every cultural activity is organized and performed. Such clear definition of groups indicates a level of dualism rarely seen in other cultures.¹⁰⁸ However, this decided emphasis on dualism does not necessarily imply animosity between the seasonal poles. Rather than viewing the world as made up of hostile and opposing forces, as in the Christian belief in good versus evil, the Pueblos see their role as the cultivator of harmony. As Joann Kealiinohomoku purports, for the Hopi, "the metaphysic is that life alternately builds and deteriorates, but it is not a war between good and evil: Winter and death are checks and balances in nature. Because they are necessary they are not evil."¹⁰⁹ Yet, it is the job of the Pueblos to keep a balance between the forces of the universe through their ritual activities. In fact, even though the Pueblos recognize a natural dualism in the world, they are hardly complacent about such a state. While they see dualism as a natural state, they still find it a necessity, possibly even a duty, to resolve such dualisms toward discovering an underlying unity. Otherwise, polar extremes may dissolve into chaos without the potential for resolution. Kealiinohomoku claims, "Most of all, rituals and ceremonies prevent human beings from experiencing entropy from which there is no retrieval, just as the world itself always recovers from entropy, when, for instance, the seasons change, and the tides ebb and flow."¹¹⁰ To encourage unity and discourage chaos, the ritual figures as the most important tool. What is it in these rituals that helps the Pueblos discover unity? And how does discovering unity facilitate positive interaction

¹⁰⁸ Ortiz, *The Tewa World*, 3-10.

¹⁰⁹ Joann W. Kealiinohomoku, "Dance, Myth and Ritual in Time and Space, *Dance Research Journal* 29: 1 (Spring 1997): 69.

¹¹⁰ Kealiinohomoku, 70.

with their surroundings? A journey to witness the Pueblo rituals may foster our understanding.

I traveled to the Southwest during the Christmas season of 2001.¹¹¹ As yet another white tourist gaping at an ancient rite, I felt privileged to be present and also invasive in my presence. Who was I to be watching rituals that figure as the clearest statement of the Pueblo worldview? Given, I was not witnessing the kachina dances that the Pueblos consider the most sacred of their ceremonies. Yet these community-wide rituals hold just as much import for the Pueblos and illustrate the same beliefs as seen in the kachina ceremonies. In fact, Elsie Clews Parsons called the Turtle Dance at Taos Pueblo a maskless kachina dance when she studied the Pueblo rituals in the 1920's and 1930's due to the movement and pattern similarities between the Turtle Dance and the kachina dances.¹¹² In the Turtle Dance as I saw it at Taos, over forty men lined the plaza in front of a multi-level adobe structure, each dressed in a white kilt with angular patterns embroidered on the fabric. Later in the day, the men exchanged these kilts for brightly colored shawls creating the impression of a flock of vibrantly plumaged birds. Claspd in their hands were gourd rattles and evergreens; tucked into their headdresses were feathers and more evergreens. Moccasins lined with soft fur encased their feet and a smear of white paint enveloped their chins. One leader, wrapped in a blanket and carrying evergreens, shuffled in time with the drum back and forth in front of the men, rarely

¹¹¹ My time in the Southwest was spent in the eastern Pueblos, therefore, my references will be limited to the Keresan and Tewa Pueblo. I will limit myself to discussing the dances I personally witnessed during my time in New Mexico. I will not discuss either the well-known Shalako dances of the Zuni or the Hopi Snake Dance, yet similarities can definitely be seen between the Pueblos with regard to movement choice, patterns, and costumes. I will also argue that the purpose of many of the ceremonies is multi-faceted, but even within this varied character, the function of the ceremonies is similar in much of the Southwest. If unable to travel to the Southwest, interested viewers can get a minimalist feel for the steps of the dances from a video entitled *Ceremonial Music of San Juan Pueblo* put out by the UCLA Office of Instructional Development. The Garcia brothers, Peter and Cipriano, demonstrate the steps and the music of seven dances in this 1978 video.

¹¹² Elsie Clews Parsons, *Pueblo Indian Religion*, Volume 2 (Chicago: The University of Chicago Press, 1939): 736.

looking at them. As the single drummer began pounding on an enormous drum, the men began moving to its beat with the traditional step of the majority of Pueblo rituals. This step, called the *antegeh* in Tewa, involves stomping the right foot with an almost imperceptible lift of the left foot followed by a softer stamp of the left foot while raising the right knee.¹¹³ At no time do the knees achieve a fully straightened position. All the while during the *antegeh*, the men, who keep their arms bent at a soft angle, shake their gourd rattles toward the ground as they stamp the right foot. The torso remains in a neutral position, even seemingly relaxed. The *antegeh* can be performed in place, as in the Turtle Dance, as well as traveling sideways or forward. In the Turtle Dance, the dancers spend the majority of their time in the *antegeh*, until at a certain signal invisible to the novice's eye, they lift their right arm and pivot 180 degrees, all the while shaking the rattle held in the right hand. After using the *antegeh* step to reestablish their position, they perform the same turn in reverse. During one song the men also slow down the *antegeh* and shake their rattles toward the ground on either side of their bodies.¹¹⁴ The dancers maintain a single file line throughout the dance through one song cycle and walk to another part of the plaza to repeat their movements. When I witnessed the ritual, the men apparently performed one cycle of songs in the kiva, and then moved to three other places in the plaza to complete a circuit. After this they rested for a short interval before beginning another circuit.

Sound simple? Hardly. While the steps themselves are relatively minimal, making it easier for the younger generations to participate in the dance, the elder Pueblo dancers demonstrate through their movements and their presence the true subtleties of the dance.

¹¹³ Jill D. Sweet, *Dances of the Tewa Pueblo Indians: Expressions of New Life* (Santa Fe, NM: School of American Research, 1985):17.

¹¹⁴ Interestingly enough, Elsie Clews Parsons' descriptions of the Taos Turtle dance, particularly with regard to movement and costumes, is almost identical to what I witnessed, although fewer men participated in the 1932 ceremony she describes.

For not only are the men dancing, they are singing as well. Music and dance are literally inseparable. While singing, the dancers add to the musical complexity with their rattles and with the bells tied at their ankles, knees, or waist. As Hao Huang, who took lessons with Peter Garcia, a composer for the San Juan Pueblo rituals, describes, "All this contributes to the mystifying yet compelling effect of the Turtle Dances, characterized not by rhythmic monotony but in fact by rhythmic sophistication, best described as a rhythmic heterophony...."¹¹⁵ The slight pauses in the music and in the dance, called *l'aa*, reinforce the impression of complexity. Slipping with ease from one song to the next, the dancers must keep track of the order of the songs, the slight movement changes, rhythmic alterations, and their unity with the rest of the group. In addition, and possibly most importantly, they have to keep in mind the purpose of the ceremony. No simple task, particularly when, as in the Turtle Dance, the songs change every year.

Do other Pueblo dances show similarities to the Turtle Dance? Certainly, with regard to movement, the dances demonstrate a degree of likeness. Yet, as we move on to visit the Corn Dance and the Eagle and Buffalo Dances, differences also assert themselves from dance to dance and from pueblo to pueblo. In the Corn Dance, as it was performed at Zia Pueblo on December 28, 2001,¹¹⁶ a level of complexity appeared in addition to the presence of women in the dance. At mid-morning, almost magically the dancers appeared out of houses surrounding the plaza or from further off, fastening a last bracelet or fixing the animal skin hanging out of their waistband. Lining up in same-sex couples, the eighty-some dancers slowly began to delineate a circle around the plaza almost as if they were demarcating the outlines of a field. The women, dressed in bright flowered underdresses and black woolen overdresses (or *manta*), gazed toward the earth, while the men, dressed

¹¹⁵ Hao Huang, "The 1992 Turtle Dance (Oekuu Shadeh) of San Juan Pueblo: Lessons with the Composer, Peter Garcia," *American Indian Culture and Research Journal* 21:4 (1997): 192.

¹¹⁶ Although the Corn Dance is typically a spring ritual for planting, a harvest ritual, or the dance performed on a Pueblo's Saint Day, it does appear periodically during the winter season.

in a white kilt similar to the Turtle dancers and with bells jangling at the backs of their knees, focused on the sound of their rattles. As their feet kneaded the ground with a simple running step, I marveled at their stamina. Periodically, the dancers faced into the circle and then faced outwards while the men shook their rattles with greater ferocity. Although the singing and drumming for the Corn Dance was in the hands of a group of thirty musicians clustered in the center of the circle, the dancers' feet and rattles contributed to the sensation of rhythmic prodding that rocked the plaza. After an hour of incessant movement, the performers came to a stop and disappeared for lunch either into the kiva or to the houses grouped around the central plaza.

According to Gertrude Kurath and Antonio Garcia, an anthropologist and a Tewa Pueblo Indian respectively, the dances of the Keresan, such as those at Zia Pueblo, show decidedly more complex formations than the Tewa Pueblo dances.¹¹⁷ And, as it progressed at Zia, the Corn Dance certainly grew in intricacy. On their second appearance, the dancers formed two lines facing one another, alternating men and women. As they began a step-hop on each side, they also began traveling straight across as if changing lines or even traveling into four or five small circles before they would return to their original lines. With a plaza full of close to eighty dancers and thirty-odd musicians, such weaving patterns spoke to the dancers' keen spatial awareness. In their third set, the dancers again impressed the circular form in the plaza dirt as they defined their space. Then progressing into two lines, the dancers, rather than facing one another, turned as a body to perform their movements in single file facing either north or south. In all motions, the women showed a reserve much greater than the men, and they danced without holding any ritual objects. Although the men shook gourd rattles, even fiercely at times, both sexes tended to moderation in arm gestures, rarely moving the elbows away

¹¹⁷ Gertrude P. Kurath with the aid of Antonio Garcia, *Music and Dance of the Tewa Pueblos* (Santa Fe, NM: Museum of New Mexico, 1970): 282.

from the sides of the body. In these final two sets, the dancers' gestures developed into movements reminiscent of field work. While the men worked with the rattle in a way similar to the Turtle Dance at Taos imitating the sound of rain on the dry crops, the women tended to accent the upward motion of the arms. Watching them, I couldn't help but envision the women planting precious corn seeds, picking the ripe corn, or possibly shucking it. Their movements seemed both imitative and preparatory for the summer season.

While the Corn Dance demonstrated impressive complexity of pattern, the movements in the Eagle Dance and the Game Animal Dances displayed more diversity. At San Felipe on December 27, 2001, five eagles soared into the plaza and began an interpretive dance. Maintaining a north-south linear pattern, the men, dressed in eagle headdresses and wings, proceeded to walk or hop with one wing extended, combining stately flight with coming to rest on a perch. The five men who embodied the eagle movements showed a virtuosity, particularly in regard to their whistling and perching, that appeared absent from many of the larger communal dances. Deep-knee bends and pivots suggested the repeated flight and landing of the bird. And grasped in their hands were eagle claws adding to the realism of the dance. Non-Indian visitors were almost non-existent at San Felipe when I was there, yet over the years, many have come to see the Eagle Dance due to the spectacular mimesis of the dancers. Bessie and May Evans, writing in the 1930's, called the Eagle Dance "one of the most realistic...dances that take the form of dramatic impersonation" and Bernard Mason in the 1940's romanticized the dance saying, "One cannot watch a Pueblo Eagle dancer without sensing an innate capacity for imitation...that is wholly superior."¹¹⁸ Today, the Eagle Dance has

¹¹⁸ Bessie Evans and May G. Evans, *American Indian Dance Steps* 2nd ed. (New York: Hacker Art Books, 1975): 49; and Bernard S. Mason, *Dances and Stories of the American Indian* (New York: The Ronald Press, 1944): 5.

progressed well beyond the boundaries of Pueblo ritual and has become a common exhibition dance for many other tribes.¹¹⁹ Certainly, the remarkable likeness between the dancers and the eagles they are imitating makes this particular dance popular for both Indians and non-Indians to witness. Yet, at San Felipe, the ceremony included a Buffalo Dance as well, which is, by all accounts, an unusual event. Kurath and Garcia mention that “[t]he Keresan ritualists associate Eagle Dances with Game Animal Dances, thus representing creatures of the sky and earth,”¹²⁰ but I have not found mention of a joining of this sort in the literature discussing the rituals, and such a joining would be particularly strange among the Tewa who do not associate these creatures. When the eagles disappeared, four men dressed in bison headdresses and four women acting as game mothers processed into the plaza and began a circuit of the plaza, choosing four places to repeat their movements. While the *antegeh* in place dominated the movements, the dancers, who began in two lines facing one another, also periodically meshed the two lines as they exchanged places or flexed their torsos scooping their arms toward the ground. Throughout the day, the eagles and bison rotated dancing in the main plaza while the other group made a grand circuit of the village, drawing a larger space into their dance.¹²¹

Why do the Pueblos still perform such ceremonials? Why did they in the past? Are there similarities in the dances and their functions throughout the long settlement of the Pueblos in the Southwest? Clearly, to assume that these dances or their stated intentions have remained static over hundreds or thousands of years is misinformed. As Donald Brown, an anthropologist who witnessed the dances from the 1950’s to 1970’s, claims, the dances are not a “static fossil inherited from the past, but...a dynamic force

¹¹⁹ Kurath with Garcia, *Music and Dance*, 222.

¹²⁰ Kurath with Garcia, 219.

¹²¹ For detailed descriptions of these dances as well as the other Pueblo rituals, I suggest examining Jill Sweet’s *Dances of the Tewa Pueblo Indians*, Gertrude Kurath and Antonio Garcia’s *Music and Dance of the Tewa Pueblos*, and Elsie Clews Parsons’ *Pueblo Indian Religion*.

which has allowed the residents of the pueblo to adapt and survive in a continually changing social and natural environment.”¹²² Yet, many of the basic functions behind the rituals remain today, albeit with a more modern interpretation. Over the years, Anglo scholars have offered mainly simplistic explanations for the rituals that typically focus on the request for rain. While precipitation certainly figures as a major topic in the Southwest, beyond this, each dance has its own special, and usually varied, purpose. For example, the Buffalo Dance, which is one of a number of hunting rituals, petitions the supernatural powers (which are, in many ways, synonymous with nature) for an increase in game, both for the hunters and for the herds themselves, while also requesting clement weather for the hunt. The Corn Dance, due to its association with the most important of crops, asks for rain to ripen the growing seedlings, but beyond this, the Corn Dance requests fertility for all humans, plants, and animals.¹²³ In the Eagle Dance, the Pueblos see the eagles as able to directly intercede with the powers of the sky; thus, not only can they bring rain, but they may provide the Pueblos with other necessary items. Clearly, the Pueblos venerate aspects of the natural environment for the power to continue or enhance human survival in the face of adversity.

Yet, even these more detailed functions of the ceremonies leave something to be desired. If, as Kealiinohomoku claims, these rituals figure as a microcosm of the totality of Pueblo culture, they must have deeper symbolic and literal purposes. While appeals to supernatural powers for favorable environmental conditions seem obvious in the rituals, other aspects of Pueblo mythology and worldview jump out at the visitor. For example, in the Eagle and Buffalo dances, the genius of imitation allows the rituals to function as educational tools. Edward Dozier discusses the Pueblo’s desire to learn predatory skills

¹²² Donald N. Brown, “Dance as Experience: the Deer Dance of Picuris Pueblo,” in *Southwestern Indian Ritual Drama*, Charlotte J. Frisbie, ed. (Santa Fe: School of American Research, 1980): 91.

¹²³ Robert L. Smith, “A Graphic Interpretation of Four Pueblo Indian Corn Dances.” (M.A. diss., University of New Mexico, 1950): 5.

from the eagle, as well as from the mountain lion and bear.¹²⁴ Through the mimetic dances, the Pueblo children can learn the specifics of their surroundings, in particular the wildlife, which may prove beneficial and potentially life-saving in certain circumstances. As Frederick Turner asserts, when whites first witnessed the dances, little did they realize that “such ceremonies formed an integral part of those very survival skills they themselves lacked.”¹²⁵ In the Corn Dance, the ritual motions that imitate planting, reaping, and shucking corn not only develop essential skills, but the unceasing repetition of these movements over a long day encourages the necessary stamina and resiliency for farming in the Southwest. Yet another function of the rituals is to demonstrate appropriate and inappropriate behavior for the tribe. Jill Sweet maintains that “[t]he performances make explicit and implicit statements about Tewa society, not only reflecting social roles, relationships, and responsibilities but helping to establish, shape, and reinforce them.”¹²⁶ And educational functions, survival skills, and proper social behaviors are just the beginning of the ritual’s contribution to Pueblo culture.

Today the ritual’s purpose as a cultural preservationist dominates some of these earlier functions. Presently, by continuing the ceremonies even in the face of Western encroachment, the rituals maintain the position of the Pueblo as a significant player in the larger world. Brown claims that, for the Taos Pueblos, “the ceremonial dances appear now to function primarily as a means of identification with Taos as opposed to Anglo or ‘Mexican’ identification....Such striving for group identity may in turn reinforce village solidarity.”¹²⁷ Extending beyond the village sphere, the rituals also place the Pueblos in

¹²⁴ Dozier, *The Pueblo Indians*, 160.

¹²⁵ Frederick Turner, *Beyond Geography: The Western Spirit Against the Wilderness* (New Brunswick, NJ: Rutgers University Press, 1980): 193.

¹²⁶ Sweet, *Dances of the Tewa*, 24.

¹²⁷ Donald N. Brown, “The Dance of Taos Pueblo,” in *Reflections and Perspectives on Two Anthropological Studies of Dance*, by the Congress on Research in Dance (New York: CORD, 1976): 237-38.

the grand cosmology of the human, natural, and supernatural spheres. Rather than reinforcing divisions in society or in the cosmos, each dance serves to join humans with their enspirited surroundings. Joann Kealiinohomoku sees the ceremonies as a microcosm precisely due to the rituals' ordering of this extended sphere. In the Hopi ceremonies, she finds the roles portrayed in the dances as signifying the place of humans in relation to nature and the gods.¹²⁸ And just what is the role that humans play in this social structure? Unlike in Western mythology, the Pueblos believe that they play a vital role in the perpetuation of life, particularly with regard to natural cycles of the environment. Donald Brown claims that the Pueblos see the rituals as the "work" given to the pueblo by the deities to maintain the natural world.¹²⁹ Kealiinohomoku agrees. She sees the rituals of the Hopi as enforcing "the interdependence of the community that rises or falls as a body, and as a body must take responsibility for life in the whole world."¹³⁰ This notion of responsibility plays a large role in the rituals' importance according to Franchot Ballinger, a professor at the University of Cincinnati. Ballinger, in analyzing the songs of the Pueblo, argues that humans, through their creative efforts in the rituals, take the role of the responsible center maintaining the balance in the universe between the natural and the supernatural. "And as the responsible center [the Pueblo Indian] receives the flow of power from the universe."¹³¹ This is not to say that the Pueblos hierarchize humans over the other elements of the universe, yet they do secure an important role in their cosmology for themselves as they help preserve the natural order.

But how is it that the Pueblos believe they have the ability to maintain the world effectively? In attempting to explain this confidence in their faculties, we need to

¹²⁸ Kealiinohomoku, "Dance Culture," 101.

¹²⁹ Brown, "Dance as Experience," 86.

¹³⁰ Kealiinohomoku, "Dance, Myth and Ritual," 67.

¹³¹ Franchot Ballinger, "The Responsible Center: Man and Nature in Pueblo and Navaho Ritual Songs and Prayers," *American Quarterly* 30 (Spring 1978): 107.

remember the Pueblo insistence on dissolving divisions in society, especially as their social sphere extends beyond the village proper. The Pueblos, rather than focusing on the distance between humans, nature, and the gods, see themselves as largely undifferentiated from either of these spheres. In such a world, the Pueblos find it unremarkable that each member of the grand social sphere has a role in effecting change. As Edward Dozier points out, the cooperative nature of the universe demands that each element within the universe plays its part--humans perform the ceremonials and the natural/supernatural element will furnish the necessities of life.¹³² Also, as Ines Talamantez points out, through the medium of the ritual, the Pueblos feel that they even have the ability to *become* gods, thus enhancing their capability for effecting change. Once transformed, the ritual participant can directly interact with and influence the supernatural world. Talamantez, a professor of religious studies at University of California at Santa Barbara, claims that “[t]his transformation establishes a connection by the dancer to sources beyond the self and produces the necessary vehicle for communication between the supernatural and the natural within a ritual framework.”¹³³ Yet, the Pueblos do not see this transformation into the supernatural as a transcendence away from the natural world. In fact, as part of the supernatural world, they see themselves as becoming even more connected to their surroundings. Peter Garcia certainly finds such connection in the Turtle Dance. He believes that “the Turtle Dance is a mediation between the ancestral spirits and current human life, linking both to the land in a ceremonial cycle.”¹³⁴ Clearly, while recognizing differences between the gods, humanity, and nature, Pueblos focus on the bonds, rather than the divisions between these elements.

For many outsiders, such meshing of the physical and spiritual realms seems

¹³² Dozier, *The Pueblo Indians*, 200.

¹³³ Ines M. Talamantez, “Dance and Ritual in the Study of Native American Religious Traditions,” *New Scholar* 8 (1982): 545.

¹³⁴ Huang, “The Turtle Dance,” 186.

impossible. Yet, as Ballinger purports, the Pueblos do just that through the rituals. Although he acknowledges the Pueblo belief that the ritual transforms them into gods, Ballinger also sees the rituals placing humans “undeniably and rightfully in the physical world.”¹³⁵ For the Pueblo, such placement seems eminently acceptable due to an intense sacralization of nature. Rather than rejecting nature as evil or manipulating nature as merely inert material, both common sentiments in European and American history, Pueblos find spirituality in the physical world. As mentioned earlier, nature is full of people, both human and non-human. Thus, making the next step, finding the supernatural in nature is both understandable and obvious. There is no division, in fact, there is only fusion. For example, in Pueblo mythology, the dead transform into rain clouds linking both the natural and supernatural with humans.¹³⁶ Even common ingredients from nature hold spiritual power. As seen in the rituals, aspects of nature figure as powerful tools to effect change in the larger, interconnected system of Pueblo cosmology. Evergreen branches not only symbolize everlasting life, but bring life-force to the dancer. Eagle feathers represent the power of the thunderbird; women carrying ears of corn encourages fertility. Donning the headdress of a buffalo or an eagle can change the dancer into these animals and benefit the dancer with their respective skills. Sacred mud from nearby sacred lakes covers the men in the Turtle Dance connecting them directly to the land, and tortoise shell rattles worn on their knees attract thunder to the thirsty ground. Even visual symbols of snakes embroidered onto the white kilts worn in the Corn or Turtle dances foster rain and lightning.¹³⁷

But the rituals go beyond using the elements of nature harvested from their surroundings. Within each dance, the Pueblos’ respect for the specific features of the land

¹³⁵ Ballinger, “The Responsible Center,” 101.

¹³⁶ Tito Naranjo and Rina Swentzell, “Healing Spaces in the Tewa World,” *American Indian Culture and Research Journal* 13:3&4 (1989): 261.

¹³⁷ Kurath with Garcia, *Music and Dance*, 16-21.

emerges. For example, as the dancers' face each of the four cardinal directions, they demonstrate the sacrality of the pueblo's surroundings. Gestures in a particular direction bespeak a reverence for the mountains or lakes lying within that corridor. Colors, animal skins, or designs may refer to specific features of the environment due to each one's association with a cardinal direction. The importance of the cardinal directions and their associated natural land features cannot be underestimated. In fact, Peter Garcia cannot even pass on the sense of the Pueblo ritual to his student, Hao Huang, without first giving him an understanding of the four sacred directions and what lies in each direction.¹³⁸ Among the Tewa, the conception of the universe includes "concentric ecological zones" that are associated with a sacred feature of the land, be it rock shrine, lake, or mountain.¹³⁹ All these ecological zones are a part of the social order, but the existence of four dance plazas as the innermost circle indicates the importance of the ritual in their cosmological order. For it is in proper performance of the rituals that the Tewa believe they can save their society from disorder, or worse collapse. As Garcia comments, "If there was no one here in San Juan Pueblo to carry on the songs and traditional dances, our whole society might fall apart..."¹⁴⁰ Without the ceremonials to order their world, imbalance and then chaos could ensue.

Balance, as mentioned earlier, figures prominently in the Pueblo worldview. In order to pilot the forces of the universe to secure balance in nature and benevolence for humanity, Pueblos must perform their ceremonies perfectly in accordance with dictated norms. And these dictates cover not only the physical performance of the steps, but the appropriate mental attitude as well. In particular, Dozier finds the mental and emotional states of the performers vital to the performance of the rituals. Quoting Laura Thompson

¹³⁸ Huang, "The Turtle Dance," 175-6.

¹³⁹ Dozier, *The Pueblo Indians*, 208.

¹⁴⁰ Huang, "The Turtle Dance," 175.

and Alice Joseph, Dozier relates that performers must “exercise control over their emotions and thoughts” and that they “must be inwardly tranquil and of goodwill.”¹⁴¹ Otherwise the purpose of the ritual could be undermined. And such dictates apply not only to the performers, but to the witnesses of the ceremony as well, who are also considered participants in the ritual. Kealiinohomoku claims that “the success or failure of the performance can depend upon the proper thinking, or psychic commitment of the audience.”¹⁴² The Pueblos, who understand the importance of both positive psychological and physical states for effecting change, actively encourage a holistic self geared toward the successful enactment of the ritual. Only by connecting all aspects of self, including physical and mental states, toward a positive end, can connection occur between humans, nature, and the supernatural. And only thus can balance be achieved.

