

## On The Existence and Understanding of Pain: A Natural Scientist's Commentary

Tarynn M. Witten, Ph.D., MSW, FGSA  
Senior Fellow and Executive Director  
TranScience Research Institute  
PO Box 28089  
Richmond, VA 23229-28089  
<http://www.transcience.org>  
[transcience@earthlink.net](mailto:transcience@earthlink.net)  
[transcience@transcience.org](mailto:transcience@transcience.org)

**Abstract.** In this paper, we posit that pain, in and of itself, does not exist. Rather, we conjecture that the idea of pain, while socially constructed and temporally dynamic, is easily categorized as “pain as a meta-object” whose projections (interpretations or perceptions) into reality reflect its complex “meta-object” nature and, like light, require a projective geometrical equivalent in personal perception. Given this assumption as axiomatic, we then demonstrate that a “metaphorical viewpoint” provides a means to project the “pain meta-object” into an accessible observer-observed reality. That is, pain is the perceived “living” equivalent of a higher dimensional object that we will term a meta-civilization combining the properties of person-group-culture-society. The experience/perception of pain then becomes contextually defined by the individual who experiences it, not unlike the meta-object in Hofstadter’s (1980) discussion. Moreover, that experience can take on the varied properties associated with the meta-entity, depending upon that experience. Pain is then an emergent property governed by an experience or observation. Further, we then choose to categorize these experiences in the form of metaphors in which “pain is/as a religious experience, pain as a person, *etc.*” That experience emerges from the interaction between the individual and that individual’s history and the context of that history. This Quantum Epistemological viewpoint allows us to unify the work of Morris (1991) and to pose questions that would otherwise not be as obvious without this construct.

**Keywords.** Duality, Dyad, Emergent Property, Entangled States, Light, Meta-object, Metaphor, Pain, Perception, Psycho-social, Quantum Epistemology, Quantum Mechanics, Reality, Schema, Socio-cultural, Sociology, Tao.

**Introduction.** It is possible to state that the essence of Morris’s 1991 book, **The Culture of Pain**, can be boiled down to the statement that *pain – in and of itself – does not exist*. The bulk of the Morris book is subsequently dedicated to the challenge of demonstrating the various facets and ramifications of this assumption. In this discussion, we will present a construct within which we can organize and extend the work of Morris (1991).

**The Construct.** We elaborate our construct as follows. The primary construct axiom (A1) is that *pain exists only through an interaction of a process and an observation or perception*. An immediate corollary (C1) of that axiom (A1) is that any given perception or understanding of pain is inherently context dependent. That is, it is impacted by the history (bio-psycho-socially) of both the individual observing the pain, as well as of the individuals with which the person experiencing the pain phenomena interacts. It follows then, that the experiencer (the patient)

and the observer (physician, *etc.* both of whom serve as a “meter<sup>1</sup>” in the quantum epistemological sense) is dependent upon the very culture that generated the meter itself. Additionally, the formulation of the *raison d'être* of the meter, the scientific culture at the time, adds additional impact to the process. This last point is a critical result emerging from the proposed construct and we shall return to it at a later point.

**The Concept of a Meter and the Concepts of Duality and the Dyad.** In the previous discussion, we have introduced the concept of an interaction between an observer and an observed, using a meter. A simple, preliminary example of such a system would be, a scientist (observer) who wishes to measure (observe) the temperature (observable) of a pot of water (system) using a thermometer (meter). This is a straightforward and non-ambiguous example. There are no historically dependent contexts within which we can re-interpret temperature. The metric is temporally stable. However, over time, we are aware that different measures have been introduced: Fahrenheit, Centigrade, and Celsius. All of these measure the same object using different metrics that are linearly related to each other. Hence, there is no ambiguity in the measure of temperature.

However, we conjecture that “the measure of pain” is more complex than this simple example. To illustrate this point, we draw upon another example arising in the discipline of physics namely: that of the dilemma embodied in answering the following question, “*What is light?*” We accept that this example is also an oversimplified analogy and we use it primarily as an illustration and further motivation for the next steps in our construct.

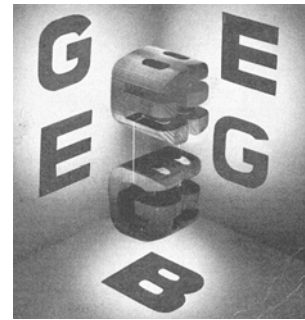
Everyone who has studied elementary Physics is aware of the wave-particle duality<sup>2</sup> of light. We have all heard that, when light passes through a diffraction grating, it behaves as if it were a wave. Moreover, if light interacts with a photoelectric device, it behaves as if it were a stream of particles (Weidner and Sells, 1968). And yet, light is neither and both of these phenomena. In an abstract sense, its existence and subsequent behavior emerges out of an interaction, an observation as we say in physics (Bohm, 1951; Bohm and Hiley, 1993). Quantum Mechanics teaches us that the very action of measurement, of attempting to understand a system, alters that very system (Bohm, 1951). The Heisenberg Uncertainty principle teaches us that we cannot simultaneously accurately measure both position and momentum because they are related to each other. Measurement of either the position or the momentum will decrease the accuracy of a simultaneous measure of the other (Weidner and

---

<sup>1</sup> Quantum Epistemology is greatly concerned with the problem of the interaction of the observer and the observed system. The simple issue of whether or not one is measuring the system or the system-meter interaction is of great concern when one is dealing with the probabilistic nature of quantum mechanical dynamics. More recently, the question of whether or not the very action of the meter induces a “reality” has given rise to the complex quantum mechanical theory of entangled states. The argument here is that all “realities” are possible, and it is the interaction of the observer (the meter) on the observed (the entangled system) that creates the given reality (Einstein, Podolsky and Rosen, 1935; Brune *et al.*, 1996; Kwait and Hardy, 2000; Ikram, Zhu, and Zubairy, 2000). The philosophical consequences of this type of system can be profound for the construct suggests that it is the existence and/or choice of a given meter that then defines the reality and consequently, we should then give thought to how the “meter” comes into existence as a potential aspect of understanding how we see a system. Within the context of this discussion on pain, it is clear that our choice of meter “metaphor” clearly defines how we perceive pain. It is this understanding that Morris (1991) spends the bulk of his text expounding upon.

Sells, 1968). We have forced light to emerge in one of its dual<sup>2</sup> forms by interacting with it via a process, by observing it if you will. In the strictest sense, the observer (scientist) has interacted with the system (light) via a meter (photoelectric cell or diffraction grating). The result of the interaction (observation) process is the appearance (projection) of light into one of its two (dual) forms: wave or particle (dyad: two individuals or objects regarded as a pair). The dyadic concept represents a more realistic conceptualization of the issue with which we must deal. We might therefore, frame light as a “meta-object”<sup>3</sup> whose properties emerge when they interact with an observation instrument. However, to try to separate light into components of particle and/or wave is to attempt the impossible. Light does not exist in either form. Light is, in this abstract sense, seen to be entangled<sup>4</sup> (Mermin, 1990). Only its realization exists in a form and that form emerges when we (the scientific observers) interact with the “meta-object” light. In other words, the properties of light are emergent as a result of the interaction of the observer with the “meta-object.” It is only then that we are able to “see” the light.

This concept of emergent form, as a result of interaction or observation is wonderfully illustrated in Hofstader (1980). We have borrowed the cover of Hofstader's book to forcefully illustrate this point. In his book, **Godel, Escher, Bach: The Eternal Golden Braid**, Hofstader (1980) demonstrates how the work of these three individuals can be viewed in an intertwining fashion. He shows how they may be seen as different views of the same object and constructs the meta-object illustrated in the adjacent figure. As you can see, the meta-object itself (centered in the figure) has no meaning to/for us. We could term this a meta-alphabetic character, having neither name nor sound. Meaning, existence, perception occur only when an interaction between the meta-object and an observation (in this case light shining from a particular angle) is made. When this happens, the meta-alphabetic character takes on a form (is perceived as having a form) that



<sup>2</sup> Duality (dual) is a fundamentally important concept in both mathematics and physics. Without it, we could not create maps; understand projections (shadow effects), and numerous other physical phenomena. The essence of duality is that two objects or entities are said to be “dual to each other” if they are perpendicular (orthogonal) to each other (Jordan, 1969). Hence, one object cannot cast a shadow on the other (mathematically, they are said to be linearly independent). The importance of this duality property is that uniqueness cannot be specified unless all of the duals are known. A simple example of this is that it is necessary to give two coordinates, an x-coordinate and a y-coordinate in order to uniquely locate a point in a plane. Without both coordinates, we know that a location cannot be uniquely specified, but rather, it lies on a line in the plane (Anton, 1984).