How do the dances themselves actually generate such connection? Is there something in the movement, the music, or both, that can effect such positive physical, emotional, psychological, and spiritual states in the rituals’ participants, thereby creating positive conditions within the environment? Certainly, as I’ve outlined, the Pueblos see the rituals as essential for many reasons. They order the cosmos and create balance between diverse elements. They educate the young, foster survival skills, give thanksgiving, remind the Pueblos of appropriate behavior, and develop Indian identity. But there is yet one more stated purpose in the rituals. This hidden purpose is the ritual’s potential for healing. But when I say hidden, do I mean that such a purpose was hidden from Anglo eyes? Not exactly. In fact, many non-Indians and Indians alike have written about the curative purpose of the ritual. Bessie and May Evans noted the Eagle ceremony as a curative ceremony in the 1930’s as did Gertrude Kurath in the 1970’s.¹⁴³

¹⁴¹ Dozier, *The Pueblo Indians*, 200.

¹⁴² Kealiinohomoku, “Dance Culture,” 102.

¹⁴³ Evans, *American Indian...*, 49 and Kurath and Garcia, *Music and Dance*, 285.

But whites such as these see only superstition in the rituals' purported healing powers, and, as such, the curative possibilities in the ritual remain hidden from these doubters' eyes. But when Peter Garcia points to the Turtle Dance as a method for healing,¹⁴⁴ is he claiming that such healing is only a superstition of earlier times? I would hesitate to say yes. After all, the healing quality of the rituals figures not only in specific dances, but as a general purpose for all the rituals even today. Edward Dozier especially notes this in the Eastern pueblos. According to Dozier, while the Hopi tended to place greater emphasis on weather control through the ceremonies, the Rio Grande pueblos, in particular the Keresan pueblos, focused on health. Although Dozier too is relatively dismissive about the "magical" quality of their healing methods, he notes that "[a]mong the Rio Grande Keresans, institutions and rituals for curing became the focal point of their religious preoccupation."¹⁴⁵

Particularly interesting within such a discussion of healing is the Pueblo conception of illness. For Pueblos, sickness originates in a decidedly different context than for European Americans. According to Christopher Vecsey, many Native American peoples believe that diseases attack humans when humans disconnect from nature, creating "dis-ease" between the natural and human worlds.¹⁴⁶ In fact, in the arena of health, again we find no separation between humans and their surroundings. Illness in the human community signifies illness in the natural world and vice versa. Sam Gill, a professor of Indian religion at the University of Colorado, finds unity within Native American cosmology particularly demonstrated by their attitude toward health. He asserts,

Quite clearly, matters of health and healing are not restricted to conditions of a simple physiological and biological order, but rather these matters are laden with

¹⁴⁴ Huang, "The Turtle Dance..." 185.

¹⁴⁵ Dozier, *The Pueblo Indians*, 152.

¹⁴⁶ Vecsey, "American Indian..." 21.

meanings and concerns that reach the highest cultural, even cosmological, levels...[T]he ceremonials are primarily interested in establishing the proper relationships of the individual to his[or her] environment, and this will consequently be reflected in a healthy condition regained by his[or her] physical body.¹⁴⁷

Thus, little or no separation exists between the notions of healing and of balance; health implies balance just as balance fosters health in Native American worldviews.

Is this true for the Pueblos specifically? Tito Naranjo and Rina Swentzell certainly think so. In a fascinating article entitled "Healing Spaces in the Tewa Pueblo World," Naranjo and Swentzell, both from Santa Clara Pueblo, see exactly such a paradigm in the Pueblo worldview. As they assert, health only develops out of a harmony or balance between humans and the environment. If humans are in a state of balance, they can recognize the connections between polarities, particularly necessary within dualistic Tewa society, and work to find the underlying unity. Once they enter a state of connection that creates a sensation of unity, which Naranjo and Swentzell call "the center," dualisms no longer riddle life and past and future unite in the present. Harmony ensues. Referring to the term, *ping-nung*, Naranjo and Swentzell claim that this term indicates a person living in perfect harmony with their surroundings or, quite literally, a person whose heart is connected to the earth:

That person who has *ping-nung* has unusual and even magical powers, because she/he is in alignment or in harmony with the universal essence or the *po-wa-ha* (the water-wind-breath), which gives expression to everything and everybody....*Ping-nung*, then is a harmonious state of connectedness between humans and the forces of the universe, a state of well-being.¹⁴⁸

How is it that such a connected state can develop? Naranjo and Swentzell point to movement as the creator of health and harmony. As they claim, "Life, then, is walking, moving, and breathing in a harmonious manner which leads to healing. Movement is

¹⁴⁷ Sam D. Gill, *Native American Traditions: Sources and Interpretations*, The Religious Life of Man Series (Belmont, CA: Wadsworth, Inc., 1983): 107-8. Gill is specifically referring to Navajo ceremonials in the second part of this quote, yet he implies that Native Americans in general have such an inclusive attitude toward health and healing.

¹⁴⁸ Naranjo and Swentzell, "Healing Spaces," 258.

necessary to healing.”¹⁴⁹ And dance as the ultimate expression of movement can then figure as the best method for healing. Although in their article Naranjo and Swentzell focus in particular on the architectural elements of the Tewa pueblos, by waxing poetic about movement being “the revered element of life,”¹⁵⁰ they undeniably point to the importance of the dance ritual for healing.

Thus, the ritual secures its place as a healer of humanity and the general Pueblo cosmos. But why is movement so vital to ward off illness? What is it exactly about the rituals that facilitate such a positive, healthy state? The sensation of connection within ourselves, of oneness with our surroundings, of a dissolving of past and future into the present sound very similar to what Mihaly Csikszentmihalyi called “flow state.” In his psychological studies in the 1970’s, Csikszentmihalyi discovered that people involved in such activities as rock climbing, basketball, chess, and dancing experienced a “flow” that comes from total involvement in their respective activity. Csikszentmihalyi found that the subjects participating in “autotelic,” or total involvement, activities described a sense of holism within themselves and with their environment. Rather than dividing action and awareness, the dancers felt a convergence between physical and mental spheres. In addition, participants who experienced flow felt in tune with their surroundings losing all sense of dualism between self and environment. In his discussion with dancers, Csikszentmihalyi found that dancers in flow state were “less self-conscious,...were more in control of the social situation, felt more in harmony with the environment, felt that time passed faster, and were less often distracted.”¹⁵¹ In other words, they experienced

¹⁴⁹ Naranjo and Swentzell, 258.

¹⁵⁰ Naranjo and Swentzell, 261.

¹⁵¹ Mihaly Csikszentmihalyi, *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*, 25th anniversary ed. (San Francisco: Jossey-Bass, Inc., 2000): 121. Csikszentmihalyi was clearly not studying Pueblo ritual dancing, but social dancing during the ‘rock n’ roll’ era. Certainly, these dance forms, as well as modern dance, another element of Csikszentmihalyi’s study, are seemingly light years apart. Yet, surprisingly, much of the repetitive nature of the movement is similar in both forms, as well as the stamina requirements.

connection and/or flow with body, mind, and the environment.

Can this be what the Pueblos were aiming for in creating their rituals? Did they know that dancing, especially the repetitive movement of the Pueblo rituals, would foster flow? Within the rituals, as I noted, participants repeat simple movements that are relatively contained with regard to gesture. Little stress is placed on the spine and the head stays in a neutral position, in line with the back. In order to continue with the lengthy repetition of the ritual, participants cultivate positive emotional and mental states, a necessary step in discovering flow. With a relaxed posture that dissolves unnecessary tensions and a healthy psychological perspective, the dancers have the potential to enter flow state. Once the dancers enter flow state, they have no difficulty enduring the prolonged rituals and they sense unity between action and awareness. No longer self-conscious, they cease to divide perception and introspection and can expand their awareness, first to the community and then to the environment as a whole. I would argue that the Pueblos (and possibly Native Americans more generally) when creating the ritual dances¹⁵² had already experienced flow state and were attempting to facilitate such an experience on a frequent basis.¹⁵³ Once they sensed flow, especially its effect in feeling united with both the natural and supernatural elements of their cosmology, the Pueblos were undoubtedly invested in discovering such a state again. Due to the sensation of unity with their surroundings that develops in flow state, the Pueblos likely cultivated such an experience with the understanding that easier and more effective interaction and communication with the natural/supernatural powers, was the result. For,

¹⁵² Donald N. Brown, in his article "Evidence for Dance from the Prehistoric Southwest," published by the Congress on Research in Dance (New York: CORD, 1974): 263-71, discusses the evidence for dance in the Southwest dating from 500 A.D., although the likelihood is that the ritual has even a longer history in the area.

¹⁵³ Clearly I am making such a judgement based on visual and not direct kinesthetic experience of the rituals. This lack of "empathic kinesthetic perception" as Deirdre Sklar, a dance ethnographer, calls it certainly limits my ability to gauge the relative accuracy of my idea that the rituals induce flow state. I hope that those with participatory experience in the rituals may voice their opinion of such a claim.

in their realization of body-mind-environment unity, the Pueblos must also have sensed a spiritual awakening from the experience, taking it much further than what Csikszentmihalyi outlines in his scientific prose. Thus, the ritual became a centerpiece of religious practice.

Does this sound far-fetched and romantic? Possibly. Certainly John Collier, an acknowledged romanticizer of Pueblo culture, saw a similar effect in the rituals. As he gushed in the 1940's, "the Pueblo Indian experiencer of the sacred drama knows that he is raised into vastness, made free from personal trouble, flooded with impersonal joy and order, and plunged into the ever-flowing tide of the tribal and world soul."¹⁵⁴ Yet with our new understanding of flow state, does Collier seem so far off? Is it possible that *dance* can actually help with health, balance, and communication with the environment? For most Westerners, such a notion is preposterous. In our disembodied culture that typically reifies only the mental as an oppositional force to the inert, physical self, dance is not only dismissed, it is denigrated.¹⁵⁵ But, ironically, even one of the fathers of Western culture did not find such a notion preposterous. Plato, as dance scholar Sondra Fraleigh tells us, knew that dance could act as an integrative force within the self. Even while he desperately championed body-mind dualism, he saw dance as able to relate body and soul. Plato held that "dance benefits the soul in a therapeutic way, producing mental calm through rocking motion and ritual."¹⁵⁶ Clearly, the Pueblos in the precontact era did not need Plato to tell them about the integrative quality of dance through ritual. They knew that dance facilitated such a connection.

¹⁵⁴ John Collier with lithography by Ira Moskowitz, *Patterns and Ceremonials of the Indians of the Southwest* (New York: E.P. Dutton & Co., 1949): 63.

¹⁵⁵ Joan D. Frosch, "Dance Ethnography: Tracing the Weave of Dance in the Fabric of Culture," *Researching Dance: Evolving Modes of Inquiry*, Sondra Horton Fraleigh & Penelope Hanstein, ed. (Pittsburgh: University of Pittsburgh Press, 1999): 256-7.

¹⁵⁶ Sondra Horton Fraleigh, *Dance and the Lived Body* (Pittsburgh: University of Pittsburgh Press, 1987): 10.

Remember, this is not to say that the Pueblo ceremonies are static. As we mentioned earlier, in the precontact era, the rituals acted as a storage receptacle for Pueblo culture prior to the advent of a written language. Obviously now the Pueblos can create written records of their own myths, agricultural techniques, and history. The ritual no longer must act as history in the flesh, but can adopt new functions. Yet, as Donald Brown states, while one of these new functions is to facilitate cultural adaptation to new experiences, the rituals also ensure survival of *ancient* Pueblo culture in the face of white advances. Thus, to assume that the healing aspect of the ritual has disappeared along with outmoded functions of the ritual seems misinformed. While we cannot conclude that the rituals are identical, comments of the Pueblos themselves regarding the rituals as well as my own viewing of them in the present-day, indicate that the healing effects of the rituals are very much alive. In fact, looking at the present state of the world, why would the Pueblos turn their back on the ability of the ritual to heal? With the environmental degradations that are clearly running rampant in the world and with Western society (in particular, the present United States government) attempting to ignore the destruction, the healing of personal and environmental “dis-ease” most likely takes greater priority. Also, without a doubt, the Pueblos can see that the present damage of the environment exists within a culture that not only hierarchizes the mental over the physical, but that has, for all intents and purposes, relegated dance to a marginal sphere. While certain elements of Western society, such as the environmentalists and conservation biologists, obviously try to stem the tide of devastating environmental impact, their protests frequently lie neglected at the gate. Perhaps they too would have better luck if our society encouraged movement practices that fostered the sense of interconnection common in the Pueblo ritual. For, if we *experience* the reality of interdependence that

governs our world, the wisdom of the conservation biologists may cease to fall upon deaf ears.

So, the Pueblos turn to dance to heal the rifts in the world. In fact, in the past thirty years or so, the Pueblo rituals have undergone a revival. Gertrude Kurath and Antonio Garcia noticed such a rekindling of Pueblo ceremonies in the 1970's, possibly due in part to the enactment of the 1978 American Indian Religious Freedom Act.¹⁵⁷ Interestingly, they noted a revived interest in the sacred, and thus simpler, dances among the Pueblos, while the less sacred dances began to vanish. As they purport, "It is significant that the obsolescence affects less sacred dances and the perseverance and revival keep the repertoires of sacred dances intact...[T]he revered dances are still the old, ecological ceremonies, which express the interplay of seasons and human adjustment to the natural environment."¹⁵⁸ Is it possible that the Pueblos are reviving the simple, sacred ceremonies due to their need to foster increased flow state in a culture under siege? And are the Pueblos strange for turning to the rituals for healing in such a circumstance? As Joann Kealiinohomoku astutely remarks, "Are the Hopis more illogical than we are when they dance their prayers instead of attending religious services...?"¹⁵⁹ And, I would add, are the Pueblos more illogical for seeking healing in an imbalanced world through dance than on the psychiatrist's couch, the doctor's table, or through hallucinatory drugs?

Dance, a seemingly lost form for the majority of Westerners, still figures prominently in the Pueblo world. Thus, the Pueblos maintain a connection not only within themselves or within their community, but within their greater environment. By

¹⁵⁷ The American Indian Religious Freedom Act guaranteed the Pueblos, as well as all other Native Americans, the right to practice their religion publicly and gave Indians the "freedom to believe, express, and exercise the traditional religions of the American Indian."

¹⁵⁸ Kurath with Garcia, *Music and Dance*, 27.

¹⁵⁹ Joann Kealiinohomoku, "An Anthropologist Looks at Ballet as a Form of Ethnic Dance," *Moving History, Dancing Cultures*, Ann Dils and Ann Cooper Albright, eds. (Hanover, CT: Wesleyan University Press, 2001): 36.

actively seeking flow state through the rituals, the Pueblos, possibly more than any other people, facilitate balance and connection between body, mind, and environment. And although the Pueblos have a *worldview* that preaches unity and connection, as true pragmatists they have also produced an active form in their rituals that gives the direct experience of the sensation of interconnectedness. By breaking down the oppositions between body, mind, and environment, the path to healing personal and environmental ills emerges. As Tito Naranjo and Rina Swentzell affirm, through the Pueblo rituals, “opposites come together to create cyclic movement and flowingness-or healing.”¹⁶⁰ Perhaps, for the Pueblos, the first step on the road to ecological restoration is through dance and its fostering of body-mind-environment unity, rather than petitions to a seemingly ineffective government. Is it possible for Western society to discover the benefits of movement and unity for healing our troubled world? Can we, like the Pueblo, find in movement a way to balance the cosmos? Can we find our own methods for integration through seeking flow state? The Pueblo ritual offers a model for facilitating reconnection between body, mind, and environment. Perhaps it is time to find our own method for accomplishing such interconnection. Perhaps it is time to heal the divisions among humans and the natural world, reembodying both ourselves and our environment. Perhaps it is time to come home.

¹⁶⁰ Naranjo and Swentzell, “Healing Spaces,” 257.

Chapter Three

The Alexander Technique: Embodying Unity

*Sweet is the lore which nature brings;
Our meddling intellect
Misshapes the beauteous forms of things...*
-William Wordsworth

I stand facing out the windows on a sweaty New York day. Behind me stands my teacher, Jean. Through the light touch of her fingers on the back of my head, I find myself connected to her in strange, unexpected ways. She subtly maneuvers my head to a place that is both unfamiliar and familiar, due to its newness and its comfort. And then I am moving to sit in a chair that is placed behind me. Did I decide to sit? Did I *tell* myself to sit? Does Jean have some bizarre Vulcan power over me? Why do I not know how long that process took? Am I an alien who has never sat in a chair before? Of course, these seem like ludicrous questions. I, like so many other artists weaving their way through the city streets of New York searching for an answer, am merely taking a lesson. Not a voice or dance lesson, but one in the Alexander Technique.

The Alexander Technique has been around now for over one hundred years. While I doubt anyone celebrated the centennial of the technique, interest in it has expanded over time so that this form of movement reeducation is now practiced in countries across the globe and in settings from the stage to the boardroom. People from all walks of life find their way to the Alexander Technique to rediscover healthy methods of movement, and the greater implications of this reeducation. The community that has shown the most interest in the technique is the arts community. Meander into The Juilliard School, for

example, and Alexander is a household word. Yet, the form is certainly not limited to artists. Another large pool of interest resides in those with chronic injury. Those suffering from back, knee, or neck pain, dismissed or disfigured by the tools of Western medicine find their way to the study of Alexandrian principles. Even those with angina, epilepsy, speech impediments, migraines, or respiratory difficulties flock to Alexander teachers to discover relief. Unfortunately, the technique remains largely on the fringes of society possibly due to its radical innovations. And one of the most radical of those innovations is the technique's ability to dissolve our social construct of body-mind separation. As John Dewey professed to Frank Pierce Jones, an Alexander teacher and former professor at Brown University, in the 1940's, Alexander's work impressed him at first "because it provided a demonstration of the unity of mind and body."¹⁶¹ And Dewey is not alone in this sentiment. Many who discover the Alexander Technique find that sensation of holism an essential ingredient of their experience.

Further, while reconnecting mind and body, the technique allows for a full dissolving of the boundaries between self and the environment. Again, Dewey saw this benefit. In *Art As Experience*, written in 1934 when Dewey was immersed in Alexander lessons, Dewey dreamed of that moment of "being wholly united with [the] environment and therefore fully alive."¹⁶² And, as Frank Pierce Jones explains, Dewey found the principle of "continuity between self and environment" encapsulated in the technique.¹⁶³ Yet, strangely enough, the Alexander Technique has not entered the environmental movement as a superior method for reconnecting to the environment. Have the implications of the technique not been realized for the environmental movement? Or is the problem in recognizing the benefits of the technique due to divisions inherent in

¹⁶¹ Frank Pierce Jones, *Freedom to Change: The Development and Science of the Alexander Technique* (London: Mouritz, 1997): 96-7.

¹⁶² John Dewey, *Art as Experience* (New York: Minton, Balch & Co., 1934): 18.

¹⁶³ Jones, *Freedom to Change*, 99.

Western culture? Certainly the rift between mind and body ingrained in our culture through Descartes' dualism and/or through Christian beliefs impedes our attempts to dissolve the divisions in society. But perhaps it is time to push ourselves to see how a technique capable of healing unnecessary divisions can also place us back within the arms of nature. For it is in recognition of ourselves as part of nature, as Arne Naess would say, that we can develop the root of an effective environmental ethic.¹⁶⁴

Sprinkled through my notes written after my first Alexander lessons are expressions of wonder at my new awareness of the environment. Walking down a New York street sensing "flow" within myself and with my surroundings; noticing the green shoots peering through the cracks in the sidewalks; blending with the verdant knolls of Central Park; feeling an intimacy with all that I touched both with my hands or my eyes. All these sensations describe my new experience of the mind-body-environment inseparability. And it is through such comprehension that stable, yet dynamic, roots can be planted for the development of a far-reaching environmental ethic. By promoting a practice such as the Alexander Technique that unifies mind, body, and environment and that places humans back in the natural world, we have the potential for reestablishing relations with our environment and for protecting those newfound relations. But just what is this "technique"? And why does it serve as a practical method for reconnecting ourselves with our surroundings?

F. Matthias Alexander, an actor in Australia in the late nineteenth century, originally developed his technique as a solution to a specific problem. For him the problem was hoarseness. Obviously, for an actor, particularly in the era before microphones, hoarseness was not an option. So, Alexander, like any other sensible man in Western culture, turned to medicine to solve his problem. And his doctor gave him an

¹⁶⁴ Arne Naess, *Ecology, community and lifestyle: Outline of an Ecosophy*, trans. and ed. David Rothenberg (Cambridge: Cambridge University Press, 1989): 9-11.

answer. Diagnosis? Inflamed vocal cords, irritation of the throat's mucous membrane, exceedingly long uvula. Cure? Don't talk.¹⁶⁵ Well, as anyone who has a job, family, career, or life knows, such prescriptions are somewhat less than practical. Back pain? Don't move. Knee pain? Don't walk, or worse, let's try some exploratory surgery. Such prescriptions dissatisfy many, but Alexander decided to take a unique approach to his problem. He decided to take responsibility for his own medical difficulties. Little did he realize that not only would he improve his loss of voice, but he would discover a way of being that would revolutionize his understanding of body-mind connection.

Leaving his doctor and his palliative remedies behind, Alexander went on a hunch into the wild blue yonder of his own body. Purchasing three full-length mirrors and relying on what must have been an extraordinary reservoir of patience, Alexander spent nine long years observing himself in these mirrors.¹⁶⁶ He began to realize that his hoarseness was not a random symptom that just cropped up in his life, but rather a symptom of continued misuse of his body over time that created such a difficulty. In other words, Alexander found that what he *did* on a daily basis could create either injury or health. Alexander describes his process of discovery in detail in his book, *The Use of the Self*, written in 1932. One of Alexander's first discoveries was his utter ignorance of his own body. For example, little did he realize that he tended to pull his head back, suck in his breath, and press down his larynx prior to reciting his lines. And each time he relied on these bad habits, he immediately lost his voice. This initial realization allowed him to understand the monstrous effects that bad habits could impose on his health.¹⁶⁷

As Alexander made his journey of discovery, he came across many pearls of

¹⁶⁵ F. Matthias Alexander, *The Use of the Self* (New York: E. P. Dutton & Co., 1932): 4-5.

¹⁶⁶ Alexander's background provides little true insight into why he was capable of such extraordinarily perceptive insights and such an endless supply of patience. He was not trained in any other applicable field and had very little scientific background. In fact, I believe that his lack of education in the sciences actually gave him that ability to discover his problems *purely* based on practice.

¹⁶⁷ Alexander, *The Use of the Self*, 4-25.

wisdom. One of the first was his realization of body-mind unity. As Alexander worked for those nine long years in front of his mirror, he found that the information running between his mind and body was not as he imagined. In fact, he discovered that he could not tell what ruled his being. Was it emotion, will, the body, or the mind? As he noted, both internal and external stimuli (thought and sensation) could induce a physical reaction, but the impetus for this reaction, whether from “body” or from “mind” was unclear. As he attempted to stop his bad habits and find a positive way to use his body, Alexander realized that he could not find the dividing line between mind and body with regard to use. Did his mind direct his body? Did his body rule his mind? And if mind and body were possibly endpoints on a continuous pathway, where was the inner persona in charge of the pathway? These questions, as well as his failures in directing his body through his “will,” led Alexander to the incontrovertible realization that, on a very practical level, body and mind were one. Not that body and mind were in a relationship (i.e. mind directing body). Not that they were merely connected. But rather that they were an indissoluble whole. In fact, he was so impressed by how body-mind unity governed his behavior, that he ejected them as separate terms from his vocabulary and resolved to speak of the “self” rather than the “mind” or “body.” Thus, he came to discuss the use of the *self*, rather than the mind’s use of the body as implied in our everyday speech.

Many have explored the issue of body-mind unity. And Alexandrians show a particular interest in understanding this unity, either by sifting through scientific literature or by conducting their own experiments. As noted earlier, both sensation and thought can induce action, and understanding the motivation for our actions is decidedly less clear than most of us expect. We assume an inner persona is directing our body, but little do we realize the impact that our *actions* can have on our intellectual or psychological responses.

Wilfred Barlow, a physician and Alexander teacher, in studies regarding emotional reaction, notes that body position and psychological response go hand in hand. Certain muscular patterns can invoke certain emotional responses, even if no stimuli has created such a response.¹⁶⁸ Research by psychologists supports such findings. Dr. Robert Marrone, in his book, *Body of Knowledge: An Introduction to Body/Mind Psychology*, discusses studies of the unity of the psycho-physical process. Referring to a study done in 1989 by psychologists at Clark University, Marrone shows that, for the majority of subjects, certain facial configurations associated with specific emotions tended to evoke those emotional responses in the subjects. In other words, by placing a subject in a physical pattern that typically suggests anger, the subject has a much greater likelihood of experiencing anger, even though there has been no outside motivation toward anger. To further his argument for unity, Marrone also refers to a 1983 study conducted at the University of California Medical School in San Francisco. In this study, psychologists found that when subjects were asked to simulate an emotional response, these responses were associated with specific physiological patterns, such as changes in heart rate, temperature, or breathing.¹⁶⁹ Thus, there can be no separation between emotional and physical patterns, or even their effect on functioning. As Judith Stransky, an Alexander teacher, claims, "Mood affects body, and body affects mood."¹⁷⁰ Without a dividing line between the psychological and physiological, we must focus on the whole. In fact, without a focus on the whole self, little true progress can be made toward healing.

Even during Alexander's lifetime, scientists worked to prove body-mind unity as demonstrated by Alexander. The Nobel prize-winning biologist Sir Charles Sherrington

¹⁶⁸ Michael Gelb, *Body Learning: An Introduction to the Alexander Technique*, 2nd ed. (New York: Henry Holt and Company, 1994): 31.

¹⁶⁹ Robert Marrone, *Body of Knowledge: An Introduction to Body/Mind Psychology* (Albany: State University of New York Press, 1990): 77-8.

¹⁷⁰ Judith Stransky with Robert B. Stone, *The Alexander Technique: Joy in the Life of Your Body* (New York: Beaufort Books, Inc., 1981): 18.

particularly supported concepts of unity. Sherrington, a student of Alexander's, noted that "the formal dichotomy of the individual [into "body" and "mind"]...results in artefacts such as are not in Nature."¹⁷¹ Like Sherrington, many other scientists had little difficulty marrying the work of science and of Alexander. For example, in 1937, nineteen doctors wrote to the *British Medical Journal* advocating the benefits and scientific veracity of Alexander's work.¹⁷² And although Alexander was almost obsessed with achieving scientific recognition for his technique during his life, he also saw potential problems in relying on science to explain his discoveries. In *The Universal Constant of Living*, Alexander's last work published in 1941, he wondered at science's capacity to describe body-mind unity. Noting the scientific community's tendency to divide into such fields as psychology and physiology, he asks, "[C]an we get rid of the dichotomy of mind and body through the so-called sciences, when the very sciences themselves and their development rest upon that same dichotomy?"¹⁷³ Such assertions, reminiscent as they are of the environmental movement's questions regarding the mixed blessings of modern science and technology, show Alexander's wariness of using the mechanical and divisive sciences of Newton and Bacon to describe his findings.

But Ted Dimon is not so sure the blame should be placed on the sciences. In *The Undivided Self*, Dimon, an Alexander teacher in Cambridge, insists that the division between mind and body is not a scientific attitude, but rather a popular concept. Dimon asserts, "The idea that mind and body are a unified whole is so basic to the modern scientific attitude that it is difficult for most of us to accept that in practice we subscribe largely to methods that classify problems as mental or physical and therefore separate

¹⁷¹ Charles Sherrington, *The Integrative Action of the Nervous System*, 2d ed. (New Haven: Yale University Press, 1961); quoted in Pedro de Alcantara, *The Alexander Technique: A Skill for Life*, (Wiltshire, Great Britain: The Crowood Press, Ltd., 1999): 104.

¹⁷² Letter to *British Medical Journal* (1937), reprinted in *The Universal Constant in Living*.

¹⁷³ F. Matthias Alexander, *The Universal Constant in Living* (New York: E.P. Dutton & Co., Inc., 1941; reprint, Long Beach, CA: Centerline Press, 1986): 173.

body and mind.”¹⁷⁴ Dimon’s main concern regarding the scientific community is not their division in theory, but in practice. While scientists may conceptually support unity, they still denote our physical self as passive in their investigations. So, rather than working with the self as a whole, they work on the self piecemeal. A glaring example of this clearly resides in the medical community’s insistence on treating symptoms instead of overarching causes. But Dimon claims that such constant emphasis on treating the body as a passive organism in the healing process goes much deeper than Descartes’ or Newton’s placement of the physical world in the passive sphere. Referring to our sense of an inner persona, Dimon astutely observes that “even more basic than culturally inherited attitudes, more basic than anything we learn or are shown, are the assumptions rising from personal, subjective experience.”¹⁷⁵ He goes on to note that through childhood development, we gradually believe that there is an internal ‘I’ or ego that can direct our actions. Such a popular misconception allows us to act as if mind and body are separate and prohibits us from seeing the gradual deterioration of our health.

Frank Pierce Jones believes that separating the organism into pieces also undermines our own level of responsibility for our deterioration. Rather than focusing on our own use, we can blame the body for our physical problems. We hear on a daily basis such commentary as “my back is hurting me,” as if something other than our own use was creating the pain. As Jones states, “Once you have divided the organism into parts--body and mind, or body, mind and soul--it is easy to find something besides yourself to blame for your troubles. Shifting of responsibility from the whole to the part is deeply rooted in Western thought.”¹⁷⁶ Yet, through the Alexander Technique’s focus on unity, we can move beyond the tendency to blame. Alexander clearly denoted each individual as

¹⁷⁴ Theodore Dimon, *The Undivided Self: Alexander Technique and the Control of Stress* (Berkeley, CA: North Atlantic Books, 1998): 9-10.

¹⁷⁵ Dimon, 89-90.

¹⁷⁶ Jones, *Freedom to Change*, 58.

responsible for change in negative patterns of use. He pointed out that it is our job to raise our awareness of our bad habits in order to make practical changes in our behavior. For, while an Alexander teacher may help lead the way to a new sensory experience, it is our responsibility to put it into practice once we walk out the door. But it is just such an idea of practice that is dismissed in our society, claims Dimon. Bemoaning Western society's tendency to value the intellectual over the physical, Dimon asserts that such hierarchizing inevitably devalues practice.¹⁷⁷ But John Dewey believed that such denigration is a given in a culture that dismisses body-mind unity. In his words, "[t]his notion of [body-mind] separation inevitably results in creating a dualism between 'mind' and 'practice,' since the latter must operate through the body."¹⁷⁸ The division between body and mind, in conjunction with our society's worship of the intellectual, denigrates the body, and thus action, placing theory on a pedestal and practice in the gutter.

But how is it that we can rescue practice from such debasement? How can we begin to understand the benefit of practice by discovering this principle of body-mind unity? Alexander, perhaps in his naiveté or perhaps in his genius, discovered such a method of unity through practice as *indivisible* from theory. For Alexander, experiential knowledge was the ultimate knowledge. Such a focus in the technique attracted many to Alexander from the pragmatist realm of philosophy. Dewey, a major supporter of Alexander's work, appreciated the technique's ability to provide an understanding of ourselves as holistic creatures. In the introduction to Alexander's *The Use of the Self*, Dewey maintained that while scientists might uncover a physiological understanding of the holistic organism, the Alexander Technique provided "intimate confirmation in personal experience."¹⁷⁹ Dewey exclaimed in his introduction to *Constructive Conscious*

¹⁷⁷ Dimon, *The Undivided Self*, 9.

¹⁷⁸ Dewey, *Art as Experience*, 263.

¹⁷⁹ John Dewey, introduction to *The Use of the Self* by F. M. Alexander (New York: Dutton, 1932): xviii.

Control of the Self, another of Alexander's publications, that

Mr. Alexander has found a method for detecting precisely the correlations between these two members, physical-mental, of the same whole....It is a discovery which makes whole all scientific discoveries, and renders them available, not for our undoing, but for human use in promoting our constructive growth and happiness.¹⁸⁰

Dewey firmly believed in the technique's scientific validity and vaunted this in his writings about the technique. But, for Dewey, the Alexander Technique implied not only physical health, but a method for psychological open-mindedness that facilitated his philosophical work. Dewey, like many others, discovered the technique's beneficial effect on every aspect of his life.¹⁸¹

Other intellectuals in Alexander's time found similar repercussions from their practice of the technique. Aldous Huxley was particularly impressed by Alexander's work. In fact, Huxley, lauded the technique as the ultimate means for self-integration. In *Ends and Means*, Huxley declared

Mind and body are organically one, and it is therefore inherently likely that, if we can learn the art of conscious inhibition on the physical level, it will help us to acquire and practise the same art on the emotional and intellectual levels...the only system of physical education which fulfills all these conditions is the system developed by F. M. Alexander.¹⁸²

In a review of *The Universal Constant in Living*, Huxley was even more profuse in his praise. He claimed that the only two methods he had found for a psycho-physical understanding of the world came from Alexander and from the mystics. According to Huxley, the Alexander Technique provided "an education, which in its upper reaches, would make possible the experience of ultimate reality."¹⁸³ Although Huxley is well-known, and sometimes dismissed, for his dogged pursuing of mystical experience in his

¹⁸⁰ John Dewey, introduction to *Constructive Conscious Control of the Individual* by F. M. Alexander (New York: E.P. Dutton & Co., Inc., 1923): xxxi-xxxii.

¹⁸¹ Dewey, xxi-xxxiii.

¹⁸² Aldous Huxley, *Ends and Means: An Inquiry into the Nature of Ideals and into the Methods Employed for Their Realization* (New York: Harper & Brothers, 1937; reprint, New York: Greenwood Press, 1969): 257-8.

¹⁸³ Aldous Huxley, review of *The Universal Constant of Living*, by F. Matthias Alexander, *The Saturday Review of Literature* (25 October 1941): 18.

later years, his exaggerated praise is echoed by many other Alexandrians.

Over the years, well-known writers, scientists, actors, etc. have praised the technique and the effect it has had on their total well-being. Of course, this has led many to wonder at the outrageous claims of mental and physical health that Alexandrians boast. But perhaps some of the more insightful comments regarding the technique's effects come from Dr. Nikolaas Tinbergen. Dr. Tinbergen, when accepting his Nobel Prize for Physiology in 1973, rather than giving the typical thank-you speech, devoted his time to discussing the impressive qualities of the Alexander Technique. Tinbergen, who with his wife and daughter decided to test the technique by taking Alexander lessons from three different teachers, explained in his speech the variety of "striking improvements" his family experienced "in such diverse things as blood pressure, breathing, depth of sleep, overall cheerfulness and mental alertness, [and] resilience against outside pressures."¹⁸⁴ By alleviating the stress of modern culture, Tinbergen found that the technique allowed him to experience body-mind unity on a practical level. Arguing that the scientific community limited itself by focusing on pieces, rather than the whole, Tinbergen asserted that "a little more attention to the body as a whole and to the unity of body and mind could substantially enrich the field of medical research."¹⁸⁵ But Tinbergen also noted that the scientific community had been less than accepting of Alexander's discoveries. Due to the assumption that Alexander was some strange cult figure and due to the difficulty of explaining the technique without demonstration, the scientific community has remained skeptical of Alexander's impressive claims from the time of his discoveries to the present. Because Alexander could not claim medical training in the Western tradition, he is frequently dismissed outright.

Is it, therefore, worth it to turn to science for an explanation of the Alexandrian

¹⁸⁴Nikolaas Tinbergen, "Ethology and Stress Diseases," *Science* 185 (5 July 1974): 25.

¹⁸⁵Tinbergen, 26.

principles? Can we find any scientific theories to support the claims of Alexander practitioners? Do we need to if the technique works wonders for us? Perhaps not. Yet, dominated as we are by scientific ideas in Western culture, I cannot help but want to explain the phenomenon to understand why it is so beneficial. What is at work in ourselves to create the realization of body-mind unity?

So, let's break it down. What exactly did Alexander *do* that created unity? Well, strangely enough, Alexander's first step included developing an awareness of the relationship between his head, neck, and back to his general well-being. While attempting to change his harmful habitual pattern, he found that altering the position of his head changed other habitual responses in his body. As Frank Pierce Jones, tells us, "Having tried unsuccessfully to deal with each of [his habits] separately, [Alexander] finally came to the conclusion that they were interrelated parts of a total pattern of which the principal part was the change in the axis of the head."¹⁸⁶ Terming this relationship the "primary control" of the body, Alexander began to develop a technique that used this relationship as its cornerstone. To further his technique beyond his personal accomplishments, Alexander, with the help of his brother, A. R. Alexander, found that by using light touch and simple, guided movements, they could help others rediscover a working relationship between the head, neck, and back, so that they too could perform actions in a non-habitual way. Alexander then went on to demonstrate the significance of the primary control relationship for general well-being to people in Australia, England, and the U.S.. In my first lesson in the Alexander Technique, I was amazed by the remarkable sensation of ease and lightness I received when my teacher maneuvered my head to establish a workable head-neck-back relationship. This sense of lightness, a virtual signature for the technique, comes about due to a physical rediscovery of the anti-

¹⁸⁶ Jones, *Freedom to Change*, 16.

gravity mechanisms (or extensor muscles) in the back, mechanisms which function improperly when the primary control has lost its optimal relationship. In other words, by guiding the head, neck, and back to an effective relationship, the total pattern in the body alters to what Alexander called in his 1918 book, *Man's Supreme Inheritance*, a "position of mechanical advantage."¹⁸⁷ It is this position of mechanical advantage that will allow the body to react from an integrated and coordinated place to the stimuli in the environment.

Are there any scientific experiments that support Alexander's claims? Actually, shortly after Alexander's discovery of the importance of the primary control relationship, Rudolf Magnus, a professor of pharmacology and physiology writing in the 1920's, found the scientific evidence to back up Alexander's theory. Through his experiments, Magnus determined that changing the position of an animal's head could change all other movements performed by that animal. Working on various mammals including cats, rabbits, monkeys, etc., Magnus attempted to understand the reflex reactions of animals with regard to posture. In his studies, he found that an animal's reflex center was "situated in close neighbourhood subcortically in the brain-stem" and that its function was "to compound the activity of the whole body musculature to what we call 'posture'."¹⁸⁸ In a lecture to The Royal Society of London, Magnus states that "influencing the head can...impress different attitudes upon the whole body;" in other words, the head leads and the body follows in an integrated fashion.¹⁸⁹ George Coghill, an American zoologist, added onto this in the late 1920's when he discovered that an animal's movement is always organized in a total pattern. Working with *Amblystoma*, a

¹⁸⁷ F. Matthias Alexander, *Man's Supreme Inheritance: Conscious Guidance and Control in Relation to Human Evolution in Civilization* (New York: E.P. Dutton & Co., 1918): 190.

¹⁸⁸ Rudolf Magnus, "Animal Posture," in *Proceedings of the Royal Society, August 1, 1925*, by The Royal Society (London: Harrison & Sons, 1925): 340.

¹⁸⁹ Magnus, 343.

type of amphibian, Coghill showed that at any stage in development from embryo to adult, animals' responses are always integrated with regard to total behavior patterns. As he states, "[b]ehaviour develops from the beginning through the progressive expansion of a perfectly integrated total pattern..."¹⁹⁰ Even before an embryo has a nervous system, it reacts in perfectly integrated patterns based on slight head shifts.¹⁹¹ Coghill, who became fascinated by the crossovers between his experiments and Alexander's discoveries, wrote in a preface to Alexander's *The Universal Constant of Living*, that he appreciated Alexander's methods due to their insistence in treating "the individual as the whole."¹⁹² Both widely accepted theories in the scientific community, Magnus' and Coghill's demonstrations of the primary control mechanism and the total reaction pattern have done much to explain Alexander's hands-on technique.

Yet, unfortunately for us, just reading these words and attempting to change the placement of our head will have a one in a million chance at success due to our habitual misuse of ourselves. Repeated misuse of the primary control over the years rarely allows our sensations to recapture the proper relationship without help from an Alexander teacher. In fact, according to Alexander's further discoveries, our sense of our head-neck-back relationship has become so untrustworthy that when we "feel" that we have a proper relationship, we are almost certainly wrong. Alexander realized this when he attempted to institute his findings regarding the primary control without the use of a mirror. Much to his dismay, while trying his hand at directing his head-neck-back relationship in a positive, new manner of use, he found his voice once again becoming hoarse. In fact, when he returned to the mirrors, he discovered his old habits physically

¹⁹⁰ George E. Coghill, *Anatomy and the Problem of Behaviour* (Cambridge: The University Press, 1929): 38.

¹⁹¹ Coghill, 76.

¹⁹² George Coghill, "Appreciation," in *The Universal Constant in Living* by F. Matthias Alexander (New York: E.P. Dutton & Co., Inc., 1941; reprint, Long Beach, CA: Centerline Press, 1986): xxii.

reinstated even though he *felt* like he was performing them in the new manner. Why was it that if he was *willing* himself to perform these new directions, his body would not, or could not, follow his desire? Was this a unique experience for Alexander? Was his disconnect between “will” and “act” unusual or was it a common occurrence? Why would humans have evolved such unhealthy posture along with an inability to correct it?

Theories flourish regarding human’s development of unhealthy postural patterns. Yet, most of the theories point to massive changes within society in the past few hundred years. Certainly this is the leaning for Alexandrians. As Alexander claimed in *The Universal Constant in Living*, humanity’s adaptation “to the needs of increasingly rapid environmental changes has been, and still is, inadequate,” and in *Man’s Supreme Inheritance*, Alexander damned the “disadvantages and bad habits of our artificial civilised life...”¹⁹³ Dewey, too, had major difficulties with the impacts of modern technological society on humanity.¹⁹⁴ But are these men merely responding from conservative reactions to modernization? Is there any real proof that industrialization and technology negatively influence human development? Robert Ornstein, who teaches at UCSF’s Medical Center and is the president of the Institute for the Study of Human Knowledge, clearly comes to Alexander’s conclusion from his own scientific perspective. In his highly accessible work, *The Evolution of Consciousness*, Ornstein walks through the steps from the development of bipedalism to the growth of the modern human brain to demonstrate our incapacities within modern society. While bipedalism developed somewhere about 3.75 million years ago, our modern human brain took its present form only 30,000 years ago.¹⁹⁵ Yet, this still leaves the majority of our experience with the

¹⁹³ Alexander, *The Universal Constant in Living*, 118; and Alexander, *Man’s Supreme Inheritance*, 340.

¹⁹⁴ Richard J. Bernstein, introduction to *On Experience, Nature, and Freedom* by John Dewey (New York: The Bobbs-Merrill Co., 1960): xii.

¹⁹⁵ Robert E. Ornstein, *The Evolution of Consciousness: Of Darwin, Freud, and Cranial Fire: The Origins of the Way We Think* (New York: Prentice Hall Press, 1991): 44, 74.

modern brain in the hunter-gatherer stage. As Ornstein notes, “[h]uman adaptations are based on past strategies that might have worked for most people all the time in a world long gone... Thus, we are forever behind ourselves, adapting to keep up with a world that is past.”¹⁹⁶ Due to the remarkable pace of development within the sphere of technology, particularly in the past two hundred years, the environment in which we live is decidedly unlike that of the hunter-gatherer era. Ornstein believes that human biological evolution cannot equal such terrific speed of technological development.

Walter Carrington, a well-known Alexander teacher, furthers the argument. For Carrington, posture tends to be ignored to the detriment of our development. As he points out, the two aspects of human physique that stand out as unique, bipedalism and a highly evolved intellect, have never been studied with equivalent emphasis even though bipedalism led to the evolution of the brain. Yet, by studying bipedalism, we might discover the roots of our problem. Carrington shows that, with the development of bipedalism, massive structural changes resulted and humans were “called upon to function in an entirely different relationship within the gravitational field.”¹⁹⁷ Bipedalism afforded humans the ability to have free use of their arms, but it put more strain on the hind limbs.¹⁹⁸ Yet, we became efficient movers once we achieved balance, with the appropriate muscular effort. Carrington reasons “that the whole neuro-muscular mechanism of Upright Posture, including the machinery of balance, is capable of working with remarkable efficiency if it is permitted to do so. This is scarcely surprising when one remembers that it is the product of millions of years of evolution.”¹⁹⁹ The problem comes in, however, once the chair becomes the fate for the majority of people. As Carrington points out, humans are not made to be still. While upright posture allowed us to use our

¹⁹⁶ Ornstein, 74-5.

¹⁹⁷ Walter H. Carrington, “Balance as a Function of Intelligence,” *Systematics* 7:4 (1970): 302.

¹⁹⁸ Ornstein, *The Evolution of Consciousness*, 45.

¹⁹⁹ Carrington, “Balance...,” 302.

greater potential energy for highly accurate and intricate movement, stillness requires a whole new method of maintenance, particularly if that stillness involves your typical chair. Carrington declares that

the act of sitting needs to be particularly well performed if it is to meet the requirements of our anatomy and physiology. It demands a high standard of balance and co-ordination if stiffness and rigidity are to be avoided, and likewise slumping with its consequences of distortion and harmful pressures within the frame.²⁰⁰

And by sticking children in chairs for such long periods early in their lives, we interfere with the development of the balance inherent in our physical mechanism. As Robert Ornstein explains, as a child grows, a type of neural selection wires up our developing brain as we interact with different environments.²⁰¹ If sitting in a chair is then one of these dominant experiences early in our lives, our balancing mechanism doesn't have the same chance to develop as it did at earlier stages of our existence. Thus, our modern fate leads us in the direction of poor posture and the complaints of back, knee, hip, and neck pains and many other subsequent ills. Due to interfering with the appropriate development in balance, humans suffer a consequent degradation of the ability to correct their own posture. They can no longer connect their desire for good posture with positive results, because their bodies have lost the *sense* of what healthful, balanced posture entails.

Alexander's research clearly pointed towards this hypothesis. As Alexander explained, in his years of teaching he found that this disconnect between the intention for positive use and the actual implementation of it to be "practically universal."²⁰² After working with hundreds of students, Alexander discovered that not only did all of his pupils succumb to an unhealthy head-neck-back relationship, but that their initial attempts to change their habits were completely unsuccessful due to a reliance on faulty

²⁰⁰ Carrington, 299.

²⁰¹ Ornstein, *The Evolution of Consciousness*, 126.

²⁰² Alexander, *The Use of the Self*, 10. Alexander puts this in italics.

sensory awareness. Michael Gelb, an Alexander teacher for many years, has found the same principle true in his students. In *Body Learning: An Introduction to the Alexander Technique*, he explains that for most people, habitual misuse of the primary control is a consequence of an inaccurate kinaesthetic sense.²⁰³

Other scientists have noted humanity's deficiency with regard to sensation, particularly in modern society. As Sir Charles Sherrington states in *The Endeavor of Jean Fernel*, "In urbanized and industrialized communities bad habits in our motor acts are especially common.... The faults tend to escape our direct observation and recognition."²⁰⁴ Sherrington believes that our inability to recognize our habitual patterns stems from our faulty sensory awareness of voluntary and involuntary actions. Sherrington goes on to blame our oversight on ignorance of the "proprioceptive sense" in the body.²⁰⁵ Just what is this elusive proprioceptive sense that we are supposedly ignoring? The proprioceptive sense, as Sherrington called it upon its discovery in 1906, provides information to an organism regarding its movement and its position in space. Humans attain this sense through receptors in the muscles and joints as well as in the inner ear, but, as Dr. David Garlick asserts, this sense has become the "lost sixth sense" in the modern world due to our inaccurate interpretation of the information received through these receptors.²⁰⁶ For, while we continually interfere with our balancing mechanisms, our proprioceptive sense experiences a sort of anesthetization. As we sit for hours slumping (for example, at our computers as I am doing at the moment), our proprioceptors slowly

²⁰³ Gelb, *Body Learning*, 52.

²⁰⁴ Sir Charles Sherrington, *The Endeavour of Jean Fernel*, (Cambridge: Cambridge University Press, 1946); quoted in Walter Carrington, "The F. Matthias Alexander Technique: A Means of Understanding Man," *Systematics* 1 no. 1 (1963): 242.

²⁰⁵ Knowledge of the proprioceptive sense has become basic in scientific communities since early in the 1900's. It riddles the pages of scientific works regarding behavior, neurophysiology, etc. Yet, strangely enough, this sixth sense has not entered everyday discourse. Why? Hmm, can we once again point to the pervasiveness of dualism?

²⁰⁶ David Garlick, *The Lost Sixth Sense: A Medical Scientist Looks at the Alexander Technique* (Kensington, Australia: School of Physiology and Pharmacology, The University of New South Wales, 1990): 9.

lose their accuracy and we stop listening to indicators demanding a change in posture.

But this does not have to be our permanent fate, for an Alexander teacher can help us recover our sense of ourselves. Frank Pierce Jones, who conducted the seminal study regarding the Alexander Technique in scientific terms, demonstrated the technique's effect on the proprioceptive sense. Using multiple image photography (which shows specific moments of a body's position during a fluid movement), electromyography (which measures changes in a muscle's electric potential and can show the degree of muscular effort), force platforms (which records shifts in force before and during an Alexander session), and x-rays, Jones found distinct differences in his subjects' muscular use and sensation during habitual movements and those guided by an Alexander teacher.

Comparing subjects in such simple tasks as sitting and standing from a chair, Jones explored the subjects' responses before and during Alexander lessons with regard to muscular activity, angle of the head, and kinaesthetic effect. In every case, the post-lesson tests showed the subject to have established a more effective head-neck relationship (i.e. a lengthened neck and a slight forward rotation of the head), which subsequently redistributed muscular activity and began the process of restoring the proprioceptive sense. In Jones' study, he noticed that the distribution of muscular activity was one of the most significant changes. Due to the reestablishment of an effective head-neck-back relationship, his subjects' anti-gravity muscles experienced a revival.²⁰⁷ And the rediscovery of these muscles with an effective primary control relationship put his subjects back on the road to sensory awareness. Thus, we experience the characteristic lightness and ease of movement typically associated with Alexander work.