<sup>3</sup> The use of the “meta” terminology is critical. The American Heritage College Dictionary defines “meta” as “situated behind,” or “beyond, more comprehensive,” or “more highly developed.” In a sense, we are looking for exactly the phenomenon, the object, the entity that sits behind these properties of particle and wave. We are looking for the “meta-object,” the more comprehensive, more highly developed object that is situated behind the wave-particle phenomena we observe when we interact with light. In a sense, the same can be said for sociological analysis. Sociology of and Sociology in are entangled in some meta-sociological concept that sits behind both of these two states. It is that “meta-concept” we seek to understand and to make use of.

<sup>4</sup> Other, more complex examples of entanglement include the “collapse: of the wave function when a photon is detected in one or the other output port of a beamsplitter; the Aharonov-Bohm effect, in which a particle “knows” about enclosed magnetic flux, even though the actual magnetic field can be strictly zero in all regions the particle traverses.

we are subsequently capable of interpreting via one of our metaphorical structures. In other words, the act of observing the system has projected the meta-character into a metaphor (in this case an alphabet) that has meaning and interpretability for us.

If we then carry this construct over to the understanding/study of pain, we see that our axiom (A1) *there is no such thing as pain in and of itself* makes a great deal of sense. Making use of this axiomatic construct, pain exists as a result of an interaction between an event (something or things that initiated the pain dynamics), a cultural view of pain (context), and an individual experiencing that pain (observer/meter) within that cultural environment. Given this view of pain, it is now easy to see that the anesthesiologist who talks to the patient before a major operation is altering the cultural view of pain (context) for that patient by mediating the “light source” (meter) for the patient’s perception of pain. In doing this, the anesthesiologist activates bio-psychological responses to the newly acquired viewpoint. A similar phenomenon occurs in shamanic healing (Kleinman and Sung, 1979) in which “the healing effect is attributed to behavior or social gains as being responsible for the positive evaluation of therapeutic efficacy.” Research has shown that such interventions can have uniquely positive, or as Hans Selye called them “eu-stress” responses. Such positive medical response has also been documented in Herbert Benson’s book, **The Relaxation Response**. The abundance of literature on visualization as a means of affecting pain in cancer patients also speaks to the idea of altering the perception of pain as a means of altering the experience (intensity) of pain. One might even argue that hypnotherapy for pain works by deeply altering contextual references in such a way as to alter the subsequent experience (Havens and Walters, 1989). That is, it alters the means by which we see/experience pain and the context within which that measurement is experienced. An interesting piece of supportive data for this theoretical approach arises in the treatment of chronic depression. One of the goals of the therapeutic intervention is to make the patient “aware” of the interplay between himself (patient) and the environment (others). Further, therapy tries to create an inherent understanding that there exists such an interaction, thereby altering the client’s metaphor of reality by moving the client from a Piagetian (Piaget, 1981) pre-formal logic stage to the formal logic state. By virtue of this movement, the patient is then given an increased awareness, which provides him or her with a new set of meters and the congruent context within which to apply them. Moreover, in the course of this evolutionary step, there is a concomitant decrease in depressive behavior patterns and an increased functionality (McCullough, 2000).

The idea of altering the perception of pain via altering its experience moves us to the next step of our discussion, namely the “metaphor and the meter.”

**The Metaphor and the Meter.** The “meter” is “the means” by which we measure and thereby initiate the experience of a physical phenomenon. We can experience the same phenomenon via many different meters. Let us return to the simple example of temperature. It is clear that we can experience temperature through the meter of our bodies or through our thermometers. While the thermometer gives us a number, which we then must interpret, our body gives us a perceived experience. It is this perceived experience that corollary (C1) tells us is context dependent. That is, context (interpreted in a bio-psycho-social fashion) can both offer us new meters, and it can also change the interpretation of the meters that we currently use. Moreover, as we shall see in a bit, it can offer us an understanding as to how our meters emerge as a means of interpreting a phenomenon. The collection of meters is

intimately tied to our “metaphors of Reality” our set of “metaphors” of reality (Lakoff and Johnson, 1980). Metaphors are the means by which we project the meta-object “pain” into our individual realities and thereby provide a context allowing us to both interpret and to experience that pain.

A simple example of this construct can be illustrated via the following Figure [2] taken from Vale and Juno (1989). This figure illustrates Fakir bearing the “Spears of Siva in a Kavandi-bearing ceremony. This ritual is performed by ordinary people in India and has the aim of providing a path for the given individual to enter an altered state – the typical response being very glassy-eyed and ecstatic. Fakir has described this as follows: *“A framework is placed around your body and locked on; sharp rods with points are stuck into the skin, then you rise and dance and walk and move. The more you move, with the rattling and vibrating of the spears, the deeper they go into our skin, and the longer you do it, the deeper they go into your skin. So you don’t feel pain as you once knew it – you can get into a great state of ecstasy and you can flip off, which I’ve done a couple of times, into a totally altered state – in two cases I had a real out of body experience. I just left my body, lifted out of it, floated up above and watched this body like a robot running around, going crazy, with these spears jangling and clanging in the framework... there are many reasons for doing this, but people seem to think this connects them with life energy and forces greater than them (Vale and Juno, 1989).”* If we impose a Western pain context on this picture, we can readily imagine the viewer of this ritual thinking only of the unimaginable pain and almost empathetically resonating with what he or she believes the

Kavandi participant is undergoing. Yet, clearly, within the context of the Kavandi, this even is affirming and psychologically binding with a greater force, a “religious” experience if you will. Thus, the pain not only becomes endurable, but it becomes transforming and expansive for the participant. Thus, the cultural context provides a different meter or set of meters and thereby provides us with access to a different metaphor of reality, a different means of interpreting the behavior of the system. The Western culture sees the pain metaphor “as pain as a debilitating and unendurable experience”, while the Indian culture provides the metaphorical construct of “pain as a gateway to a higher and greater experience”; the one being negative (Western), the other being positive (Indian). The bulk of the discussion in Morris (1991) is devoted to demonstrating the different metaphorical constructs for pain and the context within which they emerged: “Pain as a psychosocial creation is, as I have argued, something we experience not simply as private individuals but also as members of a culture or sub culture. We therefore experience pain in ways shaped and reinforced by the images current around us.



Figure [2]

Family, friends, and community – in their behavior and values – supply the major representations of pain that shape our experience (Morris, 1991, pg. 198).”

**A Construct Consequence.** The Quantum Epistemological approach to the understanding of pain has provided us an interesting construct within which to navigate some of the critical questions arising in the study of pain. This statement is critical to a future point and bears review. We have used the constructs of quantum mechanics and quantum epistemology (the philosophical side of quantum physics) to develop a construct within which we will navigate towards an understanding of pain. It is essential to point out that corollary (C1) applies here in that the construct within which we are navigating both expands and restricts our analytical viewpoint and toolkit. Thus, while we might find expansive view in one area, we may well also be strictly limited by the metaphors of reality embedded within the quantum mechanical/natural scientist approach to this problem. Again, we point to the work of Harding (1986, 1987, 1991) addressing the perspective of scientific exploration as it is impacted by social experience that has been mediated through the effects of gender and gender politics. A strong case can be made for alternative scientific methods that evolve out of “non-male” perspectives. It is beyond the scope of this paper to discuss this set of concepts save to point out that their existence supports the idea that context can both alter the interpretation of a meter’s result and it can also provide new meters that an alternative context might not consider valid or available. With this in mind, we examine the issue of meters and metaphors of reality.

**Metaphors of Reality.** We learn of metaphors as poetic devices to compare one thing to another. However, metaphors can be far more powerful. As human beings, we are natural categorizers. We look for patterns, for similarities and differences, and then create categories that we label and know to have certain behaviors, certain properties that are inherent to items within the given category. In mathematics, we call these conjugacy classes. Items within the class are seen as identical while items between two classes are seen as different. Categorizing is a natural state of analysis for all of us. It helps us to navigate a complex living environment by rapidly making information available about classes of objects and behaviors within that environment. As we go through life, we are constantly adding, deleting, and modifying these classes. What is most interesting is the fact that many of these categories are subconsciously defined in that we are unaware that we have defined them and that we also make use of them. Having defined these categorical constructs, we find that we communicate these similarities and differences via our metaphorical constructs. Lakoff and Johnson point out that the categorization process and its associated metaphorical concept can be extremely powerful. It can easily affect the ways in which we perceive, think, and even act. Lakoff and Johnson (1980) provide us with numerous examples of metaphorical constructs and frameworks. For the purposes of illustration and as a means of transitioning into our discussion of metaphors of pain and the relevance of metaphorical constructs to the understanding of pain, we borrow Lakoff and Johnson’s conceptual metaphor ARGUMENT IS WAR. “For example, we say: ‘He *attacked every weak point* in my argument.’ ‘Your claims are *indefensible*.’ ‘I *demolished* his argument.’” Lakoff and Johnson (1981) point out that “it is important to see that we don’t just talk about arguments in terms of war. In real life, we can actually win or lose arguments. We see the person we are arguing with as an opponent. We attack his positions and we defend our own. It is in this sense that the ARGUMENT IS WAR metaphor is one that we live by in our culture it structures the

actions we perform in arguing” while providing us with its own set of metaphors and context to navigate the reality of argumentation.