David Garlick goes on to explain this effect. Within the back, extensor (or anti-

²⁰⁷ Jones, *Freedom to Change*, 106-52.

gravity) muscles are responsible for humans' upright posture and if effectively used, can create the ease of a perfectly balanced organism (see Michael Jordan or other such athletes for a demonstration). Unfortunately, in our development, we learn to interfere with our primary control in such a way that these extensor muscles are underused. As we develop out of childhood, our interference, or mismanagement, of our head-neck-back relationship grows and we rely more and more on the tensors in the back allowing them to endure excess contraction while the extensors atrophy. Garlick also points out that the extensors, which rely on non-fatigable, red muscle fibers, are eminently adapted to their task of opposing gravity, unlike the fatigable, white muscle fibers in the tensors.²⁰⁸ Christopher Stevens, in *Towards a Physiology of the F. M. Alexander Technique*, agrees with Garlick's findings. Stevens maintains that the contracted tensors contribute to "a reduced ability to respond fully to the requirements of effectively operating in the gravitational field."²⁰⁹ Stevens continues his study noting that not only do the anti-gravity muscles suffer atrophy in such a condition, but overly contracted tensors lower the perception of proprioceptive feedback. Citing the work of Rudolf Magnus, Stevens finds that this excessive contraction of the back tensors (which occurs in such actions as slumping) develops as a reflexive response to our environment and with each repetition of this muscular pattern, our proprioceptive sense decreases.²¹⁰

Jones' study then goes one step further to explain our degraded proprioceptive sense. In his experiments, he found a reaction called a "startle pattern" practically ingrained in his subjects' bodies to a greater or lesser extent. This startle pattern, sometimes called the fight or flight response, results in a shortening of the neck, jutting the chin and shoulders forward, increasing the thoracic and cervical curves of the spine,

²⁰⁸ Garlick, *The Lost Sixth Sense*, 19-23.

²⁰⁹ Christopher Stevens, *Towards a Physiology of the F.M. Alexander Technique: a record of work in progress* (London: STAT Books, 1995): 98.

²¹⁰ Stevens, 98.

and decreasing the lumbar curve of the spine. When his subjects were instructed to move, rather than lengthening to facilitate their movements, they typically shortened their necks and spines even further. This indicated to Jones that his subjects had, to their detriment, already adopted a malposture akin to the startle pattern.²¹¹ And, as noted earlier, the proprioceptive sense loses its accuracy through such shortening. All animals, including humans, have this startle pattern as an instinct as well as a restorative pattern that Professor Magnus called the “righting reflex.” The righting reflex allows the body to achieve an appropriate, relaxed relationship to the environment after the startle pattern has run its course.²¹² Unfortunately, due to the nature of modern society, humans’ righting reflexes have degenerated and we tend to hold onto the startle pattern long after the stimulus has disappeared.

Why have our righting reflexes suffered in modern society? Robert Ornstein interprets this decline as a result of stress. While we used to experience fear in terms of direct threats to our lives (snakes, lions, etc.), today’s threats are less clear. As he points out, “[t]he dangers of the modern world are unprecedented. The fear of nuclear war is not as palpable as fear of snakes.”²¹³ Now, rather than the adrenaline rush of fear, we experience a more constant, but less tangible fear. Ornstein notes that “as we ascend the phylogenetic scale, fear may become highly symbolic and/or more future oriented than immediate--anxiety rather than fear.”²¹⁴ As anxiety, the negative tendencies of the startle pattern remain written on our limbs with little or no righting reflex to compensate. Theodore Dimon also sees this tendency toward the startle pattern as the physical manifestation of stress in society. From his experiences with his students, he found that they too often sent excitatory responses through the nervous system encouraging startle

²¹¹ Jones, *Freedom to Change*, 148.

²¹² Magnus, “Animal Posture,” 347.

²¹³ Ornstein, *The Evolution of Consciousness*, 92.

²¹⁴ Ornstein, 91.

patterns. And, unlike animals who return to a relaxed state through the righting reflex, his students' musculature remained in the stressful state of fight or flight.²¹⁵

So is this the miracle solution to all our problems? Just find the right head-neck-back relationship in order to restore our proprioceptive sense? Will we automatically restore our own righting reflexes and anti-gravity musculature? Unfortunately, it's not quite that simple. As Alexander pointed out, due to our own deceptive senses, discovering an advantageous primary control can hardly be done without the use of a teacher. But is that the only reason to go see an Alexander teacher? For them to put your head on right? What happens when you walk out the door of your teacher's house? In all likelihood, the patterns that "feel" right in your body are sure to return, sending your proprioceptive sense back down the drain.

But don't despair, for we have yet to discuss the most vital procedure within the Alexandrian process. Perhaps the most important step on your journey to health comes from "just saying no," i.e. inhibition. As we noted, humans are creatures of habit. For example, what Alexander found when he attempted to recite was that before the *thought* of recitation even occurred to him, his body had already begun the process of entering the habitual pattern of response to recitation. As soon as a certain stimulus appeared or when the thought of recitation even entered his subconscious mind, he reacted to the excitatory signals sent along his nervous system that had developed through habitual misuse. And, as Walter Carrington notes, "Once the habitual action has been initiated, it usually proceeds to its conclusion without the person being able to do anything about it."²¹⁶ Why is our tendency toward habitual action so strong? Why do we not have conscious control over all these actions we deem voluntary? Alexander asserted that,

²¹⁵ Dimon, *The Undivided Self*, 12.

²¹⁶ Walter Carrington, *The Act of Living: Talks on the Alexander Technique*, ed. by Jerry Sontag (San Francisco: Mornum Time Press, 1999): xviii.

even though we think we are in control of our responses through our will, the probability that our bodies are responding to our conscious directions is most likely nil. In other words, much of our action, both voluntary and involuntary, is below our conscious awareness. In fact, not only are our actions almost entirely disconnected from our conscious commands, but they tend to be tied to environmental stimuli outside of our awareness.

Ted Dimon discusses this problem of response to stimuli particularly well in his work *The Undivided Self*. Dimon asserts that much of our response to our environment stems from association. He uses the example of seeing a bus and discovering that our body is already running for that bus before our mind consciously wills us to do so. In this way, “muscular activity is susceptible to associative processes.”²¹⁷ Instead of a conscious process deciding our actions, we find that certain stimuli invoke habitual patterns of reaction laid down in the pathways between our muscles and our subconscious mind. Thus, our first, and possibly only, choice for combatting such habit is to prohibit it. This is why inhibition is so important to the Alexandrian process. Due to our overdeveloped instinct to respond in excitatory patterns to our environment, saying no becomes essential in the process of discovering healthy action.

But what does it mean to “say no”? Is this Nancy Reagan’s directive regarding drugs in America? Not exactly. While Alexander knew that he could create a working relationship in his pupils merely by adjusting their head-neck relationship, he also knew that his pupils must be able to discover that relationship within themselves. How could they achieve this, however, when they had only deceptive sensory faculties on which to rely? Enter inhibition. Alexander found that he could guide his students through simple movements well enough initially, but in order to create new pathways of action and new

²¹⁷ Dimon, *The Undivided Self*, 73-75.

muscular response patterns, his students had to inhibit their harmful habitual patterns. As he claimed, “the employment of the primary control in my technique is inseparable from the inhibitory procedures necessary to the reconditioning of the reflexes and to integration of the ‘total pattern’.”²¹⁸ This is because, even when someone believes they are performing an action in a new and appropriate manner, they are using deceptive sensations to judge their action. By relying on senses that believe their habitual use is instinctively correct, a new pathway of action is almost impossible to achieve. Thus, prior to discovering a new manner of action, pupils must discover how to inhibit their habitual response.

Yet, this first step on the path to regaining an effective primary control relationship is an immensely difficult one for most students. When Alexander teachers tell their students to say no to any action or thought of action that possibly enters their mind, most students immediately jump to thinking of how to do that action. This is what Alexander called “end-gaining.” Alexander pointed out that our irresistible desire to accomplish a task invariably leads us to enter our habitual response pattern. This goal-fixation, rather than allowing a new manner of use, compromises our attempts to change our habits almost instantly. When Alexander was working on his problem of hoarseness, he came to the realization that, in order to create a new pathway of action, he had to focus on the “means whereby,” i.e. the process of his action, rather than the end goal.²¹⁹ But this focus on the process of an action, not the end result, is so difficult for students to understand who are trained to achieve goals. Since childhood, we are taught to work toward an end in all we do, whether it be a school assignment, sports game, or creative process. Yet, it is just such a cultural prejudice towards ends rather than means, that continues our negative habitual responses. Rather than existing in the moment to

²¹⁸ Alexander, *The Universal Constant in Living*, 152.

²¹⁹ Alexander, *The Use of the Self*, 18-23.

understand the process of our new actions, we tend to jump to movements that we *know* will accomplish our goal sending any new, healthful patterns packing. However, by understanding the “means whereby,” we can rediscover how to exist in the moment of our new action; as we attend to the process of an action, rather than focusing on the result, we discover the essence of the present. As Judith Stransky, an Alexander teacher, notes, such a focus on process “restores the present to the spotlight of human consciousness.”²²⁰ If we allow for inhibition, or “non-doing” as it is called in the Alexandrian world, to function in conjunction with focusing on each step of an action, we have the potential for changing our negative habits.

But how can inhibiting a reaction be a positive step? After all, isn't part of our problem, as Freud would say, that we are *too* inhibited? Frank Pierce Jones claims that inhibition in Alexandrian terms is vital for repatterning because it delays any immediate response, allowing the possibility for an Alexander teacher to provide a pupil with a new sensory experience of a positive pathway.²²¹ Thus, inhibiting an instinctive habitual response provides us with the ability to choose. And as Pedro de Alcantara, an Alexander teacher in Paris, asserts, “If you have the capacity to choose, you are a free person.”²²² Without inhibition we are left as slaves to unhealthy habits, with it we have a chance at appropriate action. In a more critical tone, George Coghill questions the very intellect of those organisms who can't shake the yoke of habitual patterns. He declares that “[w]hen new turns of behaviour cease to appear in the life of the individual its behaviour ceases to be intelligent.”²²³ But once a student has an understanding of the principles of inhibition and can focus on the “means whereby,” she can use her intellect to

²²⁰ Stransky, *The Alexander Technique*, 241.

²²¹ Jones, *Freedom to Change*, 25.

²²² Pedro de Alcantara, *The Alexander Technique: A Skill for Life*, (Wiltshire, Great Britain: The Crowood Press, Ltd., 1999): 53.

²²³ Coghill, *Anatomy and the Problem of Behaviour*, 107.

direct her behavior and restore appropriate instinctual responses.

Direction, as the second fundamental step in the Alexandrian process, finally brings a student back in touch with his or her primary control. Alexander's first step was to determine the necessary directions for the head-neck-back relationship as the building block for all other movement. Referring to the same principles stated by Magnus and Coghill regarding the primary control influencing every other postural set-up in the body, Alexander demonstrated that by directing the head, neck, and back to a healthy relationship, we can develop a positive total response pattern. To this end, Alexander created a synopsis of positive direction, although, I will mention again, such direction is almost impossible to implement without the *experience* of an Alexander lesson. Alexander's synopsis, which says 'Let the neck be free, to let the head move forward and up, to let the back lengthen and widen,' sums up the appropriate head-neck-back relationship, and puts the primary control back in effective working order.²²⁴ Thus, after a student has gained the ability to inhibit, she can begin to *consciously* direct her primary control using this synopsis and maintain effective responses even away from an Alexander teacher.

But how can we use conscious direction to rebalance ourselves if, as we mentioned earlier, the pathways between thought and action typically run from the subconscious mind to the musculature? Here is where Alexander's directive regarding "constructive conscious control" comes in.²²⁵ In attempting to inhibit and direct his behavior, Alexander realized that he had to raise his awareness of his habitual responses to a conscious, rather than a subconscious, level in order to effect change. For Alexander, this expansion of awareness constituted an evolutionary step for humankind. In fact, in his first book,

²²⁴ Alexander, *The Use of the Self*, 23.

²²⁵ F. Matthias Alexander, *Constructive Conscious Control of the Individual* (New York: E.P. Dutton & Co., Inc., 1923).

Man's Supreme Inheritance, Alexander's main theme was the development of conscious control as an evolutionary necessity.²²⁶

Actually, many in both the scientific and Alexandrian communities see a greater conscious awareness as a solution to societal ills. For example, Robert Ornstein provides an excellent description of expanding conscious awareness. As he claims, consciousness is merely one facet of the brain and it is rarely aware of the activity going on in other spheres of the mind. Yet, we have the ability, through careful observation, of changing this set-up. Sounding very much like a pupil of Alexander, Ornstein asserts that “[o]nce we understand that consciousness is normally a weak force in the mental system, we can see how it can be strengthened, by bringing the automated routines to consciousness, using self-observation.”²²⁷ For Ornstein, this has to be our next step within the sphere of evolution. Conscious evolution, which he calls the third evolutionary step, is the only way we can “adapt to an unprecedented world.”²²⁸ Others too look to conscious development as our hope. Mihaly Csikszentmihalyi, the former chair of the University of Chicago psychology department, believes that by immersing our consciousness into the process (i.e. means whereby) of action, humans can continue their evolutionary progress. But if “a person endowed with consciousness acts in terms of instincts alone,” we are not living up to our full potential.²²⁹ As Walter Carrington would argue, by ignoring the possibilities for conscious control to heal our physical ills, are we not “abus[ing] the function of intelligence?”²³⁰

But what exactly does it mean to raise awareness of an act to a conscious level?

²²⁶ Alexander, *Man's Supreme Inheritance*. The subtitle for this book, i.e. *Conscious Guidance and Control in Relation to Human Evolution in Civilization*, speaks volumes.

²²⁷ Ornstein, *The Evolution of Consciousness*, 239.

²²⁸ Ornstein, 267.

²²⁹ Mihaly Csikszentmihalyi, *Finding Flow: The Psychology of Engagement with Everyday Life* (New York: BasicBooks, 1997): 146.

²³⁰ Carrington, “Balance...,” 305.

How do we “evolve” to allow our awareness to govern an act that lies in the subconscious mind? Does Alexander imply that he can control all his functioning down to the autonomic functions of his body? Not exactly. He concedes that “I could not enable my pupils to control the functioning of their organs, systems, or reflexes *directly*, but...by teaching them to employ consciously the primary control of their use I could put them in command of the means whereby their functioning generally can be *indirectly* controlled.”²³¹ Carrington puts it more succinctly. In the technique, the goal is to expand consciousness, but not necessarily to interfere with the body’s natural choices. In fact, our job is more to *stop* interfering with the body’s healthy mechanisms by rooting out habits that deny natural functioning. As Carrington notes,

The more we learn of how the organism works, the more we begin to appreciate its vast complexities, the more obvious it becomes that we cannot hope to achieve much by means of direct cortical intervention. The control that can be consciously exercised is a control of choice.... Control is then a matter of volition, of will. Our conscious intelligence, the faculty of understanding, often instructs us that it is better not to act than to act, not to intervene in a process which can be relied upon to regulate itself.²³²

Thus, the only way to truly reestablish a healthy functioning is by eliminating the negative interference with our natural balancing mechanism. This is why inhibition is so vital within the Alexandrian process. And once we inhibit our habits and use our consciousness to direct in a positive manner, our bodies can reintegrate to improve our overall functioning. In fact, after taking a number of lessons and effecting a positive head-neck relationship, students note improvements in everything from breathing to heart rate to blood pressure, as noted by Nikolaas Tinbergen.

But just how does this process occur scientifically? While we have explained the process in terms of musculature, placement, and the proprioceptive sense, our understanding of mind-body unity demands an explanation of what exactly is happening

²³¹ Alexander, *The Use of the Self*, 28. Author’s italics.

²³² Carrington, “Balance...,” 302.

within the entire pathway from brain to muscle. In other words, what is at work in our brains during this process that makes inhibition so effective? A number of studies have explored the issue of conscious will to determine its effect on our functioning. First, Dr. Benjamin Libet, a professor of physiology at UCSF, looked into the issue of time lag between stimulus and response in human subjects. Libet, in his well-known work, *The Volitional Brain*, found that there is a .5 second lag between a given stimulus and a response. Within that lag, .35 seconds are the build of neuronal activity in the brain (before our consciousness is even aware of it), .1 second is the *decision for action*, and the last .05 seconds is the beginning of the action itself.²³³ Clearly a very small period of time. Yet, somehow in that .1 second of decision time, we are left to make a choice. Although for most people performing most actions these .5 second lags between stimulus and response happen below the conscious level, as we engage in the Alexandrian process, we can raise this stimulus-response activity to the parameters of consciousness and use the .1 second of decision time to our benefit. As Richard Gummere, Jr., an Alexandrian drawn to Libet's study, exclaims, "What an incredibly small window of opportunity this gives us for decisions whether to try something new and intriguing or to project something old and familiar."²³⁴ Is this the .1 second to put Alexander's inhibition and direction to use? What exactly will happen within the body in that tiny period of time?

In order to facilitate a continued explanation of conscious will and choice in terms of physiology, we need to look deep within the body's structure, particularly to the nervous system. In the nervous system, electrical impulses and molecular interactions help govern both voluntary and involuntary action. However, once we dive below the

²³³ Benjamin Libet, "Do We Have Free Will," in *The Volitional Brain: Toward a Neuroscience of Free Will*, Benjamin Libet, Anthony Freeman, and Keith Sutherland, eds. (Thorverton: Imprint Academic, 1999): 47-57.

²³⁴ Richard Gummere, Jr., "Blink of the Eye, Tremor of the Soul," *Direction: A Journal on the Alexander Technique*; speech reprint from 6th International Congress in Freiburg, Germany, August 1999: <http://www.directionjournal.com/fmarchive/fmv2n4-nov99.htm#blinkoftheeyetremorofthesoul>.

level of organ systems or muscles into the realm of molecules and electricity, we find ourselves thrust out of the classical physical paradigm into that of quantum physics. Luckily for us, Fred Alan Wolf, a physicist with a particular investment in advancing the implications of quantum theory, explains how quantum physics works in the body in his book, *The Body Quantum*. Interestingly enough, quantum physical theory blossomed at the turn of the century at the time when Alexander was making some of his most profound discoveries. Although Alexander was clearly unaware of this scientific development (and actually temporally ahead of it), the crossovers between quantum physics and Alexander Technique can only be termed eerie. And in Wolf's work, although he is well-versed in quantum physics and its implications for physiology, we find no mention of Alexander. Yet Wolf's descriptions could very well have come directly from one of Alexander's books.

Before Wolf ventures into the innovative world of quantum physical processes in the body, he gives us a quick review of the main microphysical principles as developed by Heisenberg, Schrodinger, and Einstein. For Wolf, two principles within quantum physics stand out as particularly important for application to the body. The first, the observer effect, states that observation of a reaction will fundamentally alter that reaction.²³⁵ In other words, there is no such thing as objective observation; anytime someone observes an event, her observation changes the event. The second theory, the uncertainty principle, shakes our assumptions even further. Heisenberg's uncertainty principle undermines all notions of the universe as deterministic due to the realization that a subatomic particle does not follow simple cause and effect rules. For example, if a scientist measures one property of a particle, their measurement guarantees an uncertain measurement of another property. Combining these two theories, by choosing what to

²³⁵ Please see chapter one for details regarding the observer effect.

observe regarding the particle, an observer, in effect, *creates* the particle's reality.²³⁶

What do these principles have to do with the body? As previously mentioned, much of the body's processes rely on quantum physics due to the processes' molecular or electrical base. Particularly within the nervous system, both the observer effect and the uncertainty principle play an essential role. Sounding very much like an Alexander disciple, Wolf claims that both the subconscious and conscious mind, rather than *directing* processes in the body, play the role of observer within the body. In other words, the mind decides the outcome of a psycho-physical process by observation, and the moments of observation in the nervous system can be particularly influential. Wolf asserts that "[t]he effect of observing one's own body, both consciously and unconsciously, alters the body."²³⁷ What does it mean to observe something unconsciously? Wolf explains that unconscious observation, i.e. that which happens below our consciousness, is affected by our conscious choices. Emotional or sense experiences that create specific reactions within the nervous system produce the observer effect at this unconscious level. When we tense or relax muscle groups, each of these reactions induces a multitude of unconscious observations. Wolf goes on to describe how subatomic particles (electric signals in the body for example), which exist as a quantum wave function, or "wave spread over a region of space," when they have not been observed, collapse into a specific point or particle upon observation.²³⁸ Thus, when an observer comes on the scene, the quantum wave function loses its inexact location and selects a path. By choosing specific moments to observe, the observer acts as the determiner of the particle's future.

What precisely does this have to do with the Alexander Technique? When Wolf describes consciousness as the observer, he comes very close to Alexandrian principles.

²³⁶ Fred Alan Wolf, *The Body Quantum: The New Physics of Body, Mind, and Health* (New York: Macmillan Publishing Co., 1986): xix.

²³⁷ Wolf, xxi.

²³⁸ Wolf, xxii.

Alexander urged his pupils to raise action to the level of consciousness. By doing so, we take responsibility for the moments of observation that occur within the body. For example, by directing the appropriate head-neck-back relationship and restoring the primary control to a conscious level, we are also creating the best possible observational stance for all unconscious functions. With an effective primary control reestablished, our unconscious mind can observe at more appropriate moments for the best possible functioning of the body. And in order to reestablish an effective primary control, inhibition acts as an essential disruptive force for our habitual observation patterns. As Wolf asserts, observation can be “sudden and discontinuous, disrupting previous patterns of behavior.”²³⁹ Is this the role of inhibition then? By inhibiting, can we choose a different moment of observation and disrupt habitual patterns? Does that moment of pause within that .5 second between stimulus and response provide the opportunity for new patterns of observation at a conscious and unconscious level? By observing at a different moment within the quantum wave function, are we allowing the subatomic structure of our bodies to transfer from waves to particles at more appropriate moments? Certainly, Wolf’s theories point in this direction.

While Wolf’s ideas delve into more complex scientific theory than I can possibly handle, certain images from his work stand out. Concerned with what he calls “quantum mechanical diseases” such as aging or cancer, Wolf claims that these diseases arise from increasing disruptions at the level of the genetic material in the body. Referring to the work of physicist Per-Olov Lowdin, Wolf maintains that “death, problems in mutation, aging, even tumor growth, ultimately are caused by a quantum physical process in DNA that results in genetic miscoding.”²⁴⁰ According to Lowdin, during our lives, our DNA can undergo miscoding when protons tunnel into the hydrogen bonds that join our DNA base

²³⁹ Wolf, xxii.

²⁴⁰ Wolf, 236.

pairs. Proton-tunneling, Wolf explains, is a common quantum physical process and should be suspected as the major cause of cellular degeneration. But perhaps we have an alternative to this inevitable cellular deterioration. Wolf suggests that the observer effect has the potential of impacting this DNA miscoding. In other words, the observer can either interfere in the DNA patterns causing proton-tunneling or she can facilitate correct patterning depending on the moment of observation. As Wolf states,

Because the mind may enter into the DNA bond, it may alter its [quantum wave function] pattern, resulting in a greater possibility for proton tunneling. This tunneling can lead to illness. It may also enter whenever proton tunneling has occurred spontaneously...altering the probability so that the proton is brought back where it belongs. This retains health. By becoming more mindful, we may either increase our vitality, or sabotage it.²⁴¹

Such claims immediately bring to mind Alexander's suggestions regarding the potentialities of consciousness for creating health. While Alexander certainly did not see the role of consciousness as masterminding every DNA pattern directly,²⁴² he firmly believed conscious control of our use will lead us to health indirectly. In *Man's Supreme Inheritance*, Alexander made such grandiose claims as "conscious control, when applied as a universal principle to 'living,' constitutes an unfailing preventive for diseases mental or physical...."²⁴³ Do we have the possibility, by consciously directing our primary control to a positive use, to evolve past these quantum mechanical diseases? Wolf and Alexander clearly support one another on this point.

Still more similarities crop up between the views of these men. Wolf also discusses possible routes for expanding consciousness to realize this state of conscious control. One method is to improve our senses. Wolf, although he appears ignorant of the work done by Alexander, is not ignorant of the work done by Sir Charles Sherrington, an

²⁴¹ Wolf, 247-8. Clearly, determining the exact correct moments to observe would be the trick. Can Alexander Technique take us to a correct moment of observation every time? Hard to say. I hope that Wolf's ideas are taken up by other scientists to pose a serious possibility for us.

²⁴² Obviously it is unlikely that Alexander would have even known the term 'DNA' since it didn't gain general currency until the 1950's.

²⁴³ Alexander, *Man's Supreme Inheritance*, 181.

Alexander devotee. Sherrington, as I mentioned, found that the proprioceptive sense gives us the necessary information regarding our movement and position in space. Wolf, like Alexander, believes that we need to gain conscious control of our muscular movements by awakening our proprioceptive sense. And, as Wolf claims, “conscious control of muscles must involve quantum physics by invoking choice.”²⁴⁴ Taking this further, Wolf argues that once such sensation is in place, there is no stopping us. We should allow this new sensory awareness to go deeper, even to the cells themselves. “But to become more aware,” Wolf asserts, “we need a good model of cellular consciousness.”²⁴⁵ Ironically enough, in an interview with my own Alexander teacher, Jean McClelland, she mused that, for her, the Alexander work did just that. As she stated, “it is as if my consciousness were alive in every single cell.”²⁴⁶ Do we have such a model or understanding of the consciousness in any scientific school of thought? Well, no, but perhaps Wolf’s hypotheses give us a possible direction for such understanding. Wolf does note that “body awareness training” could provide a path to raise our sense of ourselves to a higher level and that as we increase our awareness, we will lead healthier lives.²⁴⁷ Could Wolf see the Alexander Technique as an awareness training that entails the possibility for expanded consciousness? I can only guess. But the links between Wolf’s theories regarding the quantum physical processes in the body and Alexander’s practical understanding of body-mind unity through the use of primary control and inhibition are unmistakable.

However, the implications of the Alexander Technique can go further, particularly if we employ the principles of quantum physics. Acknowledging the observer effect both

²⁴⁴ Wolf, *The Body Quantum*, 44.

²⁴⁵ Wolf, 236.

²⁴⁶ Jean McClelland, Interview by the author, 14 June 2001, New York ; Tape recording in possession of the author.