If we accept that *human beings are categorizers* (A2) and that we make use of these categories to build a metaphorical construct of the world within which we navigate our life events (A3). And, if we accept that life events that are confusing or not within the current metaphorical construct can cause anxiety and stress, along with subsequent furious attempts to restructure our categories of understanding so as to encompass the new events, or else to create new categories and therefore metaphors of reality, it is then natural for us to explore the metaphors of reality and their associated contexts/schemas through which we navigate the world of pain: “When we fall into pain, we fall into a net of already constructed meanings (Morris, 1991, pg. 19).”

**The Metaphor of Duality vs. Dyad.** An overarching theme of Morris (1991) is the evolution of the various metaphors of pain as they relate to the mind-body separation (duality<sup>2</sup>). “It is probably quixotic to think that we will ever completely remove the terms ‘mental pain’ and ‘physical pain’ from our language (Morris, 1991, pg. 27).” He points out that this duality of view (the existence of a meter that separates pain into two unrelated categories) “provides a commonsensical framework in identifying very different afflictions ... (*ibid.*)” Morris develops this historical reasoning for theories of mind and of body pain in an effort to lead us to the understanding of a mind-body dyad<sup>2</sup>, an inseparable context for pain that does not allow the mind or the body to be separated in the experience of pain. Even within this simple mind-body construct, there is an amazing similarity to quantum physics. In quantum physics, the wave function – typically denoted by the mathematical symbol  $\Psi(x,t)$  contains within it, the concept of a group velocity. In other words, the wave function describes a group of waves (population) while the particle has unique mass (individual) (Corinaldesi and Strocchi, 1963). Moreover, the wave function contains within it, the description of the particle. The particle exists in a probabilistic form, available to our reality only when we interact with it via some meter or set of meters. These meters then force the wave function to collapse to a determined state, a particle or collection of particles.

Interestingly, this duality perspective can be extended to pain as mediated through the castes that interact with it; doctors and shaman. Both of these groups of individual perform certain similar tasks, providing wisdom with respect to the interpretation and methods of dealing with specific kinds of pain, among many other roles. Yet, their view of pain is clearly culturally dependent, as is their wisdom. Intrinsic to this discussion is also the role of the priest or other cultural religious head such as the rabbi. Morris (1991, pg. 33) points out that “the modern Asiatic and American Indian shaman (from a word meaning literally ‘he who knows’) still openly perform the double role of interpreting pain and of healing that pain since, in these cultures, the power to heal the sick flows directly from the power to communicate with the world of spirits.” In ancient times, the shaman was a dyad. The shaman served as the doctor-priest, mediating between the spiritual and the physical, between the mind and the body. It is ironic that, as quantum mechanics has taught us of duality and that it subsequently begun to question the concepts of duality. Instead, it has increasingly addressed issues of quantum entanglement as a means of understanding complex systems in quantum mechanics. So too the attempts at dealing with pain have gone from dyad to duality and are slowly returning to the original dyadic understanding, the



concept that pain is an entangled state that cannot be surgically separated into mind and body.

Both of these perspectives, that of duality and that of dyad assume that there are two objects that are either inseparable or are separable. However, they assume that the two objects are identifiable in some abstract philosophical sense. Taoism is a canonical example of the role of dyadic thought arguing that the dual is critical for “without good, how can one know bad, and vice versa? (Witten, 2001). Thus, while we can articulate the concepts of good and of bad (duality), we need the dyad (the juxtaposition or entangling of these concepts) to understand what they truly mean. The problem with this is that it forgets, denies, or otherwise ignores the continuum of states that exist between good and bad. It is a binary existence. Unfortunately, much of the real world is not binary. Rather, it exists in a continuum of states. An excellent example of this is gender expression. Western medical science sees two birth sexes, male and female. It ignores intersexed (hermaphroditic) as a viable sexual alternative, and does not allow for other chromosomal or physiological expressions of the birth sex. Clearly, there is not a continuum of choices in birth sex, but there are certainly more than two (binary) options. Despite the obvious medical facts, Western culture is confined to the binary viewpoint of male and female. It has taken great efforts, primarily on the part of the International Intersex Society of North America (<http://www.isna.org>) to alter this viewpoint and, in doing so, to provide new metaphors for navigating our existing reality.

We can move from the more than two states associated with birth sex, to a continuum of possibilities embedded within the expression of one's gender. Here, we are dealing with a much more ambiguous word. Numerous tomes have been dedicated to the study of the concept of gender and to the various expressions of gender modality (Ferree, Lorber, and Hess, 1999; Bullough, Bullough, and Elias, 1997). In these and numerous other books and research papers, we see that the concept of gender, in its complexity and wonder, gives rise to numerous forms of gender self-expression and subjective interpretation. A simple example of this can be found in the work of Eyler and Wright (1998) which address a simple nine point gender continuum measurement instrument for the purposes of assisting LGBTQQ (Lesbian, Gay, Bisexual, Transgendered, Queer, and Questioning) individuals in understanding their current gender identity/self-perception. Results from this research effort will soon be reported. Preliminary results demonstrate that gender self-perception does, actually, fall along a continuum of both self-perceptions and of self-expressions. Thus, we have a continuum emerging out of an altered metaphor of reality; gender is like sexuality. Instead, we see that it is, in fact, not like sexuality at all. As my gender research colleagues are often wont to say, “Gender is between your ears, sexuality is between your thighs.”

Before we close this section of the discussion, let us point out one other dualistic emergence in the field of pain studies, namely the idea of “us” vs. “them.” The metaphors of pain set up a categorization in which there are those who have pain and those that do not. It is a well-known phenomenon that disability breeds marginalization. Chronic pain can be viewed as a disability and hence, create a marginalized population of individuals within a given setting. Morris (1991, pg. 191) spends a good deal of dialogue addressing the story of how a woman dying of cancer created a massive rift dividing the patient from the hospital staff. The consequences of this rift were, from a bioethical perspective, untenable (Morris points out, in his viewpoint, that the staff came dangerously close to the act of willfully inflicting pain).



The patient “spent her last two months of life in almost ‘unendurable pain’ and in ‘the almost total isolation which [the] staff had imposed on her.’”

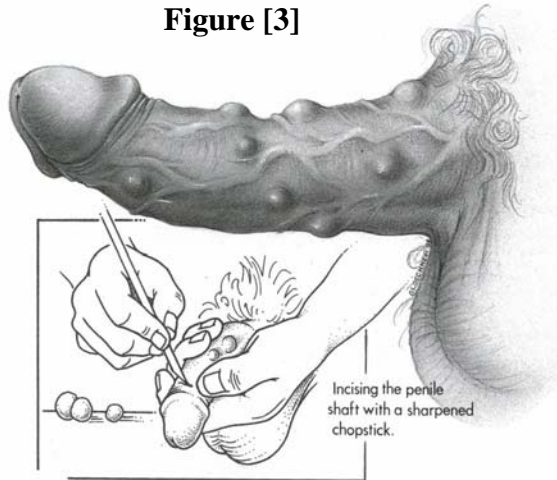
In an upcoming paper, we will discuss the ramifications of these assumptions and emergent issues with respect to the study of healthcare and healthcare delivery. However, let us continue our excursion into the development of metaphors of pain.

**Metaphor – Pain is Human.** This metaphor is termed an ontological metaphor (Lakoff and Johnson, 1981, pg. 26). Further, because we have allowed the object pain to be seen as human, this metaphor can be seen as a personification metaphor. One of the constant metaphors throughout Morris (1991) is the idea that pain is portrayed as human in its characteristics. Pain is the enemy and, as such, is bad. Pain is portrayed as having human behaviors and characteristics. It is the enemy whose evil must be defeated. To eliminate this enemy, we hire assassins. They come in white coats and we pay them, a cadre of physicians bearing hypodermic weapons. Weapons of pain themselves; the hypodermics contain a hopeful bullet, “pain-killers.” We who do not have pain, and even those of us in pain, must wage war against the enemy pain. “Almost as if their vocation required it, researchers and journalists seem particularly drawn to the language of conquest [*when discussing pain, my comments*] (Morris, 1991, pg.23).” However, chronic pain is not as easily placated by such weapons. Like the resistant strains of bacteria, humans have evolved their own version of a resistant strain of pain, chronic pain. In addition, it needs new weapons, new battle plans, and a new generation of soldier if we are to defeat it. “The pain clinic stands as an innovative, revolutionary way of thinking about our oldest and most implacable foe (Morris, 1991, pg. 74).”