²⁴⁷ Wolf, *The Body Quantum*, 262.

in ourselves and in the environment puts us neatly back into a subjective world where continuity between self and the environment is the watchword. In such a scenario, mind, body, and environment easily meld. Environmental ethicists including J. Baird Callicott, Fritjof Capra, and Arne Naess find quantum physics useful for just such a meshing. Callicott discusses how “quantum theory portray[s] a universe that is systemically integrated and internally related” and Capra celebrates nature from a quantum physical perspective as “a complicated web of relations between various parts of a unified whole.”²⁴⁸ So, to appreciate the implications of quantum physics may be an excellent first step toward an ethic of interdependence. But do these men know that the Alexander Technique can provide an *experiential* view of quantum physics’ holistic universe? As our analysis of Wolf demonstrates, by employing the quantum physical tools made possible through the Alexander Technique, we truly have a chance at experiencing that united, subjective realm hinted at among quantum physicists. Thus, while the technique not only proves to be an excellent step towards healing the divisions between mind and body, it also contains the possibility for healing the division between the self and the environment that ethicists see as necessary for an environmental ethic .

In fact, many Alexandrians wax poetic about their recovered sense of union with the environment. Goddard Binkley, a student of Alexander’s and a teacher himself, regained this sense of nature after a session with Alexander. In *The Expanding Self*, Binkley describes his experience,

It is good to remember that you are a man or woman in the full biological-evolutionary sense; that you are not merely a part of nature, you *are* nature. When you are awake, alert and aware of yourself in the full Alexandrian sense, you are nature being conscious of herself. When you speak, nature is speaking.²⁴⁹

²⁴⁸ J. Baird Callicott *Beyond the Land Ethic: More Essays in Environmental Philosophy* (Albany: State University of New York Press, 1999): 53; and Fritjof Capra, *The Turning Point: Science, Society, and the Rising Culture* (New York: Simon and Schuster, 1982): 81.

²⁴⁹ Goddard Binkley, *The Expanding Self: How the Alexander Technique Changed My Life* (London: STAT Books, 1993): 128.

Do other Alexandrians experience such a feeling? Michael Gelb writes about the self-environment connection in *Body Learning*. Gelb notes that after studying the technique for a number of years he found himself reintegrated with his environment. His appreciation for his surroundings increased when he went for a run applying the Alexandrian principles, "My awareness of the environment passing by as I ran was heightened. Freed to a great extent from the drag on my body, I found more energy to appreciate the flow of the ground and trees as I ran along."²⁵⁰ Daniel McGowan also finds such an experience to be part of his daily experience. Because of the technique's insistence on integrating external stimuli into our attention, he finds that by studying the technique we have the potential of awakening each day with the sense that "[t]he body and the environment are ultimately one."²⁵¹ Even in my first few months of studying the technique, notes to myself indicate a rediscovered intimacy with the environment around me. I began to understand my place in the natural world. Sarah Conn, an ecopsychologist, calls this rediscovered intimacy a step towards breaking down boundaries between the self and the environment, on the way to realizing the semipermeable boundaries that facilitate a renewed relationship with our environment.²⁵²

How do we gain this sense of oneness with nature? Patrick Macdonald, a long time Alexander teacher, explains that when we stop interfering with our primary control, an appropriate, i.e. natural, functioning can facilitate our return to health.²⁵³ However, if we fail to reestablish an effective primary control and dismiss our proprioceptive sense,

²⁵⁰ Gelb, *Body Learning*, 109.

²⁵¹ Daniel McGowan, *Constructive Awareness: Alexander Technique and the Spiritual Quest* (Burdett, NY: Larson Publications, 1997): 18.

²⁵² Sarah A. Conn, "When the Earth Hurts, Who Responds?," *Ecopsychology: Restoring the Earth, Healing the Mind*, Theodore Roszak, Mary E. Gomes, and Allen D. Kanner, eds. (San Francisco: Sierra Club Books, 1995): 165.

²⁵³ Patrick Macdonald, *The Alexander Technique: As I See It* (Brighton, Great Britain: Rahula Books, 1989): 17.

we maintain a distorted perception of our surroundings. Such a distorted perception greatly concerned Alexander. He voiced this concern in third book, *The Use of the Self* (1932). Alexander worried that humans, in their impressive adaptability, become accustomed to both unhealthy use of themselves as well as unhealthy environments. In his words, humans have a “capacity for becoming used to conditions of almost any kind, whether good or bad, both in the self and in the environment, and once [we] become used to such conditions they seem...both right and natural.”²⁵⁴ Thus, rather than creating healthy conditions in our environments or encouraging healthy use of ourselves, we adapt to unhealthy ones and, as our primary control malfunctions, our perception of our surroundings deteriorates.

So how can we reinstate an accurate perception of our environment? Certainly, inhibiting our habitual patterns and allowing a natural functioning of the primary control is essential. But the Alexander technique takes us further. Frank Pierce Jones asserts that as we continue our work in the technique, we can discover an “expanded field of attention” that acts as the bridge between our subconscious and conscious self as well as between the self and the environment.²⁵⁵ Jones claims that after we focus our attention on our head-neck-back relationship, rather than shifting to another part of the body, we can extend our attention by “unconcentrating” to take the whole body into our focus. As the attention expands, we recognize not only relationships within the organism that increase self-knowledge, but we can take in the environment as well. Jones dismisses the dichotomy between the self and the environment by dismissing the either-or aspect of perception. Jones maintains that, although we typically assume our focus is directed either outward to our surroundings or inward into the self, these dual perceptions can be integrated into a single field of attention. As he explains, “The observer is stationed

²⁵⁴ Alexander, *The Use of the Self*, 56.

²⁵⁵ Jones, *Freedom to Change*, 159.

where, instead of looking out upon his environment or in upon himself, he is looking *through* in such a way that the continuity between organism and environment appears unbroken.”²⁵⁶ In this way, not only do we break down unnecessary and, as quantum physics asserts, unrealistic divisions between ourselves and the environment, but we can begin to increase our integration with our surroundings. We can question our unreasoned responses to stimuli while simultaneously comprehending causal relationships in the environment. Seeing these patterns that include both self and the environment is like “[f]inding the clue that leads out of a maze.”²⁵⁷ Jones revels in this experience as the true experience of freedom.

The idea of the expanded field along with the attention to the present moment allows practitioners of Alexander Technique to experience “flow” more frequently than most people. Mihaly Csikszentmihalyi, a psychology professor, studied these flow moments, which he claimed were common in “autotelic activities,” a notion which we have already explored in previous chapters. In such activities, people focused on the present moment and experienced integration within the self and with the environment.²⁵⁸ By attending to the process, or means whereby, of movement as well as utilizing our integrated perception of self and the environment, we discover such flow and reinstate an intimate relationship with our environment. Perhaps Aldous Huxley wasn’t so far off in his claim that Alexander technique can lead us to an “experience of ultimate reality.”²⁵⁹

But why is it so important to discover a relationship between self and the environment? Does that somehow make us environmentalists? As shown by the previous quotes from Callicott and Capra, many within the environmental community see

²⁵⁶ Jones, 170. Jones’ italics.

²⁵⁷ Jones, 177.

²⁵⁸ Mihaly Csikszentmihalyi, *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*, 25th anniversary ed. (San Francisco: Jossey-Bass, Inc., 2000): 38-48.

²⁵⁹ Huxley, review of *The Universal Constant of Living*, 18.

the necessity of understanding the “complicated web of relations” within an ecosystem. Arne Naess, the father of the deep ecology movement, also lays particular emphasis on understanding the interdependence of humans and the environment. As he expresses in his classic work, *Ecology, community, and lifestyle*, as we expand our awareness to identify with family, society, and the nature as a whole, we can understand nature in a “relational, total-field image.”²⁶⁰ Referring to quantum theory, Naess rejects the subject-object dichotomy in favor of the idea of relation between all aspects of an ecosystem. For Naess, the dissolution of the hard boundaries between self and nature occurs when we are “absorbed in vivid action.”²⁶¹ In other words, a method for achieving unity comes from *flow* activities. Yet, what technique does Naess specifically offer to fully experience the relational field? What will allow us to revel in the sense of interdependence? Unfortunately, he leaves this unanswered. But perhaps the Alexander Technique can offer just such an opportunity.

John Dewey certainly seemed to see the benefit of the technique for understanding connection. As we mentioned, Dewey studied with Alexander and his brother from the 1920’s until the 1940’s and he used his lessons as “a laboratory demonstration of principles that he had arrived at by reasoning: the aesthetic quality of all experience; the unity of conscious and unconscious; the continuity between self and environment...”²⁶² In fact, E.D. McCormack, who did a study of Dewey and Alexander’s relationship, claims that much of Dewey’s work cannot be fully comprehended without understanding Alexandrian practices.²⁶³ And, for Dewey, as he drank of the Alexandrian experience of

²⁶⁰ Arne Naess, “The Shallow and the Deep, Long-Range Ecology Movements: A Summary,” in *Deep Ecology for the 21st Century: Readings on the Philosophy and Practice of the New Environmentalism*, George Sessions, ed. (Boston: Shambhala Publications, Inc., 1995): 151

²⁶¹ Naess, *Ecology, community and lifestyle*, 66.

²⁶² Jones, *Freedom to Change*, 99.

²⁶³ Eric David McCormack, “Frederick Matthias Alexander and John Dewey: A Neglected Influence” (Ph.D. diss., University of Toronto, 1959).

improving conscious awareness, he celebrated the value of consciousness for comprehending “the relations found in nature.”²⁶⁴ Dewey worried that humans attempted to divide themselves from the natural world to their own detriment. But Dewey believed in the indissolubility between nature and culture, mind and body, and subject and object, and he found support for this belief in his practice of the Alexander Technique. He bemoaned our desire to “remove...mind from necessary connection with the objects and events, past, present, and future, of the environment with which responsive activities are inherently connected. Mind that bears only an accidental relation to the environment occupies a similar relation to the body.”²⁶⁵ For Dewey, the technique demonstrated the relational whole between mind, body, and nature.

Many within the environmental community also look to Dewey for inspiration, although few see the practice behind the theory. Most don't even know of the existence of Alexander, or, if they do, they dismiss him as some quack from Australia. Little do they realize the import of Dewey's Alexandrian practice on his philosophical treatises. Yet, environmentalists mine Dewey's texts for support for their environmental ethics. In fact, an entire branch of environmental ethicists, the environmental pragmatists, look to Dewey as a father for the environmental ethics community. Sandra Rosenthal and Rogene Buchholz, for example, champion Dewey based on the fact that within his pragmatism, “[n]ature cannot be humanized, nor can humans be denaturalized.”²⁶⁶ Larry Hickman sees Dewey's pragmatism as a “genuinely evolving naturalism” that is “capable of supporting Leopold's land ethic.”²⁶⁷ Hickman also applauds Dewey's naturalism based on its

²⁶⁴ Dewey, *Art As Experience*, 25.

²⁶⁵ Dewey, 264.

²⁶⁶ Sandra B. Rosenthal and Rogene A. Buchholz, “How Pragmatism Is An Environmental Ethic,” in *Environmental Pragmatism*, eds. Andrew Light and Eric Katz (London and New York: Routledge, 1996): 43.

²⁶⁷ Larry A. Hickman, “Nature as Culture: John Dewey's Pragmatic Naturalism,” in *Environmental Pragmatism*, eds. Andrew Light and Eric Katz (London and New York: Routledge, 1996): 56-66.

“careful attention to ends-means relationships”²⁶⁸ without realizing the Alexandrian background to such a statement. Bruce Wilshire, who also supports the pragmatists as “organismic to the core,” at least criticizes those who “have not considered [Dewey’s] formative work with the psycho-bio-therapist F.M. Alexander...”²⁶⁹

But do such assertions mean that Alexandrians are necessarily environmentalists? Interestingly enough, both Alexander and John Dewey can be seen as such when viewed as products of the turn of the twentieth century. For both Dewey and Alexander, their practices in holism led them to new notions of responsibility, not just toward themselves, but to the environment as a whole. Dewey and Alexander believed that by breaking down boundaries between self and the environment, humans could discover a responsibility to the environment as another aspect of the self. In fact, Dewey and Alexander both fretted about humanity’s lack of responsible ethics. As they watched the development of such scientific tools as nuclear energy, they worried about the lack of understanding about the use of energy in general. Alexander saw the danger of placing such tools of destruction in the hands of those who did not even understand the use of their own energy.²⁷⁰ As Dewey proclaimed, without an understanding of our own physical systems, our control of other energy is “perilous.”²⁷¹ Walter Carrington, explaining Alexander’s writings, claims that Alexander demonstrated through his technique the primacy of energy efficiency in the use of the self. As he states, “the conservation of energy is of paramount concern.”²⁷² Dewey asserted that once we understand such efficiency of our own energy, “then the factor upon which depends the final use of all other forms of

²⁶⁸ Hickman, 53.

²⁶⁹ Bruce Wilshire, *The Primal Roots of American Philosophy: Pragmatism, Phenomenology, and Native American Thought* (University Park, PA: The Pennsylvania State University Press, 2000): 5, 22.

²⁷⁰ Alexander, *The Universal Constant in Living*, 236.

²⁷¹ Dewey, introduction to *The Use of the Self*, xx.

²⁷² Walter Carrington with Sean Carey, *Explaining the Alexander Technique: The Writings of F. Matthias Alexander* (London: The Sheildrake Press, 1992): 94.

energy will be brought under control.²⁷³ In other words, our grasp of energy conservation on an individual basis can extend to our environment through our expanded field of awareness.

These notions of conservation and personal responsibility combine to make the Alexander Technique an ideal method for creating an environmental sensibility. But does it really fit within the environmentalist movement? Don Hanlon Johnson, an expert in the field of somatic techniques, has no problem locating the technique in the realm of activism. As he states in his book, *Bone, Breath, and Gesture*, the Alexander technique is “best understood within a much broader movement of resistance to the West’s long history of denigrating the value of the human body and the natural environment.”²⁷⁴ Johnson goes on to claim that people “tend to overlook its social and philosophical significance.”²⁷⁵ For it is only through embodying notions of responsibility and sensing the relational nature of our world that we have the chance of making the next step—protection. In other words, if we begin to practice responsibility and conservation within ourselves, we have the chance of restoring nature to its most efficient and healthful state.

So, where does this leave us? Can we accept the implications that the Alexander Technique poses for the environmental movement? Can we further our investigation of the Alexander Technique through scientific means to gain a full comprehension of mind-body-environment unity? Will the Alexander Technique give us the first real understanding of quantum physical processes on a practical level, just as it allows us an intimate experience of unity? Or will we run away from such practical methods as too bizarre for our society? Strangely enough, while the technique supposedly lives on the

²⁷³ Dewey, xiii.

²⁷⁴ Don Hanlon Johnson, ed., *Bone, Breath & Gesture: Practices of Embodiment* (Berkeley: North Atlantic Books, 1995): xvi.

²⁷⁵ Don Hanlon Johnson, *Body: Recovering Our Sensual Wisdom* (Berkeley: North Atlantic Books, 1983): 156.

fringes of Western culture, an experience of the technique demonstrates it as merely a practical model for living. I walk into an Alexander lesson the same way I would for an appointment with my voice teacher, doctor, or personal trainer. No fireworks occur, no incense is burned, and no secret words are chanted. I just find a new way of using myself to insure health. I learn to sit in a chair, stand, and walk around the room. Yet, it is just such simplicity that makes the technique so absurdly useful to us on an everyday basis. Amazingly enough, when we leave the lesson, we have discovered a new method for experiencing serenity within ourselves and for meshing with our environment. By applying ourselves to the technique, we heighten our awareness not only of the way we use ourselves, but of the way we use the environment that cradles us. We learn that accepting responsibility for our actions does not have to be scary, but rather simple and sensible. However, the ramifications of such simplicity are profound. As Ted Dimon claims, "The concept of mind/body unity ultimately makes it possible to embark on a path of conscious development, leading to a greater insight into the nature of one's functioning and, ultimately, to a heightened awareness and an awakened mind."²⁷⁶ If we learn to awaken our consciousness to the relational whole of nature as well as to heal the divisions rife within our culture, we have the potential for appreciating life itself. And it is through such appreciation that we can embark on a true path of environmentalism. Once divisions have dissolved and we can accept notions of responsibility and conservation, we can move beyond the abstract ether of theory and demonstrate environmental practice. For ultimately, it is only through practice that the biosphere, including humanity, has a chance at survival and true progress.

²⁷⁶ Dimon, *The Undivided Self*, 18.

Chapter Four

Contact Improvisation: An Embodied Revolution

"...soul is only another word for something about the body."

-Friedrich Nietzsche

"When dancing...I lose the distinction between the things I sensed out there, my perception of them, and indeed myself. I return to the humidity in the air, and the rich scent of white clover blossoms thickens the cells in my body, while my hands reexperience the coolness in the shade under the squash plant's umbrella leaves."

-Simone Forti

Nancy Stark Smith is a mother. But not a 1950's style housewife or a soccer mom. Rather, she's a matriarch of a whole different stripe. When I took a workshop with Nancy in the summer of 1996, she brought a new world into my narrow vision with the sensitivity of a caretaker and the quiet zeal of a social radical. At 25, I was still a relative newcomer to the dance scene and that summer in Maine sent me on a new trajectory.

Every summer, a legion of dancers, teachers, and choreographers descends on the sleepy town of Lewiston, Maine to participate in the Bates College Dance Festival. While many of the teachers jet up to Maine from their busy rehearsal schedules in New York, Nancy arrives as a beacon of calm from the progressive village of Northhampton, Massachusetts. And she brings with her the roots and the flowering of a form of dance that many have labeled a "touch revolution."²⁷⁷ Contact improvisation, the dance form which Nancy continues to coax to fruition, began in the 1970's and quickly infiltrated many other dance forms to become a base for partnering work in dance companies across

²⁷⁷ Karen Nelson, "Touch Revolution: giving dance," *Contact Quarterly* 21/1 (Winter/Spring 1996): 65-67.

the globe. But to taste contact improvisation in its pure sense is quite another experience than seeing it integrated into structured choreography. Such was my luck at the Dance Festival in 1996, that Nancy herself came to proclaim the revolution and I was there to follow her to the barricades.

About two weeks into the workshop, we lay resting between exercises on the cool wooden floor appreciating the light sprinkling through the well-aged windowpanes. After a short breather, Nancy bade us find a partner in the class and touch him or her as lightly as we could. At this stage in our sessions together, none of us was surprised by this request and we quickly paired off to explore this sensation of light touch. Beginning with our hands, my partner and I tried to experiment with just how minimal our contact could be, but as two-week “veterans” we moved on posthaste to explore how our other body surfaces could maintain this slight contact. My partner (perhaps his name was Brendan?) and I found that this sensation was one of the most memorable experiences of our time with Nancy. For the first time, I gained that heightened sense of awareness that all contact improvisers with experience have described. I was fused with my partner and with my surroundings, totally involved in the sensations we were exploring. How long did that duet last? A minute? An hour? I still cannot remember to this day. As my partner and I discovered light touch between our heads, between his shoulder and my hip, between my neck and his calf, we jumped to a level of experiential living rarely glimpsed in our culture of freeways and skyscrapers. We lost the sense of time as that continuous preparation for the next day or as that monotonous mulling over past mistakes, and stayed with the present. We reveled in the senses, feeling the dissolution of boundaries between ourselves and the environment. The air that inflated our lungs, the wooden floor that gave us support, even the light dappling our skin reminded us of the semipermeable

nature of our surfaces. And although I cannot remember my partner's name very well, for a moment in time, I caught a flash of how connected I could be to another person and my environment.

Most people, after reading such a description, might label me a New Age quack or, worse, a sexual deviant due to our society's tendency to limit physicality to sexual encounters or bizarre medical practices. But for those immersed in the contact improvisation community, little about such an account evokes surprise or disgust. Touch, as they understand it, is merely one of the six senses that for some reason has been relegated to the role of the red-headed step-child. *Six* senses you might say? Well, yes, for not only does contact improvisation rescue touch as a sense, but the form's clear focus on understanding our own internal mechanisms brings back that other sense, the proprioceptive one. Nobel-prize winning biologist Sir Charles Sherrington first labeled the proprioceptive sense in 1906, as I discussed in an earlier chapter. Working from information received through the joints, muscles, and inner ear, the proprioceptive sense provides us with knowledge about our own organism's place in space, our movement through space, and even what is taking place in our mysterious innards.²⁷⁸ Contact improvisers know the importance of such self-knowledge, for only by gaining a full comprehension of their physical beings can they achieve that much-discussed heightened state of awareness. Perhaps by tuning into our frequently ignored proprioceptive sense, we too have the capacity to traverse this plane that is so common within the contact improvisation community.

In fact, once we have begun to listen to our bodies again, we have the chance to open to the knowledge of other bodies and to our surroundings as a whole. As our

²⁷⁸ After Sir Charles Sherrington discovered the proprioceptive sense, the scientific community readily accepted his findings and the sense became part of scientific *lingua franca*. For this particular instance, I found information in the following book: Louise Steinman, *The Knowing Body: Elements of Contemporary Performance* (Boston: Shambhala Press, 1986): 11.

awareness integrates our body-mind and then connects to other beings and to the environment as a whole, we sense the inseparability of the natural community. In other words, by reinvesting in the physical world of touch and sense, we can reconnect to the physical world of nature that envelops us. As David Abram so eloquently puts it, “Ultimately, to acknowledge the life of the body, and to affirm our solidarity with this physical form, is to acknowledge our existence as one of earth’s animals, and so to rejuvenate the organic basis of our thoughts and our intelligence.”²⁷⁹ In this way, contact improvisation provides the opportunity to *physically* understand ourselves as integrated members of the biotic community. As we respond to the moment within a contact improvisation duet, we see ourselves, our partners, and our surroundings as “member[s] of a community of interdependent parts.”²⁸⁰ This sentiment from one of the fathers of environmental ethics, Aldo Leopold, could have slipped from the mouths of any number of contact improvisers. In fact, contact improvisation, as I shall demonstrate, embodies the concepts of the land ethic in many remarkable ways. Yet, while many environmentalists look to the land ethic, which calls for an extension of ethics (for our purposes, the ethics of the French Revolution--liberty, equality, fraternity) past humanity to the environment, as a foundation for ecological restoration, they too often bypass the problem of disembodiment. And by overlooking disembodiment as a factor in the realization of the land ethic, they miss the opportunity to cement the ethic in practice. However, by finding a practice that allows us to reinvest in the physical world as inseparable from the mental, we can reengage with the natural world that surrounds us. Contact improvisation, as a practice directly involved in dissolving such dualities as body/mind, nature/culture, and subject/object, sends us on a path that has radical

²⁷⁹ David Abram, *The Spell of the Sensuous* (New York: Vintage Books, 1996): 47.

²⁸⁰ Aldo Leopold, *A Sand County Almanac with Essays on Conservation from Round River* (New York: Oxford University Press, 1966; reprint, New York: Ballantine Books, 1970): 239.

implications for social and environmental change. As we embrace the physical world of body and nature through contact improvisation, we discover an effective route toward truly embodying the land ethic. And by physically comprehending the interrelatedness of a biotic community, we can hasten our journey toward restoration.

But just what is this dance form? Why is it so effective for dislodging society's sensual blocks? Contact improvisation, a duet form relying on touch, sensation, and physical laws such as momentum and gravity, looks unlike any duet typically encountered in the dance realm, especially if your dance realm is Broadway or the ballet. As Steve Paxton describes, "[t]he stuff seems to exist in the wrestling, jitterbug, Aikido, gymnastic, dance area."²⁸¹ Still not clear? Well, perhaps contact improvisation is best explained by following Paxton's development of the technique. While in residence at Oberlin College in the 1970's, Paxton, who discovered the form, or as he claims "noticed" it,²⁸² began to wonder at our culture's lack of understanding of our physical selves. As he began playing with movement forms that approached contact improvisation, he asked himself "[w]hat had the culture physically suppressed or selected out which we might reclaim?"²⁸³ Experimenting with a number of students at Oberlin, Paxton stripped movement back to its smallest manifestation - stillness. In a particular exercise called the "small dance," students stood in place with their eyes closed, technically doing nothing. Yet, what they found was that an amazing amount of activity occurred within their bodies during stillness. Certain reflexes continued to function and small weight shifts awakened the students to the inner landscapes of their own bodies. Nancy Stark Smith, who was one of Paxton's initial group at Oberlin, reminisces on that first experimentation with the small dance:

²⁸¹ Steve Paxton, "Contact Improvisation," *The Drama Review* 19/1 (1975): 40.

²⁸² Steve Paxton, "The Man in the Box." Interview collated by Jess Curtis, *Contact Quarterly* 20 no. 1 (Winter/Spring 1995): 68.

²⁸³ Steve Paxton, "Drafting Interior Techniques," *Contact Quarterly* 18 no. 1 (Winter/Spring 1993): 64.

I floated, standing, in the seeming solidity of skeleton and structure. And just when I thought I had myself lined up perfectly, all at rest, in balance, something would take me just that hair off center and I'd drift until I'd feel my muscles fire and contract, just enough...to catch and send me back over my legs....²⁸⁴

Paxton hoped that by refocusing on mere reflexes, students would discover an increased ability to remain with their bodies in the present moment, a difficult proposition. When I tried my hand at the small dance with Nancy in that summer of '96, I too found how difficult it was to focus only on my reflexes, to rope my consciousness to my body in the present moment. Yet, Paxton's exercise proved effective as students continued the practice.