Pain is also an enemy in the context of old age. We associate pain with growing old. The pain of old age is released only upon death. Thus, the voyage to the end of life is seen as traumatic in that it is one in which we march slowly along the inevitable pathway to death, through the swamps of pain, only to be relieved of our suffering after years of torment and depression. Thus, our enemy pain brings with it fear, and that fear brings anger and depression. This depression can be debilitating and further affect an individual's quality of life. How often have we heard the phrase “thy glass will show thee how thy beauties wear”? Growing old becomes the fearsome enemy, among whose arsenal of weaponry is acute pain and the more dreaded chronic debilitating pain. Further, because the pain can be great and never-ending, pain imbues the enemy with power. We cannot escape it and we cannot escape what we fear that it will do to us. It will bend us to its will, make us weak, make us unable to feed ourselves, make us unable to walk, change our clothing, take a bath, drive, and a thousand other things that make us young and human. “Pain, we might say, is the universal instrument of force. Force uses pain – or threatens to use it – in order to get its way (Morris, 1991, pg. 184).

Pain has behavior patterns, as do humans. It is psychodynamic and socio-cultural, yet solitary at the same time: “The peculiarly changeable nature of pain – its power to take on new meaning or abruptly to lose, to regain, or to transform the meaning it temporarily possesses – requires that we understand this most ancient and personal of human experiences as indelibly stamped by a specific time and place. Pain seems the quintessential solitary experience (Morris, 1991, 37). Pain is, paradoxically, the global unifier and divider. We are both isolated by (as we have seen previously) and unified by pain (consider the

**Figure [3]**



Hebrews and the Passover seder as an example of how pain unifies a group). Pain can identify us as part of a group, for example, the yakuza perform penile implants, taking a pearl and inserting it under the skin of their penis for every year that they have been in jail (Vale and Juno, 1989, pg. 156-167) and illustrated in the following Figure [3]. Alternatively, in the case of the Hebrews, it defines a man as being part of the lineage of masculine power able to access the wisdom of the teachings of the ancients, to be a member of the Hassidim. Genesis 17:6 tells us “And I will make thee exceeding fruitful,

and I will make nations of thee, and kings shall come out of thee.” While Genesis 17:10 tells us “This is my covenant, which ye shall keep, between me and you and thy seed after thee every man child among you shall be circumcised.” But what is this thing called circumcision? Genesis 17:11 defines it for us by telling us “And ye shall circumcise the flesh of your foreskin and it shall be a token of the covenant betwixt me and you.” Observe that the act of circumcision simultaneously defines us as a Jew (individual) and thereby of a group (with a culture and rich with traditions) and, in doing so, sets us apart from the rest of the world. It binds us to a set of traditions, to a history, and to a context within which those who chose to follow its rules view the world. And yet, pain can set us apart, isolating us via ridicule, and more radically by persecution so malevolent as to be termed genocidal. We have all heard the metaphors “Jews are smart,” “Jews are the money makers,” “Jews have big noses.” All of these statements are metaphors, observables that, when taken out of their context become pejorative and create an alternative schema that allows persecution to be justified.

That pain is human, not just part of the human experience, but human in its character is something that makes it uniquely special. It is both local and global, both static in moment and malleable in time. It can change over the timescales of a lifespan and over cultural and evolutionary time periods: “The pain cannot be separated from the personal questions and social meanings it inescapably evokes (Morris, 1991, pg. 43).” Pain has a voice, a personality; a means of expression derived from within each of us, each a part of a culture. As Morris (1991) so elegantly points out, “pain speaks in silences” (Morris, 1991, pg. 72). Pain also speaks across the developmental cycle from babies to those at the end of life.

Pain can also act as an invisible third party, inserting itself between those that experience the pain and those who must observe the “experiencer.” Pain can wear down the caretaker; turn the caretaker away from the person with pain. Pain can insinuate itself between us. It can break the bonds that tie the observer and the observed, diminishing or destroying the sustaining nature of the bond: “A pain that lasts for months or years, however, begins to wear out everyone’s patience and goodwill; it constitutes a radical assault (*notice the warlike words here, pain has become an enemy again - author’s comment*) on language and on human communication (Morris, 1991, pg. 73).” In its third party mode, pain can also act as a mediator, a necessary evil, a resolute companion for beauty: “The same progressive Enlightenment culture that built Monticello, with slave labor, also decreed that slaves were

subhuman creatures who did not truly feel affliction. In the achievements it has called forth, pain ranks with the soaring cathedrals and hideous dungeons of medieval Europe as a testament to the contrary powers of the human spirit (Morris, 1991, pg. 77). Emergent from the metaphor that pain is human, is the metaphor of “the mind and the body of pain.” In this metaphor, pain can be seen as emergent from the mind, the body, or a combination thereof. It can be seen as extending the mind through religious or other trans-body experience, or it can be seen as healing the body through the use of alternative metaphors that induce a healing or pain-reducing perception of a person's pain. We will examine this metaphor in a moment.

**Metaphor – Pain is Money.** It is hard to imagine that pain could be viewed via a monetary metaphor. And yet, it is one metaphor that gives us powerful insight into pain. We assert that some pain has “value.” We use phrases like “It was worth the pain I went through...” We make statements like “I spent hours in agony.” (Note that we are using a dual metaphor here in that we are making use of the metaphor of “spending time” and hence that induces us to use the additional metaphor of “time is money” (Lakoff and Johnson, 1981) thereby creating the metaphor of pain as having value through the time spent enduring it). Throughout history, we have used ritualistic pain as a means of “paying the price,” rendering to the gods their “due” (Morris, 1991, pg. 47). The very act of a young woman giving up her virginity is painful and only then can she receive the pleasure of sexuality and of being a woman able to give birth to a child, to have a family. Many forms of religious belief required a “sacrifice” of some sort, either through the giving of a life (the ultimate pain), or through constant self-flagellation or other self-denial. To this day, the phrase, “He made the ultimate sacrifice” is another way of saying, “paying the ultimate price.” Death, frequently portrayed as the Grim Reaper, is often seen as the ultimate pain. The phrase “On pain of death” speaks to that. And yet, when one dies, the individual is thought to have “bought the farm.” Do not go gently into that good night. Darkness, isolation, fear, pain. Again, death, pain, and money are intimately tied to each other, even in today's world.

Emergent in the previous discussion is the implicit idea that, because money is power and pain is money, then pain must be power. In mathematics and logic, this is called the transitive property of objects. If  $a < b$  and  $b < c$ , it follows that  $a < c$ . This leads us to the idea of pain as power which, although we have previously mentioned this metaphor, we will now spend greater time detailing.

**Metaphor – Pain as Power.** The concept of pain as power is vital to our understanding of numerous aspects of the perception of pain. Coexistent with this metaphorical construct is the metaphor of the “dichotomy of pain;” that is, the mind and the body of pain. “The tight waist training of the Ibitoe teaches them that they are not their bodies. You are not your body; you just live in it (Vale and Juno, 1989, pg. 30).” Examining this statement and what is actually going on, we see that power (tight waist training) is being applied to the human body (physical) to teach the individual (attain an altered state of enlightenment) that they are not their bodies (spiritual).

Pain can be implied and well as direct. Furthermore, within this construct, it is possible to see that power can be implied through the implication of pain. For example, “... Roman centurians, Caesar's bodyguards, wore nipple rings as a sign of their virility and courage, and as a dress accessory for holding their short capes (Vale and Juno, 1989, pg. 25). Navel

piecing, a sign of royalty to the ancient Egyptians (*and hence of power, author's comment*) was something denied commoners. Observe that the navel piercing also has the implication of sexuality in that it directs the viewer to the pelvic area and is a typically female body piercing. Implied here is the power of the female virility. Numerous other body piercings can be seen to be related to power and to pleasure. The Prince Albert, called a “dressing ring” by Victorian Haberdashers, was originally used to firmly secure the male genitalia in either the left or right pant leg during that era's craze for extremely tight, crotch-binding trousers, thus minimizing a mans natural endowment. Legend has it that Prince Albert wore such a ring. The ampallang, indigenous to the areas surrounding the Indian Ocean, is an excruciating piercing usually performed at puberty, the service being performed by an old woman who places the piercing horizontally through the center of the head of the penis above the urethra. As a sexual device, this greatly enhances the pleasure of both partners and it is said that women may deny intercourse to a man not so pierced. Observe that, in the emergence of power via sexual denial, we see pain as a mandatory prerequisite for being accepted sexually. Again, across cultures, there are many examples of pain and body modification as a means to mark a sexual viewpoint, from sexual maturity, to availability, to possession, to pleasure. Vale and Juno (1981) provides an excellent resource in this domain.