Why is it so important to keep the consciousness with the body rather than falling back on the reflexes to conduct the necessary movement? Paxton believes that keeping the consciousness with the body allows us to comprehend reflex speed and to remain integrated through the more extreme movement that will follow. Further, he feels that only by having the consciousness integrated at all times into our physicality do we have the potential of learning from our movement. "If a gap of consciousness occurs at a critical moment [such as in a lift, turn, or roll], we lose an opportunity to learn from the moment."²⁸⁵ By keeping our consciousness engaged in our physicality, we not only have the ability to correct our movement and move further within our movement capacity, but we have the chance to avoid injury even when in extreme movement circumstances. But does this mean that the consciousness corrects the reflex responses? Not exactly. Paxton wants the consciousness to "tune to the speed of reflex,"²⁸⁶ but, instead of firing different signals to the muscles to protect the body when it is falling, Paxton encourages his students to remain calm through the adrenaline rush and just experience the sensation of it. Thus, the sensations of the body teach the mind natural reaction, rather than vice

²⁸⁴ Nancy Stark Smith, "Editor Note," *Contact Quarterly* 22 no. 1 (Winter/Spring 1997): 3.

²⁸⁵ Paxton, "Drafting Interior Techniques," 63.

²⁸⁶ Paxton, "The Man in the Box," 68.

versa. As Daniel Lepkoff, a student of Paxton's in the early years, claims, "[t]his precedence of body experience first, and mindful cognition second, is an essential distinction between Contact Improvisation and other approaches to dance."²⁸⁷ While other forms attempt to impose movements on the body consciously, contact improvisation sees the body as the source of inspiration and knowledge. As an intelligent organism, the body beckons the consciousness to remain with it, through both movement and stillness, to find true integration.

Is this all contact improvisation is then? Just standing in place observing ourselves? Actually, when seen in practice, contact²⁸⁸ appears to be the direct opposite of stillness. Once gaining the knowledge of our lost senses by practicing the small dance, contactors progress to duets maintaining touch, both lightly and more aggressively, with a partner. After working with touch for a period of time, the improvisational duets typically jump to an amazing level of movement. Partners lift, catch, jump, and roll together, pushing the extremes of movement potential. Eleanor Luger, writing about her first experiences with the form in 1977, wrote this enthusiastic description:

One dancer will run, jump, and twist his/her body around another dancer's waist, like a belt. Another dancer runs, jumps, and wraps her legs around her partner's waist and her arms around his neck, while another dancer dangles upside down over the shoulder of his partner. Contactors get used to supporting and being supported across thighs, on the soles of the feet, on buttocks and in the space between the shoulders and neck.... Contactors do not seek the vertical!²⁸⁹

For viewers in the 1970's, even those accustomed to the radical experiments within the modern dance field, such physicality and constancy of partnering work was brand new.

In its development, contact, as I mentioned, drew on the realms of aikido, gymnastics, wrestling, post-modern dance, and the social dance movements of the fifties

²⁸⁷ Daniel Lepkoff, "Contact Improvisation or What happens when I focus my attention of the sensations of gravity, the earth, and my partner?" *Contact Quarterly* 25/1 (Winter/Spring 2000): 63.

²⁸⁸ For most people within the contact improvisation community, the form is referred to as 'contact' and those who practice it 'contactors.' I too will make use of these terms.

²⁸⁹ Eleanor Rachel Luger, "A Contact Improvisation Primer," *Dance Scope* 12/1 (Fall/Winter 1977-78): 54.

and sixties, to spawn a form that resembles none and all of the above.²⁹⁰ As partners support each other's weight, attempting to tap into the physical forces governing our movements, they depict an energy stream rather than a fixed moment in time. Line and shape take second place to the continuous physical dialogue of two bodies in space. Cynthia Novack, the seminal anthropologist for contact improvisation, provides her readers with many visuals for the contact novice in her book, *Sharing the Dance*. Describing a duet between two men who brush against each other, sliding and rolling across the floor, she notes that the men "both move with the same kind of careful languor, a deliberateness which is at once efficient and casual."²⁹¹ While both partners exhibit a level of impressive strength, rarely do they rely on their musculature, preferring to move in concert with the forces of gravity and momentum. As Paxton puts it,

[e]ach party of the duet freely improvises with an aim to working along the easiest pathways available to their mutually moving masses. These pathways are best perceived when the muscular tone is lightly stretched to extend the limbs, although not to a degree that obscures the sensations of momentum and inertia.²⁹²

Perhaps one of the more astounding spectacles to stumble across in a contact improvisation duet is an image of a small woman lifting a rather large man high into the air. For example, when I watched Nancy Stark Smith, who probably weighs 110 pounds, rotating an approximately 180 pound man around the axis of her neck, I could not help but stare in amazement. How could such a small person maneuver someone of such mass without even appearing tired? Yet, such a display is not uncommon in the contact world. Due to contactors' impressive sense of the natural forces of gravity, momentum, and inertia, such moments evolve organically without undue stress to either party. And it is such a balance between parties that gets contact its name as an egalitarian form.

²⁹⁰ Paxton, "Contact Improvisation," 40.

²⁹¹ Cynthia J. Novack, *Sharing the Dance: Contact Improvisation and American Culture* (Madison, WI: The University of Wisconsin Press, 1990): 3.

²⁹² Paxton, "Contact Improvisation," 40.

Many viewers and participants in the form have remarked on the non-hierarchical nature of contact duets, a rarity in the dance community. Accustomed to ballet duets where the male always lifts and presents his female partner, the inversion of this image can be shocking. In contact improvisation, men lift men, women lift men, and women lift women without a second thought. As Susan Foster, a preeminent dance scholar, notes, contact improvisation challenges “gender assumptions about who could lift whom and hierarchical assumptions about who could dance with whom” thereby defying “standard notions of virtuosity.”²⁹³ Developing in the milieu of the radical political movements of the 1960’s and 1970’s, contact improvisation made a social statement through this breakdown of traditional gender roles. In the context of the rising civil rights and feminist movements as well as the consciousness-raising efforts of the period, contact improvisation enacted a literal overturning of social hierarchies.²⁹⁴ In fact, as Cynthia Novack asserts, when contact first appeared, many found that it “literally embodied the social ideologies of the early ‘70’s....They viewed the experience of touching and sharing weight with a partner of either sex and any size as a way of constructing a new experience of the self interacting with another person.”²⁹⁵ Such an emphasis on equality did not only exist between partners well-versed in the form, but between all who came to try it out. Novices danced with teachers of the form just as easily as experts danced with experts. As contact developed in the years after 1972, Paxton eschewed ownership of it adding to the form’s ability to maintain a non-hierarchical feel. Unlike the majority of dance movements where a choreographer develops a style and stamps his or her name on all

²⁹³ Susan Leigh Foster, “Simply(?) the Doing of It, Like Two Arms Going Round and Round,” *Moving History, Dancing Cultures*, Ann Dils and Ann Cooper Albright, eds. (Hanover, CT: Wesleyan University Press, 2001): 428.

²⁹⁴ It is important to note that the hierarchical turnover seen in contact in the 1970’s was mainly based on gender. During this time, contact was practiced almost exclusively by white, middle class college students.

²⁹⁵ Novack, *Sharing the Dance*, 11.

products stemming from it, contact improvisation morphed over time to contain the signatures of all who participated. And while the form continues to remain mainly in dance circles (which tend to be white and middle class), other social groups have joined the movement including, of note, physically challenged segments of society.²⁹⁶

Beyond embodying the value of equality, contact improvisation also incorporates notions of freedom. This “art-sport” or “natural duet-play,” due to its improvisational base, encourages participants to express their own movement styles in a spontaneous manner. Teachers of the form encourage individuality even while training students in the subtleties of conscious observation and partnering. Novack notes that “[e]ven the restrictions of the dance form, the actions of giving and taking weight in contact with one or more people, were generally characterized as being completely open-ended, allowing for individuality and freedom.”²⁹⁷ Rather than supplying an audience with only one specific image or aesthetic, contact improvisation performances display an unexpected variety. As Eleanor Luger explains in her 1970’s article, contactors enjoy spontaneity and surprise within the work; they “do not avoid awkward, embarrassing, or humorous moments, making the form exciting and entertaining to watch and to do.”²⁹⁸ But, unlike other dance forms that showcase virtuosity, accomplishing particular skills holds no appeal for the contact improviser; instead, the only goal is realizing a state of awareness that indicates a fully engaged consciousness. As the small dance demonstrates, bringing the consciousness back to the body brings with it a concomitant understanding of ourselves as individual, physical beings. From such a place, contactors can be sure to find a heightened awareness that allows them to be true to their own intentions. Steve Paxton

²⁹⁶ A most interesting development within the contact community has been the development of groups, both performance and therapeutic, that pair able-bodied and physically challenged dancers. Alan Ptashek’s and Bruce Curtis’ group, Exposed to Gravity Project, is just one example.

²⁹⁷ Novack, *Sharing the Dance*, 74.

²⁹⁸ Luger, “A Contact Improvisation Primer,” 48.

claims that improvisation “gives you a chance to glance at yourself sideways as you move through time and space and to learn about your own behavior.”²⁹⁹ As they experiment with individual styles, contactors are free to express any newfound understanding within an improvisational setting. As Paxton asserts, the freedom to explore movement within the form “reinforces selfness.”³⁰⁰

Yet, such a demonstration of freedom and individuality does not mean that contactors privilege their own internal objectives over others’. In fact, contactors exhibit a remarkable understanding of their partners’ intentions and a willingness to find a joining of intention. Paxton maintains that within the contact duet the intent of each party “should be minimal” while the *sensing* of intent “should be maximal.”³⁰¹ Thus, the contactors discover a collective sense unknown to many other improvisational forms. Other forms, which, while relying on cooperative strategies with others, remain physically segregated from them, cannot cultivate the level of cooperation apparent in a contact duet. Contactors, obliged to rely on one another as a fundamental principle of the form, find that they must embody the value of cooperation in new and unexpected ways. Instead of pushing for personal goals through manipulative measures, contactors stay true to the point of contact. Often, contactors observe that the more connected they feel to their partner, the less certain they are of whose objectives guide the duet. As David Williams describes, “it becomes impossible to locate intentionality, source of impulse and so on with any stability.”³⁰² In fact, if contactors prioritize individual intention, they may find themselves stymied and discouraged. As Cynthia Novack discovered while taking contact classes in preparation for writing her anthropological study, if she or her

²⁹⁹ Novack, *Sharing the Dance*, 190.

³⁰⁰ Luger, “A Contact Improvisation Primer,” 50.

³⁰¹ Paxton, “Contact Improvisation,” 41.

³⁰² David Williams, “Working (In) the In-Between: Contact Improvisation As An Ethical Practice,” *Writings on Dance* 15 (1996): 26

partner “became consciously manipulative, the dance seemed frustrating.”³⁰³

In order to facilitate a non-manipulative partnering, contact de-emphasizes the use of the arms and eyes, both powerful tools in our society. Luger notes that “dancers do not clasp or grab with the hands or arms or focus the eyes on one spot,” in order to avoid manipulative touch and the potency of the visual sense; instead “they accustom themselves to dancing with their partners motionally rather than emotionally.”³⁰⁴

Dancers work collaboratively, concentrating on body surfaces as a whole and using an unfocused peripheral vision. They lift and support one another on shoulders, backs, and thighs, frequently unable to even make eye contact. Listening through the point of contact to their joint intention, contactors find a mutuality and communication rarely experienced in daily existence. Paxton, who inherently avoids hyperbole, cannot help but wax poetic about the level of communication achieved in a contact duet. “It is like having access to another mind,” he claims. He goes on to explain:

[I]f two minds are focused on the same phenomenon (touch...) something very like mutuality of experience occurs... This mutuality is a powerful sort of event--such sensed-mutualities create possibilities on which communal endeavors from sports to culture in general are based.³⁰⁵

Paxton and many other contactors clearly find a communion with others through the experience of contact improvisation. And it is through such communion that contact improvisation shows its true colors as a practice with implications for social change.

In essence, contact improvisation, developing simultaneously with communal living experiments and the counterculture, embodied that final, and most elusive, value of the French Revolution--fraternity. As such, the contact community found in the improvisational form a method for physically realizing all three values of the Enlightenment. The practice was, at its root, egalitarian, liberating, and collective. Thus,

³⁰³ Novack, *Sharing the Dance*, 153.

³⁰⁴ Luger, “A Contact Improvisation Primer,” 49.

³⁰⁵ Steve Paxton, “...To Touch,” *Contact Quarterly* 21/2 (Summer/Fall 1996): 50.

when contactors such as Alito Alessi and Karen Nelson toss out flowery statements about contact improvisation as a “Touch Revolution,” they are actually close to the mark. In fact, it is hard to understate the dramatic effect of contact on the lives of its participants. Peter Ryan, a force in the Canadian contact world, remembers the impact contact had when it first hit Canada in 1974. According to Ryan, contact “had an immediate and galvanizing effect on those who sensed its quiet revolutionary potential, its subtle simplicity paired with its spectacular sensual and physical rewards.”³⁰⁶ Even Paxton realized its revolutionary potential. In his classic understated tones, Paxton calls contact “[a] form to re-identify touch in a manner so innocent and righteous that it can fairly transcend taboo.”³⁰⁷

The touch revolution, which began in those radical days of the 1970’s, has been able to maintain its revolutionary effects for the past thirty years. In the early period of its development, contactors often lived in large groups, mingling improvisation with their day to day activities. Jams, the typical, informal contact improvisation outlet, would break out during the day as contactors worked on specific aspects of the form. Contactors would travel to certain areas of the country and camp out just to practice the form. Alan Ptashek remembers that he and many others in his communal house took classes from Nancy Stark Smith while living with her.³⁰⁸ This was a source of pride for contactors; they delighted in calling contact a “folk form” due to its ability to include anyone and everyone. Sally Banes claims that contact was similar to the food co-op movement because it was “motivated by the same populist spirit.”³⁰⁹ Those introduced to the form would pass it on as they entered new communities, and contactors stuck to

³⁰⁶ Peter Ryan, “10,000 Jams Later: Contact Improvisation in Canada 1974-95,” in *Moving History, Dancing Cultures*, Ann Dils and Ann Cooper Albright, eds. (Hanover, CT: Wesleyan University Press, 2001): 414.

³⁰⁷ Paxton, “Man in the Box,” 69.

³⁰⁸ Novack, *Sharing the Dance*, 70.

³⁰⁹ Sally Banes, “Steve Paxton: Physical Things” *Dance Scope* 13 nos. 2-3 (Winter/Spring 1979): 21.

the notion that anyone could participate in jams. Even as contact grew and expanded nationally and internationally into the more self-centered 80's and 90's, it retained many of these values. Although certain contactors have obviously developed more leadership skills and most contactors no longer live in communes, the hierarchical tendencies still take a back seat to the collectivity of the form. *Contact Quarterly*, the journal for contact improvisation, serves as the main communication network for the form, with contactors of various levels voicing their opinions on its pages. Jams for both novices and experts still spring up for a week or weekend throughout the year; the technique remains focused on awareness and sensation of natural physical laws; and men and women continue to participate equally in non-gendered roles. Banes styles the contact phenomenon a "collective, democratic group project."³¹⁰

Interestingly enough, those in the environmental community, another flowering of the 1960s and '70s, have also turned to these Enlightenment values to support their cause. Environmentalists especially champion the values of community and equality to encourage humans to appreciate and protect organic life as a whole. In his famous essay, "The Land Ethic," Aldo Leopold argues for extending the circle of rights beyond humanity to the environment at large. He calls this the third step in our expansion of revolutionary values. While we have learned to respect other individuals in the early days of humanity, and then moved on to create democratic institutions to secure the rights of liberty and equality irrespective of race, gender, or ethnicity, we have failed to make the next logical step and include the land in our ethical system. According to Leopold, providing the environment with the rights of liberty and equality allows us the opportunity to halt the destruction of our fragile ecosystem. Leopold posits that "[t]he extension of ethics to this third element in human environment is...an evolutionary

³¹⁰ Banes, 21.

possibility and an ecological necessity.”³¹¹ Many since Leopold, most notably J. Baird Callicott, hold up Leopold’s philosophy as the best base for an environmental ethic, and developments within the environmental field, in particular the Deep Ecology movement, embellish Leopold’s ideas as they claim that humans need to don the mantle of member rather than master of the environment.

Leopold’s theories did much to nurture the modern environmental movement and its impressive efforts to create environmental change, particularly in the 1960s and 1970s. As environmentalists worked to alter policy in the United States, Leopold’s ideas helped foster protection for everything from endangered species to air and water quality.³¹² Yet, have we truly made the step to a deep-seated belief in preservation in our culture as a whole? Environmentalists voice the need for protection, even using the supposedly anthropocentric terminology of democracy to lure the unconvinced,³¹³ but their efforts too often run aground. But why are their efforts not always readily accepted? After all, doesn’t our country stand on the principles of liberty and equality? Can’t we extend our conception of community beyond humanity? I would argue that while politicians, and environmentalists too, may incorporate the word ‘rights’ into political speeches and philosophical tomes, the revolutionary value system cannot be seen as essentially integrated into our culture. Although we speak the language of democracy, we have yet to move past the verbiage and *embody* our ethical pronouncements. For, while Western political ideology embraced revolutionary values in the past two hundred years, another belief forbid, and continues to forbid, the extension of these values. And that is

³¹¹ Leopold, *A Sand County Almanac*, 239.

³¹² See chapter one, page 23 for more details.

³¹³ While some environmentalists would argue that democracy can only be interpreted as anthropocentric ideology, I would argue that, in *practice*, revolutionary values hardly privilege humans or even human-crafted ideology. In other words, once Leopold’s land ethic, which is based on these exact values, becomes practice and community is truly inculcated, no one aspect of nature is privileged. Even J. Baird Callicott, who Roderick Nash calls an “ecocentric,” looks to Leopold as the founder of much more than a mere anthropocentric ideology. Roderick Frazier Nash, *The Rights of Nature: A History of Environmental Ethics* (Madison: The University of Wisconsin Press, 1989): 153.

rationalism.

Just at the time that the revolutionary outlook on individual rights emerged in France and the United States, philosophers and scientists succeeded in putting the finishing touches on humanity's disembodiment. And, in doing so, they segregated us from the natural world. Rationalism, while stemming from long-standing notions of dualism inherited from the Greek philosophers,³¹⁴ codified the belief in body-mind separation. For when Descartes erupted with *cogito ergo sum* and Francis Bacon denounced nature as a slave to humankind, the human body became chained to the inert, physical world and the mind slipped free. As such, the human body, along with all other organic structures, sank to second place behind the disembodied mind. And with the scientific revolution slipping its tenterhooks into the system of organic life, revolutionary values encountered a barrier. Liberty, equality, and fraternity were fine as long as they were limited to humans, that is, human *minds*. By disparaging the body, which is our main connection to the natural world, the classical scientists (with the help of both Greek philosophy and Christianity) rendered revolutionary values abstract, rather than active, principles.

Yet, while environmentalists and environmental policy suffer under this legacy of rationalism, certain communities seek to recover our bodies and the natural world from the rationalists' dualistic premises. The contact improvisation community, by undermining dualism and working towards unity, has made great strides in this direction. And as they counter the effects of rationalism, they provide a firm foothold for a true extension of ethics. In fact, as contactors experiment with touch, support, and sensuality, they present a methodology for inculcating those revolutionary values previously shackled to abstraction. Simply put, the best method for fully realizing these values is by embodying

³¹⁴ See chapter one for details regarding the Greek heritage of dualism.

them. If the values of liberty, equality, and fraternity are not physically played out, they stay only in the realm of words. And what is that famous saying? Actions speak louder than words? Nowhere is this seen in more stark form than in the contact community. While political speeches since the fall of the Bastille contain verbal declarations of rights, the contact community in the past thirty years has worked toward their physical realization. As the rest of the world struggles with America's epithets that call for human rights followed by actions that prop up mere facades of democracy,³¹⁵ contactors know the importance of *embodied* values. Throughout their duets, contactors' actions, i.e. their *movement*, demonstrates a lack of hierarchy and a simultaneity of individualism and community. Thus, while environmentalists struggle with bringing the earth into our institution of democracy, contactors achieve these ends by dissolving the boundary between democratic values and action. In other words, contact improvisation is democratic ideology in action.

Strangely enough, contactors discovered such embodiment of revolutionary values even as they explored those physical laws of classical mechanics that reduced the body to passive matter. In fact, weight, momentum, and inertia are terms that anyone attending a contact class can expect to encounter on a regular basis. Does that mean that contactors actually *embraced* rationalism? Not exactly. As Nancy Stark Smith explains, rather than learning scientific formulas in an abstract manner, as if they only related to some objective, external world, contactors "were working from the inside of it."³¹⁶ She goes on to describe her experience of the form as a "contact with the forces of gravity and momentum--feeling them, really feeling them, feeling totally swept over by them."³¹⁷ Others too chime in with their versions of physical law. Cynthia Bull (nee Novack)

³¹⁵ Consider the history of the U.S. efforts in Iran, Panama, and the Congo to name a few.

³¹⁶ Novack, *Sharing the Dance*, 68.

³¹⁷ Novack, *Sharing the Dance*, 181.

believes contact is an excellent method for tuning into the concepts of weight and momentum through the medium of touch.³¹⁸ Paxton discusses a “constant awareness of gravity” as well as an experiential comprehension of the body’s “useful fulcrum[s].”³¹⁹

Yet, as they began to delve into the effects of the phenomena of gravity, inertia, and momentum from an experiential perspective, contactors often found the interpretation of these laws dramatically altered. As Paxton explains, within contact, “space becomes spherical, time is the present, mass is a changeable orientation to gravity.”³²⁰ In other words, when contactors embodied abstract physical concepts, the clear and objective precepts of classical mechanics began to blur. Robert Schwarz, the author of the fascinating work *Metaphors and Action Schemes*, clearly encountered such a blurring as he viewed a contact improvisation seminar in Amsterdam. As he watched the contactors exploring their joined surfaces, he found his ideas about human construction of scientific properties confirmed. His theory, that “the architecture of human thought was centered around the experience of what the body can do and how objects can be manipulated,” seemed enacted within the improvisational space.³²¹ In his words, “[s]pace, time, mass, gravity, inertia, and countless other essential abstractions from which our reality is formed are not so much external *a priori* as they are *a posteriori* creations out of the matrix of body experience.”³²² Thus, the scientific properties of Newton’s world were no longer safely in the realm of objective reality, but had escaped into our subjective social constructions. Our own experiences as physical beings engenders our scientific constructs, rather than some objective experiment in a lab. In

³¹⁸ Cynthia Jean Cohen Bull, “Sense, Meaning, and Perception in Three Dance Cultures,” in *Meaning in Motion: New Cultural Studies of Dance*, ed. by Jane C. Desmond (Durham: Duke University Press, 1997): 276.

³¹⁹ Paxton, “Contact Improvisation,” 40.

³²⁰ Paxton, “Drafting Interior Techniques,” 64.

³²¹ Robert L. Schwarz, “Space, Movement, and Meaning,” *Contact Quarterly* 18/2 (Summer/Fall 1993): 47-8.

³²² Schwarz, 48.

other words, without the body, or with a significantly different physical organism, who knows what scientific properties would have appeared. The body takes on added importance and can no longer be seen as a passive, and non-influential, object.

Thus, as contactors continue to test classical mechanical laws from an experiential perspective, they dismantle the notion that the body is a mere machine. While contactors may find food for their experiments within the parameters of Newtonian laws, contactors overturn the rationalists' dismissals of the body as a mechanistic tool. Rather than viewing the body as passive matter obeying the dictatorial rules of classical mechanics, contactors see the body as an intelligent organism working in harmony with those rules. And as contactors continue to work toward both embodying revolutionary values and enlivening the body from an experiential interpretation of Newtonian law, contactors have found a unique place from which to move forward.

But in what direction should they travel? As they physicalize ethics and soften the rigid edges of rationalism, their pathway is not always clear. After all, disorientation is a common effect within contact improvisation. But, as Paxton asserts, "[g]etting lost is possibly the first step toward finding new systems."³²³ And once we find our feet again, we "can begin to use the cross pollination of one system with another to construct ways to move on."³²⁴ What system might Paxton be indicating that could be useful for cross pollination? Could it possibly be the system of quantum physics? Could contact, which uses the concepts of Newtonian physics so freely (albeit quite differently than classical physicists inhabiting university hallways), also integrate the radical notions of quantum theory? Actually, such a step is remarkably easy to make. As we have already explored, contact dissolves dualities almost effortlessly. Subject and object oppositions disappear

³²³ Steve Paxton, "Improvisation Is a Word for Something That Can't Keep a Name," in *Moving History, Dancing Cultures*, Ann Dils and Ann Cooper Albright, eds. (Hanover, CT: Wesleyan University Press, 2001): 425.

³²⁴ Paxton, 425.

as an expanded awareness facilitates a relational sense between individuals and their surroundings. Quantum physicists who expressed astonishment at the realization that there could be no division between an observer and an observed object, would create no shockwaves in the contact community.³²⁵ In a situation where the audience, the performers, and the space all impact the moment-to-moment of a contact duet, no one would be surprised by the dissolution of the subject/object dichotomy. I can almost see the contactors shake their heads in disbelief at those still struggling with the idea that an experimenter's observation determines when a light wave collapses into a particle. For a contactor, each factor in the improvisational field becomes one with the subjective self; the improviser senses that not only is she responsible for events within the field, but that each event within the field also impacts her. There is no objective reality for the contactor.

Further, the uncertainty principle, which states that if we measure one property of a subatomic particle, all other measurements lose clarity, seems easily accepted within contact circles. While scientists grimace at the notion that we can only calculate the position or the velocity of an electron based on probabilities, improvisers willingly embrace the excitement of such uncertainty. As improvisers make choices and clarify one path, other paths become decidedly blurry; yet the understanding that contactors could have chosen another route poses endless possibilities for the dancer. Kent de Spain, an improviser and professor at Ohio State University, enjoys that moment in an improvisation when "many choices for the next movement simultaneously coexist" and the chosen movement "represents a 'decision' by the improvising mind."³²⁶ While the moment collapses into a reality, improvisers are already looking to that next moment of

³²⁵ Gary Zukav, *The Dancing Masters of Wu Li: An Overview of the New Physics* (New York: Bantam Books, 1979): 45-66.

³²⁶ Kent De Spain, "More thoughts on Science and the Improvising Mind," *Contact Quarterly* 19/1 (Winter/Spring 1994): 59.

possible routes.

Finally, Einstein's relativity theory, a breakthrough in twentieth century physics, finds an impressive embodiment in contact. As relativity theorists posited that mass was actually just energy,³²⁷ contactors far from the physicists laboratories experimented with the exchange of weight between partners. As they played with "mutually moving masses," they discovered the *sensation* that weight is merely another form of energy useful within the duet structure. Even the floor turned into a helpful partner in the interactive energy sea described by the quantum physical world. As contactors worked with understanding Newtonian laws, energy became the dominant player to comprehend and contactors found themselves frolicking in the postulates of quantum physicists. De Spain boasts that improvisers "can recognize that the quantum processes which control the atoms in the wooden floor on which we stand, control the atoms in our hands and feet."³²⁸ Paxton, in more subdued terms, stresses the importance of recognizing energy and moving with it. He points out that movement in a contact duet occurs "as a result of following the paths of least effort...with the senses enlarged to cope with the possibilities."³²⁹ When watching experienced contactors, many are struck by their impressive understanding of energy; contactors concentrate on following the flow of energy as they interpret weight, momentum, and inertia. As such, each Newtonian force entering the stage in a contact duet registers as energy in a relational field. Within contact, classical and quantum mechanics seem to merge, and another opposition slips away. This is not to say that classical and quantum mechanics do not reign supreme over their respective macro- and microphysical realms. Yet, contact seems to ride the supposedly clear division between the realms, incorporating principles of both and dissolving their

³²⁷ Fritjof Capra, *The Turning Point: Science, Society, and the Rising Culture* (New York: Simon and Schuster, 1982), 89-90.

³²⁸ De Spain, "More thoughts...", 63.

³²⁹ Paxton, "contact Improvisation," 42.

perceived segregation.

Contact even takes such a unifying campaign past the halls of physics into that raging debate over nature versus culture. As Novack notes, contact “symbolically unites the opposites of nature and culture through both the emphasis on spontaneity (natural) and on the creation of dance art (cultural)...”³³⁰ Within the form, the body as an intelligent, natural being also acts as a creator of culture. In other words, the body figures as *both* nature *and* culture. John Dewey would hardly be surprised at such an assertion. For Dewey, nature and culture demonstrate a continuity that cannot support division. As natural beings, any cultural expressions emanating from humans fall within the bounds of nature. “As the developing growth of an individual from embryo to maturity is the result of interaction of organism with surroundings, so culture is the product not of efforts of men put forth in a void or just upon themselves, but of prolonged and cumulative interaction with environment.”³³¹ Just as contact fuses the dichotomized concepts of quantum and classical physics or of individualism and cooperation, the form slips the rug out from the nature/culture opposition as well. Contradictory values seem less contradictory, philosophical constructions of nature/culture dissolve, and metaphysical notions of mind and body meld.

As the nature/culture boundary dissolves, humans began to see themselves within, rather than opposed to nature. And as they rediscover themselves as nature itself, they become part of the web of nature’s relationships. Such a relational view of nature sends us on the path to Arne Naess’ “relational, total-field image.”³³² Contact, by dissolving the nature/culture dichotomy, allows us to reintegrate with the natural processes of the

³³⁰ Novack, *Sharing the Dance*, 191.

³³¹ John Dewey, *Art as Experience* (New York: Minton, Balch & Co., 1934): 28.

³³² Arne Naess, “The Shallow and the Deep, Long-Range Ecology Movements: A Summary,” in *Deep Ecology for the 21st Century: Readings on the Philosophy and Practice of the New Environmentalism*, George Sessions, ed. (Boston: Shambhala Publications, Inc., 1995): 151.

environment. In fact, contactors have a particularly unique method for gaining such a deep understanding of nature's web. This is because when contacting, dancers arrive at that very rare *sensation* of interconnection often discussed in environmental circles. In the best moments of a contact duet, a dancer's heightened awareness extends beyond the confines of their skin to envelop their partners and their surroundings. In other words, their awareness of interconnection provides them with an embodied understanding of the relational and ecological nature of the universe.

But how is this possible? What is all this hype about heightened or expanded awareness? Many improvisers discuss heightened awareness, both within the contact community and in other improvisational forms. In a thesis entitled "The Process/Product of Improvisation in Dance, Drama, and Jazz," Sally Metcalf interviewed nineteen improvisers in these three fields and found a remarkable unanimity regarding heightened awareness. Nearly all improvisers interviewed described their awareness within an improvisational setting as "different from normal" and "both more encompassing and more intense."³³³ Simone Forti, a dance improviser from New York, calls this heightened awareness "the dance state."³³⁴ Such discussion of a "zen-state" or "expanded consciousness" virtually litters the pages of *Contact Quarterly*. In fact, contactors who have been practicing the form for a period of time see this state as a given. Yet, in order to experience an expanded consciousness, they understand that dancers must first begin to integrate their consciousness with their own physical beings.

Beginning with the small dance, dancers learn to "touch themselves, internally," maintaining a focus on the body in its entirety.³³⁵ When Daniel Lepkoff took his first

³³³ Sally Jane Metcalf, "The Process/Product of Improvisation in Dance, Drama, and Jazz" (MS thesis, University of Washington, 1979): 32.

³³⁴ Simone Forti, "Animate Dancing: a practice in dance improvisation., *Contact Quarterly* 26/2 (Summer/Fall 2001): 33.

³³⁵ Paxton, "Contact Improvisation," 40.

workshop on the small dance with Paxton, he found that staying with his own body was a radical sensation. "In retrospect, the message of this workshop was that it is conceivable to *live* in one's experience of the body, and that living in one's body need not be confined to dance class, but it is a way to spend time, any time, and perhaps all the time."³³⁶ Sondra Fraleigh, a dance scholar at SUNY Brockport, notes that, in many dance forms, keeping the consciousness with the body leads to an "expiation of dualism."³³⁷ No longer do body and mind feel confined to separate spheres, but body and mind fuse into a unified self. As Fraleigh goes on to explain, "dancing requires a concentration of the whole person as a *minded body*, not a mind in command of something separable, called *body*."³³⁸ Once contactors master the discipline of keeping the consciousness integrated with the body, they "become conscious of the process of living" according to Paxton.³³⁹ As contactors experience the sensation of unity, they find that this sense moves beyond the confines of their skin, particularly to their contact partner.

While many improvisational forms discuss the expansion of awareness to the improvisational product, contactors must include their partners in this expansion. For example, Lynne Blom and L. Tarin Chaplin, both experts in the field of dance improvisation (not contact), relay the repeated notion that improvisers "talk about *being one with* their material, about the moment...when the person becomes inseparable from the process and the product."³⁴⁰ Yet, within contact improvisation, because of its focus on interaction, the process or the material of the form necessarily includes another's physicality. In fact, if a contactor ceases to focus on his or her partner, that contactor's

³³⁶ Lepkoff, "Contact Improvisation..." 62.

³³⁷ Sondra Horton Fraleigh, *Dance and the Lived Body: A Descriptive Aesthetics* (Pittsburgh: University of Pittsburgh Press, 1987): 11.

³³⁸ Fraleigh, 10. Fraleigh's italics.

³³⁹ Luger, "A Contact Improvisation Primer," 54.

³⁴⁰ Lynne Anne Blom and L. Tarin Chaplin, *The Moment of Movement: Dance Improvisation* (Pittsburgh: University of Pittsburgh Press, 1988): 10.

own awareness is undoubtedly in question. As Nancy Stark Smith succinctly puts it, “[l]ose attention, lose contact.”³⁴¹ When forced to engage with a partner, a dancer gains an immediate reminder of the need to stay with the lived bodily experience of the moment. As Louise Steinman notes, “[i]n contact improvisation, there is a built-in test system that instantly alerts one to the fact that one is not paying attention...”³⁴² Each partner’s skin becomes sensitized to the other’s and the sense of self expands to include another. Cynthia Bull finds that within a duet, “the body’s edges seem to change and to meld with one’s partner.”³⁴³ Others appear elated about such contact, as they claim that touch can redefine a sense of self. David Williams feels that his boundary of self “leaks, unravels or frays” as he finds himself inextricably linked to his partner.³⁴⁴ Yet, others find that while contact allows integration with one’s partner, this knowledge reinforces a sense of self. Mirka Knaster believes that contact fosters a sense of our own boundaries while gaining a “sense of connectedness to others.”³⁴⁵ Perhaps Paxton says it the best when he notes that in a contact duet, the two partners “blend like the double circles of ripples seen when two stones are dropped in a pond.”³⁴⁶

Paxton’s jump to a natural image also indicates the tendency for contact improvisers to link themselves to nature. Considering the next level of expanded awareness, that is, to the environment, such a perception of humans and environment as a unified whole is unsurprising. As contactors become more adept in the field, they find they more easily connect with their surroundings. Metcalf discusses this as the third level of expansion and, in interviewing the music, dance, and drama improvisers, she found this level most common in dancers. As she points out, dancers “are not just aware

³⁴¹ Steinman, *The Knowing Body*, 91.

³⁴² Steinman, 91.

³⁴³ Bull, “Sense, Meaning, and Perception in Three Dance Cultures,” 277.

³⁴⁴ Williams, “Working...,” 26.

³⁴⁵ Mirka Knaster, *Discovering the Body’s Wisdom* (New York: Bantam Books, 1996): 258.

³⁴⁶ Paxton, “The Man in the Box,” 68.

of the object of their attention, but are aware of their relationship to that object as well.³⁴⁷ Metcalf's response also indicate that dancers sense a dissolution of the subject/object dichotomy, particularly in relation to the natural world. One of the dancers she interviewed claimed that "what dance is is an instinct or intuitive feeling for harmony and movement in relation to the movement of things, and the universe, of plants, and of the movements within one's self, of one's heart beat and one's blood."³⁴⁸ This sensation of harmony with the environment appears in comments from experts as well as beginners in the field. Simone Forti and Anna Halprin, both giants in the world of dance improvisation, declare their connection to nature unabashedly. Forti explains that, for her, "dancing has always been a way to explore nature....I identify with what I see....It's an animistic process."³⁴⁹ Halprin, while confronting the reality of cancer, found that by tapping into that inclusive consciousness, she helped herself heal. As she observes, "I have learned that we are all connected to each other and to the natural world in which we live....The power of dance to heal reaches its fullest potential when we are able to tap into this sense of wholeness, to feel this connection to all that is around us."³⁵⁰ Clearly, these improvisers see themselves as part of a larger community than the human one.

Improvisers who specialize in contact are every bit as direct as Halprin and Forti. But contactors sentiments often move beyond that amorphous sense of interconnection to deal directly with the physical forces of nature and the sensation of space. As Karen Nelson puts it, contactors "train in the arts of touching the floor and of uniting with the forces of the Earth."³⁵¹ Students in Danny Lepkoff's contact class reported such sensations as "[f]or the first time I realize just how high the ceiling is" or "I feel as though

³⁴⁷ Metcalf, "The Process/Product...", 33.

³⁴⁸ Metcalf, 70.

³⁴⁹ Forti, "Animate Dancing," 33.

³⁵⁰ Anna Halprin, "My Experience of Cancer," *Contact Quarterly* 26/1 (Winter/Spring 2000): 53.

³⁵¹ Karen Nelson, "Touch Revolution," 65.

I am looking at someplace new.”³⁵² Paxton sees this alteration in contactors’ orientation to space as the first step in returning to a connection with nature. He believes that contact can easily play such a role; “[s]tarting in urban centers [contact] replaces the denatured physical life of the inhabitants/inmates.”³⁵³ As contactors expand their awareness to their surroundings, they discover a sense of unity not only within themselves, but within the environment as a whole.

As a result of this embodied connection, many find their personal and ethical bases in flux. Canadian contactor Jennifer Mascall “at once understood contact in an inverted anthropomorphic sense.”³⁵⁴ The physicality of nature, even of unromantic animals such as moles and otters, became glorified at every level for her. She found herself in an egalitarian relationship with the natural world. David Williams, in much more philosophical prose, claims that contact allows “what are often conceived as oppositional borderlines to become dynamic and porous thresholds in an ethical economy of exchange and flow.”³⁵⁵ Cynthia Novack also comments on the dissolution of false binaries. As she states, “for contact improvisers, the unification of nature and culture is very particular, because they conceive of the body as responsive to natural laws.”³⁵⁶ While residing within human culture, contactors place great store in the body as a natural being. This secures them more firmly in the lap of nature. Contact improvisation as a form figures the dancing body as nature personified. Leonard Pitt claims that “[c]ontact reflects [a] deep cultural need to reconnect with the natural world...Contact rejects the ‘show’ and drives our attention back to the...body as nature.”³⁵⁷ And contact is only able

³⁵² Daniel Lepkoff, “Body of Work,” Interview by Miroslava Kovarova, *Contact Quarterly* 27/1 (Winter/Spring 2002):47.

³⁵³ Paxton, “The Man in the Box,” 69.

³⁵⁴ Ryan, “10,000 Jams Later,” 415.

³⁵⁵ Williams, “Working...,” 23.

³⁵⁶ Novack, *Sharing the Dance*, 191.

³⁵⁷ Leonard Pitt, “From *Camargo* to Contact,” *Contact Quarterly* 18/2 (Summer/Fall 1993): 70.

to achieve such a revolutionary action due to the sensation of interconnection. Contact, by providing dancers with an expanded awareness of themselves within a larger system, fosters the *sensation* of humans as part of the natural community. As such, contact provides that vital experience necessary for humans to embrace the land ethic. Inclusive awareness, an essential for dissolving boundaries between humans and their environment, provides an important step for realizing the deep ecologist's notions of becoming a member, rather than a master, of the environment.

Contactors frequently term this sensation of expanded awareness that unifies mind, body, partner, and environment as a sense of flow. Contactors across the gamut toss around epithets about "going with the flow" or tapping into "the flow of life-force."³⁵⁸ Some even find such flow experiences as verging on the spiritual. Peter Bingham, a contactor from Canada, remembers his initial experiences with contact as eye-opening on many levels. As he expresses, "It was about stillness of mind and the openness created by that flow. You got into the flow, practised it, opened your mind and then improvised. It was a totally spiritual practice."³⁵⁹ As contactors in the early years experimented with the small dance and with extending that level of consciousness to their surroundings, they found contact occupying a region of experience similar to meditation, or a runner's high, or even a drug-induced state.

Such a discussion of flow sounds like it could have slipped directly from the pages of one of Mihaly Csikszentmihalyi's many tomes on flow. Csikszentmihalyi, a professor of psychology at the University of Chicago, was the first to use flow as a scientific term in 1975, although improvisers had been referring to flow for years. In his book *Beyond Boredom and Anxiety*, Csikszentmihalyi took his first swing at explaining

³⁵⁸ Susan Foster, "Dancing Bodies," in *Meaning in Motion: New Cultural Studies of Dance*, ed. by Jane C. Desmond (Durham: Duke University Press, 1997): 252, and Steinman, *The Knowing Body*, 88.

³⁵⁹ Ryan, "10,000 Jams Later," 415.

flow. Flow activities, according to Csikszentmihalyi, were ones that contained intrinsic rewards rather than extrinsic rewards. In other words, participating in the activity was itself the reward. Csikszentmihalyi calls these activities autotelic, or activities that are performed for their own sake. After studying such diverse activities as chess, rock climbing, surgery, and social dance, Csikszentmihalyi came up with a list of attributes of flow. He found that a dominant characteristic of flow state was the merging of action and awareness. As he says, “[a] person in flow state has no dualistic perspective; he is aware of his actions but not of the awareness itself.”³⁶⁰ In addition, all other oppositions between the actor and his or her environment disappear. Subjects in the study commented that “they lose a sense of themselves, and feel harmony and even a merging of identity with the environment” when participating in autotelic activities.³⁶¹ Sound familiar? Just as Sondra Fraleigh noted the “expiation of dualism” in dance and Anna Halprin finds a “connection to all that is around us,” the participants in Csikszentmihalyi’s study discovered a fusion of self and surroundings. A dancer in the study remarked that in her dancing, she became “one with the atmosphere,”³⁶² a comment that could have come directly from the musings of Karen Nelson or Danny Lepkoff or Nancy Stark Smith. As contactors “meld” with their partners, according to Novack, they lose a sense of themselves as permanently divided from other dancers or from their surroundings. The point of contact between partners creates a mutuality of attention and they “gain access to another mind.”

Csikszentmihalyi also found that, within flow state, self-consciousness disappears and failure becomes a non-issue.³⁶³ Again, he sounds like he could be

³⁶⁰ Mihaly Csikszentmihalyi, *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*, 25th anniversary ed. (San Francisco: Jossey-Bass, Inc., 2000): 38.

³⁶¹ Csikszentmihalyi, 194.

³⁶² Csikszentmihalyi, 44.

³⁶³ Mihaly Csikszentmihalyi, *Creativity: Flow and the Psychology of Discovery and Invention* (New York: HarperCollins, 1996): 112-3.

describing contact jams or performances. Contactors, while focusing on expanding their awareness to partners or the environment, rarely concern themselves with the appearance of their presentation. Because of this rejection of theatrical values, many designate contact as a 'no-fault' form, one that does not focus on virtuostic ends, but rather on the means or the process of attaining flow state. As Paxton explains, the aesthetic of contact is merely "a totally integrated body" instead of a particular virtuostic ideal.³⁶⁴ Sally Banes noticed such a rejection of traditional theatrical values upon her viewing of contact in the 1970's. She points out that, in a contact performance,

the material isn't edited or presented with the audience's pleasure or entertainment in mind, so the concert may go on for several hours, if the dancers find themselves tapping rich kinetic veins. There may also be lags when exploration, however important to the performer, is not visually arresting.³⁶⁵

Dancers focus on their own and their partner's awareness in the moment of improvisation, without trying to attain certain movement goals. Self-consciousness, a typical attribute of the performer, seems almost non-existent, and failure too, due to the unimportance of judgment in the contact genre.

This is not to say that contact is boring or that it holds no technical feats. In fact, contact frequently reaches the limits of what the human body is capable of. Yet, contactors also meet these challenges with aplomb. Banes comments, "I am sometimes frightened when I see a small person hoisting a huge person, or a precarious lift, or a fast slide to the floor--and all this without mats. But contactors have reassured me that...there are tactics they learn which buffer the falls."³⁶⁶ Again, such commentary lands contact improvisation directly into Csikszentmihalyi's model for flow. As he explains, for flow state to occur, individuals need to feel that they are meeting difficult challenges with well-

³⁶⁴ Novack, *Sharing the Dance*, 69.

³⁶⁵ Banes, "Steve Paxton," 20.

³⁶⁶ Banes, 20.

developed skills.³⁶⁷ In other words, challenges may seem inordinate, but the participant has no problems meeting them. In contact, feats of impressive magnitude, such as the ‘orbit’ which entails spinning one partner’s body around the neck of another partner, are met with the necessary skills. As Paxton says, “[t]he physical forces can become extreme,” but the contactor using the principles of the form will rise to the challenge.³⁶⁸

Yet another aspect of Csikszentmihalyi’s model is time sensation. When an individual is completely involved in an autotelic activity, his or her sense of time distorts. In flow state, the person involved may feel that minutes pass like seconds, or that seconds stretch to feel like hours.³⁶⁹ Such distortion of time is common in contact duets. In the development of contact, Paxton examined why and when distortion occurs in a duet. He came to realize that stemming one’s reaction to a signal of danger caused the distortion. As he explains,

Here is where my sense of connection of the endocrine system to time began to form--that is, how the body reacts to the situation and how the perceptions are changed by that response....That hit of adrenalin when the body receives signals of danger is amazingly swift. If the dancer is aware that the signal has occurred...and remains cool, the main effect of the hit is a great stretching of time. When one becomes used to perceiving the distortion calmly, it is useful...³⁷⁰

I certainly sensed such distortion myself within my duet with Brendan. What was most likely a ten minute duet, seemed to last both a second and an hour. We lost the connection of our internal clocks to ‘real’ time. And nothing could distract us. As Csikszentmihalyi explains, within flow state, the present is all that matters. Distractions disappear and “we are aware only of what is relevant here and now.”³⁷¹ Paxton’s small dance aims directly for such an experience. As dancers focus on their internal being, he encourages them not to “engage in time travel out of the body into memories or schedules

³⁶⁷ Csikszentmihalyi, *Creativity*, 111.

³⁶⁸ Paxton, “Contact Improvisation,” 42.

³⁶⁹ Csikszentmihalyi, *Creativity*, 113.

³⁷⁰ Paxton, “Contact Improvisation,” 41.

³⁷¹ Csikszentmihalyi, *Creativity*, 112.

because these bring images which will also affect the body, distracting from the improvisation at hand. In this improvisation the consciousness was to hang with the body....³⁷² Remaining in the present, although the present may have undergone a time distortion, signals a dancer's entrance into flow state. They have achieved 'it,' or what Paxton calls "the unicorn."³⁷³ In other words, flow state.

The parallels between Csikszentmihalyi's model for flow and the experience of contact improvisation also extend to comments about the environment. Csikszentmihalyi sees autotelic activities as essential in our efforts to protect both ourselves and our surroundings. As he discovered, not only do people deprived of flow activities suffer increasing illness, but this unhealthy state extends to the environment. "Without [flow activities]," asserts Csikszentmihalyi, "a person falls out of the balanced state of interaction with the environment."³⁷⁴ Due to the fact that within flow state, individuals "feel harmony and even a merging of identity with the environment," robbing them of autotelic experiences leaves them feeling a disconnect between themselves and their surroundings.³⁷⁵ And disrupting our sense of self-environment connection bodes ill for an environmental practice. Csikszentmihalyi believes that misuse of our environment stems from a consumer society that encourages disconnection through passive, non-flow activities. These activities--TV, shopping, etc.--not only impair our health, but impair the health of the planet due to their non-autotelic nature. As he puts it, "[i]f everything we do is done in order to get material rewards, we shall exhaust the planet and each other."³⁷⁶ Yet, flow activities can rescue us from such a fate; they are "ecologically sound."³⁷⁷ Certainly, contact improvisation stands out as a flow activity that

³⁷² Paxton, "Drafting Interior Techniques," 63.

³⁷³ Novack, *Sharing the Dance*, 188.

³⁷⁴ Csikszentmihalyi, *Beyond Boredom...*, 178.

³⁷⁵ Csikszentmihalyi, 194.

³⁷⁶ Csikszentmihalyi, 4.

³⁷⁷ Csikszentmihalyi, 5.

demonstrates environmental sensibilities. And in the resultant flow state, we can move toward protection and preservation of the ecosystems that harbor us.

Where does this leave us? Is contact improvisation the new panacea to solve all the world's problems? Well, certainly exaggeration appears to run rampant in such a suggestion. Yet, I can't help but marvel at contact's ability to dissolve our constructed dualisms in the arenas of ethics, philosophy, social theory, and even physics. Perhaps contact represents the first successful attempt at practicing holism in the information age of Western civilization. For as we train ourselves in the arts of contact, we lose that societal notion of opposition that permeates our culture. We achieve a holism of mind-body-environment that provides rich soil for environmentally sound practices. Thus, as I've outlined, while Pueblo ritual demonstrates a remarkable mind-body-environment unity within indigenous culture and Alexander Technique creates the sensation of unity with an impressive healing capability, contact improvisation bases its embodiment of unity on understanding the principles of modern science from an experiential perspective. And although contact improvisation is clearly in its springtime of development, particularly in comparison with the long-standing Pueblo rituals, the unique qualities of the form suggest that it will continue its fruitful journey of healing the schisms between humans and the natural world. For even in its short tenure, contact has made impressive strides toward embodying the implications of our political, philosophical, and scientific revolutions of the past few centuries. And through its embodiment of the revolutionary values of the Enlightenment, Leopold's land ethic, and both classical and quantum processes, contact appears as its own revolution.

But can contact really impact its participants in their day to day lives? Do we really stand a chance of changing our society just by practicing some bizarre form of

dance? Well, if we look to the example of Steve Paxton, such an assertion seems more practical than odd. Paxton knows that dance effects his life in deep ways. As he contemplates his farm in Vermont, he notes “[w]hen I don’t dance, I very often work as though I were dancing. I try in my farm life to do as much by hand as possible, I have all the hand tools for cultivating the land. While I’m doing it I’m thinking of movement-- what movement is necessary to do this, to sustain the activity for a long time?”³⁷⁸ For contactors, dance is a garden of possibilities. So isn’t it time we tried our hand at tilling the soil of our own physicality? Can we find a practice that will protect the fragile Earth? Theorizing is no longer enough; we need to embody our lofty ideas. If we plant the seeds of experiential unity and tend them with care, we are sure to see the fruits of our labor. Personally, I am looking forward to the harvest.