However, power and sexual pain can also be part and parcel of a masculine metaphor of reality that holds that women are sexual objects “barefoot and pregnant” and are property to be done with as the man deems fit. This schema is evident across the globe. White slave trade is still rampant worldwide, and it is an excellent illustration of the interplay of power, pain, and pleasure. Domestic violence, particularly in the form of wife beating (although we do not deny that the reverse is also true), is yet another example of the predominant philosophy of masculinity having both a societally sanctioned power as well as physical power to carry out the threat of pain. Morris (1991, pg. 182) enumerates a variety of masculine “power” rituals. These behaviors cross all cultures and have, in some cases, become so horrid as to be considered as international crimes against women. In particular, we are speaking of clitorectomy (<http://www.globalideasbank.org/crespec/CS-64.HTML>), the deliberate removal of the clitoris of a young female and the subsequent sealing of the vaginal canal via abrasion and then allowing the abraded lips to seal. When the husband desires intercourse, he simply slices his wife open and enjoys her pleasures. If the woman does not die from the clitorectomy (now called female genital mutilation, FGM <http://www.who.int/frh-whd/FGM/>), suffer massive infection from the sealing process, or bleed to death from the incision for intercourse, she is surely irreparably psychologically damaged from the pain and the violation associated with this barbaric (from the Western world perspective) behavior. Yet, within the African tribes, in particular Ugandan tribes, this process is only now being subjected to scrutiny. Many women are seeking asylum in the United States to avoid this violence against their respective persons.

Repeatedly, we see the emergence of the triangle: pain, pleasure, and power. We have already seen some of the harsher realities of this triangle. However, there are those who find the triangle exciting and/or beautiful. A Taoist would argue that pleasure cannot exist without its contrast in pain, as pain could not exist without its contrast in pleasure. And, while the continuum of these two items would have – at its center – a point describing the absence of feeling either pain or pleasure, it remains that the two phenomena are intimately tied (dyad) when it comes to sexuality. The tie between pain, pleasure, and power arising out of

Sadomasochistic behaviors is as common as ritualistic pain or many other types of pain. "Anytime you are in a relationship with somebody, there is a power imbalance. We call S&M an erotic exchange of power. It is really based upon your sexual needs rather than your personality (Vale and Juno, 1989, pg. 111)." Within this context, we see the metaphor of power arising in sexuality. However, we also see another metaphor emerging namely, the metaphor of "pain as a tool." Before we examine the metaphor of pain as a tool, let us address the role of power and pain in pleasure. Morris (1991) spends quite some time, both in his discussion of de Sade, and in various sections of the book, addressing the interplay of pain and sexuality. The type of S&M that is often carried out in Western culture is different than what we might term de Sadian S&M in that "The kind of sexuality [de Sade] has in mind runs counter to the desires of other people ...they are to be victims, not partners ... the partners are denied any rights at all: this is the key to his system (Brame, Brame, and Jacobs, 1993, pg. 5). Clearly, in this context, the key to the dynamic of the sexual experience is one of ultimate power over the partner who is not longer the partner but the victim. This type of S&M differs from what we could call "the commoner's" S&M in that while there is a power differential, both players are willing to play and there is a predetermined escape word that stops all play immediately and without question. Within this context, "The term normal is meaningless in terms of sexuality. It is commonly used as the opposite of abnormal and therefore as a euphemism for 'good' *vs.* 'bad.' The consensus among sex therapists is that anything that occurs between consenting adults that harms no one is acceptable (ibid, pg. 4)."

**Metaphor – Pain as a Tool.** The metaphor of "pain as a tool" is one that emerges as a consequence of a number of other metaphors. Pain is an obvious tool for control. Hence, this metaphor is tightly intertwined with the metaphor of "pain as power." Pain is, not directly a tool but rather, it must be induced using instruments or tools that will create the requisite pain. Mankind's history is replete with such examples. Most famously, the tools of the Spanish Inquisition and of the Nazis come to mind. One only need examine the numerous reports on torture uses published by Amnesty International (<http://www.amnesty.org/>) in order to see that pain is used as a tool of suppression via its power to inflict suffering. As examples of the refined use of tools to extract great degrees of pain, these tools reign supreme in their efficiency to prolong the pain and in their capacity to provide a breadth of pain that was, for the most part, unimaginable. The reasoning behind the development of these tools was embedded in religious or other systematic belief systems. These tools were used for the purposes of obtaining a supposed (in this case pre-ordained or pre-decided) truth; for experimental purposes (seeing how long it took Jews to freeze to death in ice water so that the Nazis could design better safety equipment for their troops in the North Seas); or for the sheer pleasure of carrying out genocide in a way that appealed to the gruesome pleasures of the members of the Third Reich.



**Figure [4]**



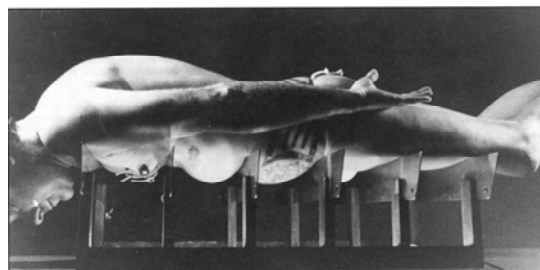
One could argue that pain, in its ability to provide a gateway to the transcendent experience, to the altered state, is also providing a power that is not inherently available to the common person's experience. Such gateways, in the form of ritualistic mutilation as practiced by tribes in Africa, as practiced in the rituals of India in the Kavandi dance (see Figure [2]), as practiced in the ancient Incan and Mayan rights. In Figure [4], we see the ancient bloodletting rite of tongue piercing (Vale and Juno, 1989, pg. 87). The interplay of the religious experience and pain can be seen in numerous ritualistic and fetishistic behaviors throughout human history. It is beyond the scope of this paper to present the expanse of such behaviors.

Another view of the metaphor of pain as a tool is to examine pain from the metaphorical construct of "pain as a gateway." That is, pain provides us with a pathway (notice that the use of the word provides implies an ontological metaphor within our discussion) to a greater knowledge or understanding of ourselves and the greater scheme of things.

**Metaphor – Pain as a Gateway.** Pain can provide us with a gateway to another understanding of ourselves. In this sense, it is often used as a means by which individuals seek to attain an altered state or deeper understanding of the human experience and hence is a tool. Two simple examples of this will suffice to make the point. The first is the bed of



blades, illustrated in the following Figure [5] and the Native American Indian O-kee-pah ceremony illustrated in Figure [6]. As one individual put it, "The act of doing this slow piercing and surrendering to the experience is a transcendent spiritual event. But people in this culture have few precedents for such an exercise in self-transformation (Vale and Juno, 1989, pg. 7)." Embedded in this statement is the socio-cultural realization of the quantum epistemological explanation we have previously discussed. In particular, the experience of pain (observation) can be altered by altering the context of the experience and, in doing this, provide an alternative means of experiencing the pain using a different meter.



**Figure [5]**

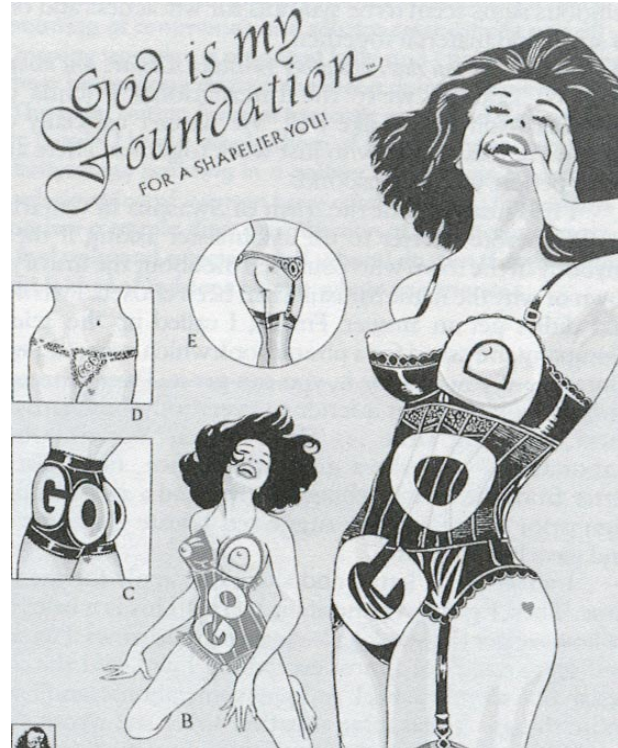
In his discussion of pain, Fakir (in Vale and Juno, 1989) comments, "For me, there is no real pain, only one thing – sensation. It's nice to have a sensation through a body, because then you know

**Figure [6]**

you're alive. If you stub your toe against the bed, you can feel the pain because it's unexpected. But you can be trained in karate to knock your toes against a brick until it doesn't bother you. You have a sensation that but it's not unexpected, so that sensation is modified. The negativity of pain (strong, unexpected sensation) only exists for people who are relatively undeveloped. If you have enough training, instruction and practice, you can transcend, transmute or change a sensation to anything you wish. The more you focus your attention on the pain an shift it, the less it'll bother the. The body feels the sensation, but you can learn to quickly separate your consciousness from the sensation and then it isn't pain anymore (Fakir, in Vale and Juno, 1989, pg. 13)."

**Figure [7]**

**Metaphor – The Art of Pain.** As a means of transitioning to a discussion of pain in a religious/spiritualistic sense, we invoke the following figure as well as to discuss the interplay between satire, comedy, pain, and pleasure; we include Figure [7] (Vale and Juno, 1989, pg. 47) as a means of illustrating this point. In this figure we see the fusion of satire and comedy, of religion and of pleasure, united under the one roof of the corset and girdle; the bindings of pain and pleasure.



Comedy alters the observation and, in doing so, alters the reality of the perception of the pain-pleasure duality. Morris (1991, pg. 100) points out that a number of authors have encouraged us, the reader, to “reflect upon the hidden biomedical connections between comedy and pain.” If we make use of the meta-object principle, which we have previously discussed, then comedy provides an alternative means by which we can observe an object and, in doing so, we can alter our perception of the pain object so that it can be neutralized or even turned to pleasure: “comedy shrinks and detoxifies pain (Morris, 1991, pg.101).” Satire provides a tool to create pain within a context that is protected in that it is “art for art’s sake”. In fact, satire has its own set of metaphorical statements that often describe its painful nature: “the words cut me like a knife,” “it cut me to the quick.” Most individuals who have experienced the pain resulting from having a nail accidentally removed to the quick, realize the meaning behind the degree of pain implied by that metaphorical construct. Satire is the “art” of inflicting pain and comedy is the “art” of its relief: “Poet laureate John Dryden wrote in the seventeenth century that satire was like a fine sword stroke that severed the victim’s head from his shoulders but left it standing in place (Morris, 1991, pg. 176).” Mark Twain’s commentary in his two books **Letters to the Earth** and **Christian Science** are clearly satirical and painfully close to the truth (note that we have made use of the metaphor “pain as a tool” in which the tool is used to extract truth á la Inquisition). George Bernard Shaw’s **Man and Superman** is yet again full of satirical comedy that delivers truth with a laugh and a sword in one fell swoop. In fact, Shaw was

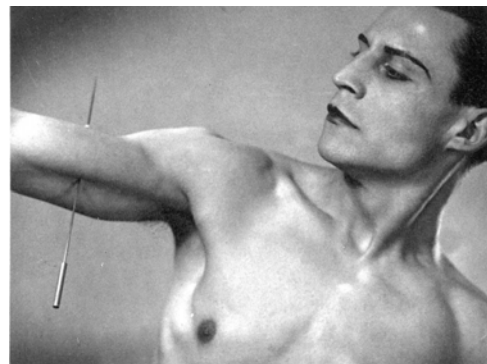


well aware of his technique when he wrote “It is no more possible for me to do my work honestly as a playwright without giving pain than it is for a dentist. The nations morals are like its teeth the more decayed they are the more it hurts to touch them ... (Morris, 1991, pg. 179).”

Comedy does not exist in and of itself. It is created from the mind of the author and the author's history embodied in the growth and development of the author and the author's metaphor of reality and becomes emergent, is born if you will, from the interaction of the reader, the observer, the external player/participant. Comedy is the child of the ovum of the author and the sperm of the observer. Only when the two meet in the appropriate ground can comedy be born. How similar this is to the philosophical question, “if a tree falls in the forest, and there is nobody there to hear it, does it make a sound?” Comedy, like sound, depends upon the interaction of the transmitter and the receiver. It is an emergent entity that arises out of the existence of the dyad of the author/reader pair. Yet, embedded within that pair is another dyad, not unlike the Taoist's Yang and Yin; the pain/pleasure pair. For, as we have seen, carefully crafted, comedy and satire are but two sides of the same coin and either can give both pain and pleasure.

As social animals, we humans constantly battle between finding “ourselves”, thereby defining who we are, and being part of a group. Young children mimic, teenagers rebel. Young children attend to the family unit, teenagers rebel against the family unit in their attempts to define themselves as separate organisms, separate entities. It could almost be said that the duality of the self-group dyad, and it's attendant psycho-social dynamics, is an inherent part of the battle of humanity, or at least of Western civilization. Yet, we are all also familiar with the concept that and individual, working within the construct of the group, can acquire power within him/herself and within the group. The analogy can be similarly applied to the dynamic of the pain-pleasure dyad. When the mind works in concert with the body, a uniquely powerful effect can emerge, the diminishing of pain. And, in an analogy to Taoist theory, when Yang and Yin meet, harmony emerges out of the chaos just as when pain and pleasure meet, the harmony of calmness emerges out of the chaos of pain. Cousins' (1976) description of his calm sleep emerging out of the pleasure of watching Marx Brothers movies and Candid Camera shows is an excellent example of the emergence of harmony (sleep) out of the interaction of pleasure and pain (Morris, 1991, pg. 98).

The link between pain and pleasure is also well known in the sado-masochistic literature. It is a fine line we walk, then, between our perceptions of the pain-pleasure dyad and how we perceive it. For one person, the observation metaphor is needle implies pain and with it hurt, harm, injury. For another person, the observation metaphor is that needle implies pain, which brings not hurt or harm, but pleasure and the injury – if it exists – is nothing more than a welcome, albeit inconvenient consequence of the event. Even the construct can be perceived as artistic and beautiful. For example, in Figure [8], we see a beautiful young man, almost sculpted, pondering without any appearance of suffering, a needle that has been driven through his arm. The picture



**Figure [8]**

expresses no suffering. Rather, it is beautiful and seems to be rather beatific in nature, coupled with an air of elegance.

Yet one step further is the relationship between pain as a gateway (metaphor – pain as a tool) to visionary pleasure, “when they are suffering, they are in pleasure, when they are not suffering, they are in pain (Morris, 1991, pg. 132).” However, despite the interplay of pain and pleasure, we are – nevertheless – reminded that the “spirit and the flesh are locked in more than mortal combat (Morris, 1991, pg. 133),” a cultural viewpoint. Thus, we are lead to the almost unavoidable conclusion that the gateway to divine vision emerges from the final understanding of the interplay between pain and pleasure and the acceptance that one cannot exist without the other. Many of the old, and not so old, artistic masters intrinsically knew this fact. Reubens (1577-1640), in his famous painting, *The Triumph of Judas Maccabeus*, portrays the triumph of Judas Maccabeus in a similar context as those of St. Sebastian (Rachleff, 1968). Judas, the central figure, is strong and beautiful, yet wrapped in a cape of blood red; he is surrounded by the pain of battle. Heads speared on spears raised high, bodies on the ground dead and dying, Judas's eyes are uplifted to the heavens as if some divine understanding and humility in the face of God has arrived as a result of his being surrounded by the pain of battle and indirectly of the body. A similar argument can be made about El Greco's (1541-1614) painting, *The Disrobing of Christ* (Rachleff, 1968). In this picture, Christ is portrayed as the central figure, enlarged in appearance by the bright red sleeping gown in which he is being held by the crowd about to crucify him. The mob is portrayed as dark, not just of skin, but of soul as well. All of them are looking at Christ, at the ground, or at each other. They are portrayed as laughing, smirking, and involved in a sense of pleasure that is of the body. One might argue that this pleasure of the body is emergent from the pain of the true knowledge of what they are about to do to Christ. This pleasure is a shield, a mindful protection from the pain of what they do. In a sense, it is the reverse of the understanding and the dynamic of what Christ is experiencing. The mob is portrayed as being involved in things of the body, of the earth, of the self and, more importantly, of the here and now. They cannot be Christians because they are not concerned with life after death, of the consequences of their actions. Jesus, on the other hand, is portrayed as looking upwards to God. He is not in the pain of the body, but in the pleasure of the painful knowledge that his release from the sin of the body will bring him closer to the ultimate pleasure of the closeness with God. Moreover, in order to receive the ultimate pleasure of beatification, one must suffer the ultimate pain and give over one's life.