³⁷⁸ Agnes Benoit, *On the Edge/Createurs de L’Imprevu: Dialogues on Dance Improvisation in Performance*, special edition of *Nouvelles de danse*, no. 32/33 (Paris: Contredanse, 1997): 59.

Conclusion

I stroll along a dirt road in the mountains of Western Montana. Yellow glacier lilies and Indian paintbrush beckon for attention as they dance in a summer breeze. It's hard to imagine that *they* have any anxiety about their connection to place. If I allow my focus to soften, I'm awash in color that blends and swirls, and there is no reason to draw a line between my skin and the breezes, grass, or blossoms of my immediate surroundings.

Rounding a curve, I see a curious sight. Four men sit in a meadow soaking in the rays of sunlight. Although no words escape their lips, I sense a sincere communion between them. Remaining tucked behind a nearby larch tree, I watch the world unfold in the hands of this unlikely foursome.

Eventually, one of the men stands and demonstrates a movement pattern. This man, a Native American dressed in a white cloth skirt with pine boughs tucked in his waistband, makes a peculiar shuffling step as he shakes a gourd rattle. At particular moments he pivots and varies his step, but he always returns to the repetitive shuffle step. His soft footfalls knead the earth, but his arm motions produce piercing noises as the rattle punches toward the ground. Soon, the other men too rise and attempt to copy the movement. Although they look somewhat absurd in their diverse apparel, slowly they find a similar rhythm and continue shuffling.

As the sun warms my back and my eyelids grow heavy, I hear a faint sound rise from the meadow as if one voice (or maybe four?) chants a slow song. I drift into sleep.

When I awake, birdsong shapes the air, but the meadow is quiet. I quickly look

toward the men. No movement is visible. Yet, in the time that has passed, four tree stumps have appeared. Three of the men sit listlessly on the stumps while one stands gazing at them. The one left standing seems simultaneously energized and relaxed in his old-fashioned gray suit. His tie flutters in a light gust. Suddenly, he glides to one of the seated lumps. Gently laying his hand on the back of the man's neck, he rests and waits. As I watch, the seated man undergoes a remarkable change. His back lengthens even while his energy shifts from listless to tranquil. Then, in an amazingly smooth maneuver, the seated man stands up in front of his wooden perch with the suited gentleman's hand still resting on neck. He looks stunned but elated. As he flows back to his seat, he remains tall and smiles at the man sitting across from him. Quickly, the spry, older gentleman moves to the next man and repeats this performance. Finally, the fourth man gets his turn. When they have all returned to their stumps, they regard one another amiably and contentedly.

By this time I'm a bit dazed by the rare spectacle and stumble back to find my bag. Munching on some sweet, Flathead cherries and sipping some quickly pumped stream water, I wonder about the odd sight I've seen. But I still feel at a loss for answers. So, after satiating my needs, I meander back up the trail towards the meadow. And what a strange vision greets my eye.

The four men have paired off and lean towards one another. As they allow the top of their skulls to touch, they relax into the sensation and truly give their weight to each other. As I stare, they begin to move. First, they wander the meadow maintaining contact through their heads. But as they continue, other places of contact appear. One couple joins at the shoulders and relaxes into that connection. The other couple plays at how their backs slip and slide against each other. Movement grows larger and the couples

ramble about the meadow, finding new surfaces to link in various gradations of pressure. One man rests against another reveling in the sense of connection from arm to hip or chest to thigh. And as I watch, wondering at the surprising lack of sexual connotations in what I'm seeing, I feel my own senses awakening. I notice the texture of the bark under my fingers and the feel of grass tickling my feet.

As the men travel further afield, they begin to incorporate their surroundings into their dance. One couple skates through the underbrush, falling and growing and resembling nothing so much as a pair of cavorting animals. Rolling across one another's surfaces, the other couple spirals up tree trunks and glides over fallen leaves. As I scamper to catch up to them, they melt into the forest.

Finally, after searching about for some hide or hair of them, I sit dejectedly and wonder how I lost their trail. But I also can't help but feel that the whole vision was a dream. Who were those men? How could they disappear so easily? It was almost as if the forest itself embraced and hid them. And why did they appear so calm and yet so invigorated? I could still feel the radiant energy of their dance suffusing the air around me. Even the Ponderosa pines and thimbleberry bushes seem to sparkle in their wake.

Worried that I would never regain that blissful sensation, I suddenly hear a rustle ahead. Gazing about me, I see nothing.

But then I hear a voice.

In an accent that reminds me of my Scandinavian relatives, the man breathes a sigh of relief and proclaims (to me or to his other three comrades?),

"You understand. Yes, you really understand."

Works Cited

Primary sources

Alexander, F. Matthias. *Man's Supreme Inheritance: Conscious Guidance and Control in Relation to Human Evolution in Civilization*. New York: E.P. Dutton & Co., 1918.

_____. *Constructive Conscious Control of the Individual*. New York: E.P. Dutton & Co., 1923.

_____. *The Use of the Self*. New York: E. P. Dutton & Co., 1932.

_____. *The Universal Constant in Living*. New York: E.P. Dutton & Co., 1941; reprint, Long Beach, CA: Centerline Press, 1986.

Benoit, Agnes. *On the Edge/Createurs de L'Imprevu: Dialogues on Dance Improvisation in Performance*, special edition of *Nouvelles de danse*, no. 32/33 (Paris: Contredanse, 1997).

Paxton, Steve. "Contact Improvisation." *Drama Review* 19 no. 1 (1975): 40-2.

_____. "Drafting Interior Techniques." *Contact Quarterly* 18 no. 1 (Winter/Spring 1993): 61-66.

_____. "The Man in the Box." Interview collated by Jess Curtis, *Contact Quarterly* 20 no. 1 (Winter/Spring 1995): 68-69.

_____. "...To Touch." *Contact Quarterly* 21 no. 2 (Spring/Fall 1996): 50-51.

_____. "Improvisation Is a Word for Something That Can't Keep a Name." In *Moving History, Dancing Cultures*, eds. Ann Dils and Ann Cooper Albright, Hanover, CT: Wesleyan University Press, 2001.

Viewings, Videos, and Interviews

San Felipe Pueblo. *Eagle and Buffalo Dances*. December 27, 2001. Journal notes in possession of author.

Taos Pueblo. *Turtle Dance*. January 1, 2002. Journal notes in possession of author.

Zia Pueblo. *Corn Dance*. December 28, 2001. Journal notes in possession of author.

Peter and Cipriano Garcia. *Ceremonial Music of San Juan Pueblo*. Produced by UCLA, Office of Instructional Development. 120 min. AME, 1978. Videocassette.

Jean McClelland. Interview by the author, 14 June 2001, New York. Tape recording in possession of the author.

Secondary works

Abram, David. *The Spell of the Sensuous*. New York: Vintage Books, 1996.

Ballinger, Franchot. "The Responsible Center: Man and Nature in Pueblo and Navaho Ritual Songs and Prayers." *American Quarterly* 30 (Spring 1978): 90-107.

Sally Banes. "Steve Paxton: Physical Things." *Dance Scope* 13 nos. 2-3 (Winter/Spring 1979): 11-25.

Bateson, Gregory. *A Sacred Unity: Further Steps to an Ecology of Mind*. Ed. by Rodney Davidson. New York: Harper Collins Publishers, 1991.

Bechtel, William. *Philosophy of Mind: An Overview for Cognitive Science*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1988.

Binkley, Goddard. *The Expanding Self: How the Alexander Technique Changed My Life*. London: STAT Books, 1993.

Birch, Charles and John B. Cobb, Jr. *The Liberation of Life: From the Cell to the Community*. Denton, TX: Environmental Ethics Books, 1990.

Blom, Lynne Anne and L. Tarin Chaplin. *The Moment of Movement: Dance Improvisation*. Pittsburgh: University of Pittsburgh Press, 1988.

Brown, Donald N. "Evidence for Dance from the Prehistoric Southwest." In *Anthropology and Dance-The American Indian*, by the Congress on Research in Dance. Research Annual VI. New York: CORD, 1974.

_____. "The Dance of Taos Pueblo." In *Reflections and Perspectives on Two Anthropological Studies of Dance*, by the Congress on Research in Dance. Research Annual VII. New York: CORD, 1976, 189-272.

- _____. "Dance as Experience: the Deer Dance of Picuris Pueblo." In *Southwestern Indian Ritual Drama*, ed. Charlotte Frisbie, 71-93. Santa Fe: School of American Research, 1980.
- Callicott, J. Baird. "Traditional American Indian and Western European Attitudes Toward Nature: An Overview." *Environmental Ethics* 4 (Winter 1982): 293-318.
- _____. "Intrinsic Value, Quantum Theory, and Environmental Ethics." *Environmental Ethics* 7, no. 3 (Fall 1985): 257-275.
- _____. *Earth's Insights: A Survey of Ecological Ethics from the Mediterranean Basin to the Australian Outback*. Berkeley: University of California Press, 1994.
- _____. *Beyond the Land Ethic: More Essays in Environmental Philosophy*. Albany: State University of New York Press, 1999.
- Capra, Fritjof. *The Turning Point: Science, Society, and the Rising Culture*. New York: Simon and Schuster, 1982.
- Carrington, Walter. "The F. Matthias Alexander Technique: A Means of Understanding Man." *Systematics* 1 no. 1 (1963): 233-47.
- _____. "Balance as a Function of Intelligence," *Systematics* 7:4 (1970): 295-306.
- _____. *The Act of Living: Talks on the Alexander Technique*. Ed. by Jerry Sontag. San Francisco: Mornum Time Press, 1999.
- Carrington, Walter with Sean Carey. *Explaining the Alexander Technique: The Writings of F. Matthias Alexander*. London: The Sheildrake Press, 1992.
- Chomsky, Noam. *Powers and Prospects: Reflections on Human Nature and the Social Order*. Boston: South End Press, 1996.
- Coghill, George E. *Anatomy and the Problem of Behaviour*. Cambridge: The University Press, 1929.
- Collier, John with lithography by Ira Moskowitz. *Patterns and Ceremonials of the Indians of the Southwest*. New York: E.P. Dutton & Co., 1949.
- Commoner, Barry. *The Closing Circle: Nature, Man, and Technology*. New York: Bantam Books, 1974.

- Cornell, George. "The Influence of Native Americans on Modern Conservationists." *Environmental Review* (Summer 1985): 105-17.
- Crook, John Hurrell. *The Evolution of Human Consciousness*. Oxford: Clarendon Press, 1980.
- Csikszentmihalyi, Mihaly. *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*. 25th Anniversary ed. San Francisco: Jossey-Bass, Inc., 2000.
- _____. *Creativity: Flow and the Psychology of Discovery and Invention*. New York: HarperCollins, 1996.
- _____. *Finding Flow: The Psychology of Engagement with Everyday Life*. New York: BasicBooks, 1997.
- de Alcantara, Pedro. *The Alexander Technique: A Skill for Life*. Wiltshire, Great Britain: The Crowood Press, Ltd., 1999.
- Dennett, Daniel C. *Consciousness Explained*. Boston: Little, Brown & Co., 1991.
- Desmond, Jane C., ed. *Meaning in Motion: New Cultural Studies of Dance*. Durham: Duke University Press, 1997.
- De Spain, Kent. "More thoughts on Science and the Improvising Mind." *Contact Quarterly* 19 no. 1 (Winter/Spring 1994): 58-63.
- Dewey, John. *Art as Experience*. New York: Minton, Balch & Co., 1934.
- _____. *On Experience, Nature, and Freedom*. Edited and with an introduction by Richard J. Bernstein. New York: The Bobbs-Merrill Co., 1960.
- Dils, Ann and Ann Cooper Albright, eds. *Moving History, Dancing Cultures*. Hanover, CT: Wesleyan University Press, 2001.
- Dimon, Theodore. *The Undivided Self: Alexander Technique and the Control of Stress*. Berkeley, CA: North Atlantic Books, 1998.
- Dozier, Edward P. *The Pueblo Indians of North America*. New York: Holt, Rinehart and Winston, Inc., 1970.
- Drestke, Fred. *Naturalizing the Mind*. Cambridge: The MIT Press, 1995.

- Ehrlich, Paul R. *The Population Bomb*. New York : Ballantine Books, 1971.
- Evans, Bessie and May G Evans. *American Indian Dance Steps*. 2d ed. New York: Hacker Art books, 1975.
- Fodor, Jerry A. "The Mind-Body Problem." *Scientific American* 244 (January 1981): 114-23.
- Ford, Richard I. "Human Disturbance and Biodiversity." In *Biodiversity and Native America*, eds. Paul E. Minnis & Wayne J. Elisens, 207-22. Norman, OK: University of Oklahoma Press, 2000.
- Forti, Simone. "Animate Dancing: a practice in dance improvisation." *Contact Quarterly* 26 no. 2 (Summer/Fall 2001): 32-39.
- Fraleigh, Sondra Horton. *Dance and the Lived Body: A Descriptive Aesthetics*. Pittsburgh: University of Pittsburgh Press, 1987.
- Fraleigh, Sondra Horton, and Penelope Hanstein, eds. *Researching Dance: Evolving Modes of Inquiry*. Pittsburgh: University of Pittsburgh Press, 1999.
- Garlick, David. *The Lost Sixth Sense: A Medical Scientist Looks at the Alexander Technique*. Kensington, Australia: School of Physiology and Pharmacology, The University of New South Wales, 1990.
- Gelb, Michael J. *Body Learning: An Introduction to the Alexander Technique*. New York: Henry Holt and Company, 1981.
- Gill, Sam D. *Native American Traditions: Sources and Interpretations*. The Religious Life of Man Series. Belmont, CA: Wadsworth, Inc., 1983.
- Griffin, David Ray. *Unsnarling the World Knot: Consciousness, Freedom, and the Mind-Body Problem*. Berkeley: University of California Press, 1998.
- Gunnere, Richard, Jr. "Blink of the Eye, Tremor of the Soul." *Direction: A Journal on the Alexander Technique*; speech reprint from 6th International Congress in Freiburg, Germany, August 1999. Website: <http://www.directionjournal.com/fmarchive/fmv2n4-nov99.htm#blinkoftheeyetremorofthesoul>.
- Halprin, Anna. "My Experience of Cancer." *Contact Quarterly* 26 no. 1 (Winter/Spring 2000): 50-53.

Hameroff, Stuart R., Alfred W. Kaszniak, and Alwyn C. Scott, eds., *Toward a Science of Consciousness: The First Tucson Discussions and Debates*. Cambridge: The MIT Press, 1996.

_____. *Toward a Science of Consciousness II: The Second Tucson Discussions and Debates*. Cambridge: The MIT Press, 1998.

Harvey, Byron, III. "An Overview of Pueblo Religion." *New Perspectives on the Pueblos*. Edited by Alfonso Ortiz. Santa Fe: School of American Research, 1972.

Houle, K.L.F. "Spinoza and Ecology Revisited." *Environmental Ethics* 19, no. 4 (Winter 1997): 417-431.

Huang, Hao. "The 1992 Turtle Dance (Oekuu Shadeh) of San Juan Pueblo: Lessons with the Composer, Peter Garcia." *American Indian Culture and Research Journal* 21:4 (1997): 171-215.

Huxley, Aldous. *Ends and Means: An Inquiry into the Nature of Ideals and into the Methods Employed for Their Realization*. New York: Harper & Brothers, 1937; reprint, New York: Greenwood Press, 1969.

_____. Review of *The Universal Constant of Living*, by F. Matthias Alexander. In *The Saturday Review of Literature* (25 October 1941): 5, 17-8.

Jacobs, Margaret D. *Engendered Encounters: Feminism and Pueblo Cultures, 1879-1934*. Lincoln, NE: University of Nebraska Press, 1999.

James, Simon. "'Thing-Centered' Holism in Buddhism, Heidegger, and Deep Ecology." *Environmental Ethics* 22, no. 4 (Winter 2000): 359-375.

James, William. *Essays in Radical Empiricism*. New York: Longmans, Green & Co., 1912; reprint, 1922.

Johnson, Don Hanlon. *Body: Recovering Our Sensual Wisdom*. Berkeley: North Atlantic Books, 1983.

Johnson, Don Hanlon, ed., *Bone, Breath & Gesture: Practices of Embodiment*. Berkeley: North Atlantic Books, 1995.

Jones, Frank Pierce. *Freedom to Change: The Development and Science of the Alexander Technique*. London: Mouritz, 1997.

Kasulis, Thomas with Roger T. Ames and Wimal Dissanayake, eds., *Self as Body in Asian Theory and Practice*. Albany: State University of New York, 1993.

Kealiinohomoku, Joann. "Dance Culture as a Microcosm of Holistic Culture." In *New Dimensions in Dance Research: Anthropology and Dance - The American Indian*, by the Congress on Research in Dance. New York: CORD, 1974, 99-106.

_____. "Dance, Myth and Ritual in Time and Space." *Dance Research Journal* 29 no. 1 (Spring 1997): 65-72.

Kellert, Stephen, R. and Edward O. Wilson. *The Biophilia Hypothesis*. Washington, DC: Island Press, 1993.

Kim, Jaegwon. "The Mind-Body Problem: Taking Stock After Forty Years." *Philosophical Perspectives* 11 (1977): 185-207.

_____. *Mind in a Physical World: An Essay on the Mind-Body Problem and Mental Causation*. Cambridge: The MIT Press, 1998.

Knaster, Mirka. *Discovering the Body's Wisdom*. New York: Bantam Books, 1996.

Krech, Shepard, III. *Ecological Indians: Myth and History*. New York: W.W. Norton and Co., 1999.

Kurath, Gertrude P. with the aid of Antonio Garcia. *Music and Dance of the Tewa Pueblos*. Santa Fe: Museum of New Mexico, 1970.

Langer, Monika M. *Merleau-Ponty's Phenomenology of Perception: A Guide and Commentary*. Tallahassee: The Florida State University Press, 1989.

Leopold, Aldo. *A Sand County Almanac with Essays on Conservation from Round River*. New York: Oxford University Press, 1966; reprint, New York: Ballantine Books, 1970.

Lepkoff, Daniel. "Contact Improvisation Or What happens when I focus my attention on the sensation of gravity, the earth, and my partner?" *Contact Quarterly* 25 no. 1 (Winter/Spring 2000): 62-3.

_____. "Body of Work." Interview by Miroslava Kovarova, *Contact Quarterly* 27 no. 1 (Winter/Spring 2002): 40-50.

Libet, Benjamin. "Do We Have Free Will." In *The Volitional Brain: Toward a*

- Neuroscience of Free Will*, eds. Benjamin Libet, Anthony Freeman, and Keith Sutherland, 47-57. Thorverton: Imprint Academic, 1999.
- Light, Andrew and Eric Katz, eds. *Environmental Pragmatism*. London and New York: Routledge, 1996.
- Luger, Eleanor Rachel. "A Contact Improvisation Primer." *Dance Scope* 12 no. 1 (Fall/Winter 1977-78): 48-56.
- Macdonald, Patrick. *The Alexander Technique: As I See It*. Brighton, Great Britain: Rahula Books, 1989.
- Magnus, Rudolf. "Animal Posture." In *Proceedings of the Royal Society, August 1, 1925*, by The Royal Society. London: Harrison & Sons, 1925, 339-53.
- Marietta, Don E., Jr. *For People and the Planet: Holism and Humanism in Environmental Ethics*. Philadelphia: Temple University Press, 1995.
- Marrone, Robert. *Body of Knowledge: An Introduction to Body/Mind Psychology*. Albany: State University of New York Press, 1990.
- Martin, Calvin. *The American Indian and the Problem of History*. New York: Oxford University Press, 1987.
- McCormack, Eric David. "Frederick Matthias Alexander and John Dewey: A Neglected Influence." Ph.D. diss., University of Toronto, 1959.
- McGinn, Colin. *The Problem of Consciousness: Essays Towards a Resolution*. Oxford: Basil Blackwell, 1991.
- McGowan, Daniel. *Constructive Awareness: Alexander Technique and the Spiritual Quest*. Burdett, NY: Larson Publications, 1997.
- Metcalf, Sally Jane. "The Process/Product of Improvisation in Dance, Drama, and Jazz." MS thesis, University of Washington, 1979.
- Momaday, N. Scott. "Native American Attitudes to the Environment." In *Stars Above, Earth Below: American Indians and Nature*, ed. Marsha Bol, 3-9. Niwot, CO: Robert Rinehart Publishers and the Carnegie Institute, 1998.
- Naess, Arne. *Ecology, community and lifestyle: Outline of an Ecosophy*. Translated and edited by David Rothenberg. Cambridge: Cambridge University Press, 1989.

- Naranjo, Tito and Rina Swentzell. "Healing Spaces in the Tewa World." *American Indian Culture and Research Journal* 13:3&4 (1989): 257-65.
- Nash, Roderick Frazier. *The Rights of Nature: A History of Environmental Ethics*. Madison: The University of Wisconsin Press, 1989.
- Nelson, Karen. "Touch Revolution: giving dance." *Contact Quarterly* 21 no. 1 (Winter/Spring 1996): 65-67.
- Novack, Cynthia J. *Sharing the Dance: Contact Improvisation and American Culture*. Madison, WI: The University of Wisconsin Press, 1990.
- Ornstein, Robert E. *The Evolution of Consciousness: Of Darwin, Freud, and Cranial Fire: The Origins of the Way We Think*. New York: Prentice Hall Press, 1991.
- Ortiz, Alfonso. *The Tewa World: Space, Time, Being, and Becoming in a Pueblo Society*. Chicago, The University of Chicago Press, 1969.
- Parsons, Elsie Clews. *Pueblo Indian Religion*. Volume 2. Chicago: The University of Chicago Press, 1939.
- Pinker, Steven. *How the Mind Works*. New York: W.W. Norton & Company, 1997.
- Pitt, Leonard. "From Camargo to Contact." *Contact Quarterly* 18, no. 2 (Summer/Fall 1993): 68-70.
- Rae, Alistair. *Quantum Physics: Illusion or Reality?* Cambridge: Cambridge University Press, 1986.
- Roszak, Theodore, Mary E. Gomes, and Allen D. Kanner, eds. *Ecopsychology: Restoring the Earth, Healing the Mind*. San Francisco: Sierra Club Books, 1995.
- Schwarz, Robert L. "Space, Movement, and Meaning: thoughts on a seminar." *Contact Quarterly* 18 no. 2 (Summer/Fall 1993): 42-52.
- Sessions, George, ed. *Deep Ecology for the 21st Century: Readings on the Philosophy and Practice of the New Environmentalism*. Boston: Shambhala Publications, Inc., 1995.
- Sherrington, Sir Charles Scott. *The Endeavour of Jean Fernel*. Cambridge: Cambridge University Press, 1946.

- _____. *The Integrative Action of the Nervous System*. 2d ed. New Haven: Yale University Press, 1961.
- Smith, Nancy Stark. "Editor Note." *Contact Quarterly* 22 no. 1 (Winter/Spring 1997): 3.
- Smith, Robert L. "A Graphic Interpretation of Four Pueblo Indian Corn Dances." M.A. diss., University of New Mexico, 1950.
- Steinman, Louise. *The Knowing Body: Elements of Contemporary Performance*. Boston: Shambhala Press, 1986.
- Stevens, Christopher. *Towards a Physiology of the F.M. Alexander Technique: a record of work in progress*. London: STAT Books, 1995.
- Stransky, Judith with Robert B. Stone. *The Alexander Technique: Joy in the Life of Your Body*. New York: Beaufort Books, Inc., 1981.
- Stuart, David. *Anasazi America: Seventeen Centuries on the Road from Center Place*. Albuquerque, University of New Mexico Press, 2000.
- Sweet, Jill D. *Dances of the Tewa Pueblo Indians: Expressions of New Life*. Santa Fe: School of American Research, 1985.
- Talamantez, Ines. "Dance and Ritual in the Study of Native American Religious Traditions." *New Scholar* 8 (1982): 535-47.
- Tinbergen, Nikolaas. "Ethology and Stress Diseases." *Science* 185 (5 July 1974): 20-27.
- Turner, Frederick. *Beyond Geography: The Western Spirit Against the Wilderness*. New Brunswick, NJ: Rutgers University Press, 1980.
- Vecsey, Christopher and Robert W. Venables, eds. *American Indian Environments: Ecological Issues in Native American History*. Syracuse, NY: Syracuse University Press, 1980.
- White, Lynn, Jr. "The Historical Roots of Our Ecologic Crisis." *Science* 155 (10 March 1967): 1203-7.
- Whitehead, Alfred North. *Science and the Modern World: Lowell Lectures, 1925*. New York: Macmillan, 1925.

Williams, David. "Working (In) the In-Between: Contact Improvisation As An Ethical Practice." *Writings on Dance* 15 (1996): 22-37

Wilshire, Bruce. *The Primal Roots of American Philosophy: Pragmatism, Phenomenology, and Native American Thought*. University Park, PA: The Pennsylvania State University Press, 2000.

Wilson, Edward O. *On Human Nature*. Cambridge: Harvard University Press, 1978.

_____. *Biophilia*. Cambridge: Harvard University Press, 1984.

Wolf, Fred Alan. *The Body Quantum: The New Physics of Body, Mind, and Health*. New York: Macmillan Publishing Co., 1986.

Worster, Donald. *Rivers of Empire: Water, Aridity and the Growth of the American West*. New York: Pantheon, 1985.

Zukav, Gary. *The Dancing Wu Li Masters: An Overview of the New Physics*. New York: Bantam Books, 1980.