A hidden irony of this conceptualization is that it assumes that the body, which is anthropomorphized in the earth and its earthly pleasures, is sinful while the spirit, embodied in the Godhead and represented on earth in The Church, the Holy See, is not. The simplicity of this viewpoint fails to capture the fact that nothing can exist without contrast, for without contrast; there is no knowledge of that “object, that thing.” Taoist theory (Witten, 2001) is based upon the duality arising from this understanding. Thus, visionary experience is intercalated with the Body of the Church and is no longer the holy object it is portrayed to be. Rather, it has become immersed in the daily affairs of man, of the body, of the politics of daily reality. In addition, in that immersion, the purity of the visionary experience has become tainted, poisoned if you will, by the toxins of the body of mankind and its experiences within the world. It is polluted by original sin. This viewpoint is well illustrated in the numerous trials and tribulations that the Israelites as individuals, and as a people, were subjected to in order to test their faith. Morris (1991, pg. 140) makes this point in his

statement, "...separation from the community is represented as a powerful source of pain..." The God of the Old Testament is a vengeful God. "I will be your God and you will be my People," he speaks. This is exemplified in Morris's statement "...the brute facts of God's power and man's weakness (Morris, 1991, pg. 141)." More than that, we see the contrast between man and God as giver and receiver of pain/pleasure. We are shown that it is impossible to experience God's spiritual perfection through man's imperfect perceptions. God is seen in a burning bush. God is experienced through a voice in a whirlwind." You cannot see God without dying. Jehovah is a god of pain and of pleasure in the here and now. The Hebrews understood that, "unto ashes thou wert born and unto ashes thou shalt return." The emergent cultural reality is that you are rewarded/punished on earth for what you have done in the here and now because there is no afterlife. Pain and pleasure are immediate experiences that, at worst, lead to death and to the absence of sensation/perception. The Jews saw the inherent integration of the body and the spirit with the pain-pleasure principle: "Body and spirit are afflicted together (Morris, 1991, pg. 140)."

This supreme illumination is wonderfully illustrated by the famous "Flatland" story. This simple mathematical story shows us that the liberation of the body from the cultural contexts of its daily existence leads to a new way of perceiving and, in that moment, it leads to an understanding of the various limitations of the previous views. It also places the new body on a new road, a new journey, from which it can never return. If pain is an emergent experience that is contextually defined, then it must follow that a change in the context could potentially alter the perception of pain. The story goes that there was a world that was flat. It existed on a piece of paper. All of the inhabitants of Flatland were flat. They could move front, back, left and right. However, they had no concept of "up." One day, quite by accident, a Flatlander discovered up and realized that there was more to the world than he had known before. He called to his friends in Flatland. They heard his voice but could not locate him. They looked front and back. They looked left and right. However, they could not find their friend who called to them so delightfully and full of the new discovery. You see, they did not know that they should look up! Changing the viewing context and the metaphors of reality can significantly alter one's perception of reality. As we have seen, this ideology has specific application in psychotherapeutic intervention and in sociological analysis. Let us continue our investigation into the role of metaphor and viewpoint by examining the story of St. Theresa detailed in Morris (1991).

St. Theresa's forceful vomiting of her food, in her imagined unification with the Passion (Morris, 1991, pg. 134) smacks of both religious magnificence and psychological trauma. Should St. Theresa perform such acts in the here and now, she would be sent to psychotherapy for bulimia/anorexia and questioned about her upbringing, in an effort to understand how her delusional behavior, *i.e.* her intense religious experience, was motivated by some sort of early life psychological trauma causing her to have a body image problem. Thus, we are again lead to the clear realization that pain, both in its personal experience and in its social observation, is culturally dependent. Morris (1991, pg.142) substantiates this argument by pointing out that if Job were alive today, he probably would be in a pain clinic being treated by behaviorists who would be seeking the reasons behind his pain and attempting to modify "pain behaviors." We can, with a convenient extension of this discussion; point out that pain might be more conveniently discussed in terms of a *process* (that which creates the pain signal), the *observation* (awareness) of the process, and the subsequent *action or response* based upon the awareness of the process. When posited in this

way, it is clear that the pain perception is intimately biological (of the body) and sociological (of the mind). However, more importantly, it is tied to the interaction of both of these facets. Morris (1991, pg. 143) summarizes this point quite elegantly in his statement “Who can doubt that chronic pain involves patterns of learned behavior?”

Let us recapitulate one of the major problems arising from viewing the world in the dyad/dual formulation. As we have pointed out earlier in our discussion, is easy to fall prey to the dyadic vision (remember that I distinguish this from the dual vision, the independent or orthogonal functioning of mind and body), as convenient and as explanatory as it is. As Holmes told Watson, “The more a theory explains the facts, the more likely it is to be true.” The fact is that, while dyadic dynamics can explain much of what we see, that Quantum Epistemology encapsulates the essence of the observer-observable dynamics, it fails to see the continuum of states in-between the two poles. A profound example of this failure occurs in Western Medicine, which is bound by the stricture that there are only two sexes, male and female. Medical practitioners, because they are trained in this dualistic viewpoint, routinely confuse this “birth” definition (which fails to recognize intersexed, formerly hermaphroditic, as a viable sexual definition) with the concept of gender, which is a self-perception and definition. Recent work by Eyler and Wright (1999) and by Witten and Eyler (2001) shows that, even within the United States, there is a continuum self-perception when it comes to gender. It is easy to see how the dualistic construct arises in medicine. It is hard to be “kind of pregnant.” The individual either has or does not have an illness. There is no place for a continuum of thought, except as a descriptor of a state (illness). It is, within the dualistic viewpoint, acceptable to say that a spot is deeply red, somewhat red, or not very red. However, the existence of the spot is the statement of the existence of a potential disease state. Either there is a spot or there is not a spot. The descriptor is secondary to the existence of the primary – the spot. Unfortunately, perceptive states can exist in a continuum. The pain-pleasure dyad (or axis) contains a spot where there is neither pleasure nor pain. It is a complete absence of feeling, a numbness.

The idea the there can be, simultaneously, a sociology of medicine and a sociology in medicine creates, in the same sense as that we have earlier discussed, a dualism in/of and yet a dyad in-of. The story of Job then, becomes a metaphor, not only for discovering the essence of pain but also for understanding the essence of the “in and of” medicine and sociology. Job can be seen as a metaphor for an individual and/or a group. His pain can be seen as metaphorically his (in medicine) or of the group (still in, but also of medicine), to something beyond, something superhuman, a meta-principle and thereby “of” medicine. Gutierrez’s argument (in Morris, 1991, pg. 149) that Job’s experience depends upon two languages or visions is, in itself the verbalization of the same dualism seen throughout the historical experience of pain. The “prophetic language” denounces the injustices in the body (the real world). The “contemplative or meditative language” speaks to the spirituality, a way of talking about God.

“For Gutierrez, the book of Job articulates the challenge facing everyone who does not simply turn away from human suffering but seeks to confront its specific historical roots in social injustice (Morris, 1991, pg. 149).” This challenge, I believe, emerges out of a faulty metaphorical construct within the Christian belief system. On the one hand, the Bible teaches us the God created us in his own image. It speaks of wanting us to be a realization of him on earth. We learn, from many Christian teachings that God is truly found within each

of us. Thus, we are both part and not part of God. If we accept that God is within each of us, then there is no seemingly impossible challenge in the confrontation Gutierrez elaborates and over which he rues. Rather, one can easily argue that the emergence of social injustice arises via the incorporation of the metaphor that “different is bad” within many religious denominations. To paraphrase Mark Twain, “He loves his neighbor as himself, and kills him when his views are not acceptable.” Thus, the global truth that we are all dyadic entities with a spiritual and a corporeal incarnation is lost, or deeply buried under the emerging vision of “my way or you are suppressed” philosophy. This philosophy, over time, becomes transformed to the “me first” or “feed the body” ideal. No longer is the God within each of us respected. Rather, the emergent goal is to satisfy the corporeal needs of the here and now, irrespective of the temporal consequences. Gutierrez’s social injustice emerges as a consequence of the fusion of power and loss of the fundamental spirituality that the representation of a Godlike spirituality is irrelevant. Rather, what is important is that we are, as humans capable of the very Godlike behaviors of the Bible: creating great beauty and destroying it. Thus, we are met with the problem of solving the corporeal issues of suffering while altering the expression of the spiritual views of the oppressors. Within this context, we can easily see how Gutierrez sees the political arena, in the here and now, as the place where “the work of the salvation must begin (Morris, 1991, pg. 151).”

Pain is an anesthetic, an aphrodisiac, a depressant, an irritant, a doorway and a vehicle; it is an object – an entity – that is simultaneously a noun, a verb, and something more. Pain protects us from our mortality and yet, at the same time, it reminds us of our inherent humanity. It is something to be avoided, run from in fear, embraced like an old friend, needed like food, witnessed with incalculable coldness, and denied in abundance. We speak of being both numb with pain and bereft with pain. We find pleasure in pain. Pain takes us places inside ourselves that would never have been available had we not “felt” it. Pain exists as a person guiding us in an emergent Socratic dialogue based upon biochemically induced psycho-socially contextual interpretations that give basis to our perceptions.

Before we close our dialogue, let us consider another facet of the human-ness of pain. Let us consider the gender of pain. This is a subject, which is rarely discussed, as it requires us to interpret two complex entities and their interplay; gender and pain. We will introduce this briefly and discuss it more deeply in an upcoming paper.

**The Gender of Pain.** Morris (1991) has established that pain may well be perceived differently by the different genders (a flagrant misuse, albeit politically correct, of the word *gender*). What is of interest is the question of whether or not the shades of pain are seen differently depending upon the individuals gender self-perception. As we begin to address this issue, it is critically important that we understand that



**Figure [9]**

definitions of pain derive their existence from the scientific context in which they have been studied. In Figure [9], we see a youthful looking male injecting himself with a hypodermic needle (an instrument of pain to some, an instrument of pleasure to others, and an instrument of delivery from pain to yet another group). We see his physical strength embodied, not only in sculptured musculature, but also in his seemingly Stoic acceptance of the self-inflicted pain (should he view it in that fashion). We observe the tribal markings and tattoos all over his body (which required that he endure some degree of pain – from our perception as observers), portrayed in a manner similar to the Naga of India (Vale and Juno, 1989, pg. 145), and similar to the Uapo of the Phillipines (Vale and Juno, 1989, pg. 138). Yet, if we examine this picture more closely, we observe that his eyes are closed in a tensely peaceful inner self-examination, almost as if he were waiting for the pain to transform him to a state of greater knowledge and existence. The irony, and hence the deeper inner meaning of his pain is hidden in the fact that this individual was formerly a female (birth sex ♀). Loren Cameron is a Female-to-Male transsexual. Thus, in a sense, he has been deeply transformed by his pain. He has suffered bilateral breast removal as well as a bilateral hysterectomy and oophorectomy. He has suffered the pain of the social imposition of rules and behaviors he could not perform and which created great degrees of psychological stress and discomfort. His internal pain, manifested in the simple hypodermic needle penetrating his skin is almost metaphorical in that by enduring one type of pain, he is achieving an altered state that is acceptable and which, in its own fashion will create a different class of suffering. We now find ourselves caught in the conundrum of interpreting the “male” Stoicism and search for inner meaning/transcendence in a new way. Moreover, we are lead to the formidable conclusion that the very study of pain is replete with examples of gender expression empowering individuals to define the pursuit of pain research. Science has been traditionally a masculine discipline with masculine rules and regulations governing the pursuit of knowledge. The scientific method was developed by a man. Most, if not all of the major philosophers of science were men. Karl Popper, the eminent philosopher of science who created the concept of falsification as a means of deciding if something was or was not a theory, was male. In other words, one can justifiably argue that the scientific world pursues “male” science. We are then lead to ask whether or not there is a place for an alternative formulation of scientific viewpoints in which a female perspective can provide metaphors and schema that will open new doors of inquiry (Harding, 1986; 1987, 1991 and Keller and Longino, 1996).

**Closing Thoughts and Conclusions.** We have examined the premise that pain, in and of itself, does not exist. Rather, pain emerges out of an entangled state that is intercepted – if you will – by an observation (meter) embedded within a contextual schema derived from an interaction between the evolving individual and the surrounding socio-cultural structures. We have seen that this construct, which emerges from Quantum Epistemological considerations, allows us to discuss the work of Morris (1991) in a cohesive fashion and to provide possible explanations for the alteration of pain. Further, this new construct allows us to unify the concept of “metaphors of pain” in a unique fashion as projections or interactions of the observer-observed with the meta-object “pain.” We have seen how this new construct allows us to raise new questions for the sociology of/in medicine by dwelling upon issues of observation (the “of”) and issues of definition (the “in”) with respect to medical organizations and needs.

**Acknowledgements.** My career as a natural scientist/philosopher has been profoundly touched by my former thesis advisor Robert Rosen and by my mentor and best friend Terry Mikiten. Without Robert's willingness to take me on as a graduate student, I would never have been exposed to integrative thinking as applied to the complexity of biological systems. I would never have been introduced to the problematic area of quantum measurement in biological systems. Without Terry's constant insights and friendship, I would never have had the opportunity to hone that thinking into the keener understandings I now carry with me. It was through one of our many conversations that I was exposed to the concept of metaphors of reality and its numerous consequences. For this and our enduring friendship, I will always be grateful. I am also indebted to my colleague and friend A. Evan Eyler whose knowledge of the literature of feminism, violence and abuse, and human sexuality opened doorways to new ways of thinking for me. Her patience and friendship cemented that knowledge with a collaborative research effort that is a source of positive energy for me.



## References.

- 1) **The American Heritage College Dictionary** (Houghton Mifflin Co., Boston, 1997).
- 2) Anton, H. **Elementary Linear Algebra** (John Wiley and Sons, NY, 1984).
- 3) Bohm, D. and Hiley, B.J., **The Undivided Universe** (Routledge Press, London, 1993).
- 4) Bohm, D. **Quantum Theory** (Dover Press, NY, 1951).
- 5) Brame, G.G., Brame, W.D., and Jacobs, J., **Different Loving: An Exploration of the World of Sexual Dominance and Submission** (Villard Books, NY, 1993).
- 6) Brune, M. Hagley, E., Dreyer, J., Maître, X., Maali, A., Wunderlich, C., Raimond, J.M., and Haroche, S., *Observing the progressive decoherence of the "meter" in a quantum measurement*, Phys. Rev. Lett. **77** (1996) 4887-4890.
- 7) Bullough, B, Bullough, V.L., and Elias, J. **Genderblending** (Prometheus Books, Amherst, NY, 1997).
- 8) Cameron, L. **Body Alchemy** (Cleis Press, Pittsburgh, PA, 1996).
- 9) Corinaldesi, E. and Strocchi, F., **Relativistic Wave Mechanics** (North Holland Publishing Company, Amsterdam, The Netherlands, 1963).
- 10) Cousins, N. **Anatomy of an Illness as Perceived by the Patient** (W.W. Norton Press, NY, 1976).
- 11) Einstein, A., Podolsky, B. and Rosen, N., *Can quantum-mechanical description of physical reality be considered complete?* Phys. Rev. A., **47** (1935) 777-780.
- 12) Ewing, W.A. **The Body** (Chronicle Books, San Francisco, CA, 1994).
- 13) Eyler, E.A. and Wright, K.
- 14) Ferree, M.M., Lorber, J., and Hess, B.B. (eds.), **Revisioning Gender** (Sage Publications, Thousand Oaks, CA, 1999).
- 15) Harding, S. **The Science Question in Feminism** (Cornell University Press, Ithaca, NY, 1986).
- 16) Harding, S. (ed.) **Feminism & Methodology** (Indiana University Press, Bloomington, IN, 1987).
- 17) Harding, S. **Whose Science? Whose Knowledge?** (Cornell University Press, Ithaca, NY, 1991).
- 18) Havens, R.A. and Walters, C. **Hypnotherapy Scripts: A Neo-Eriksonian Approach to Persuasive Healing** (Brunner/Mazel Publishers, NY, 1989).
- 19) Hofstadter, D.R., **Godel, Escher, Bach: The Eternal Golden Braid** (Vintage Books, NY, 1980).
- 20) Ikram, M. Zhu, S-Y., and M.S. Zubairy, *Quantum teleportation of an entangled state*, Phys. Rev. A. **62#2** (2000) 62-70.
- 21) Jordan, T.F., **Linear Operators for Quantum Mechanics** (John Wiley and Sons, NY, 1969).
- 22) Keller, E.F. and Longino, H.E., **Feminism & Science** (Oxford University Press, Oxford, England, 1996).
- 23) Kleinman, A. and Sung, L.H., *Why do indigenous practitioners successfully heal?* Soc. Sci. & Med. **13B** (1979) 7-26.
- 24) Kwait, P.G. and Hardy, L. *The mystery of quantum cakes*, Am. J. Physics, **68#1** (2000) 33-36.
- 25) Lakoff, G. and Johnson, M., **Metaphors of Reality** (University of Chicago Press, IL, 1980).
- 26) Lakoff, G., **Women, Fire, and Dangerous Things** (University of Chicago Press, IL, 1987).
- 27) Lumsden, C.J. and Wilson, E.O., **Genes, Mind, and Culture: The Co-Evolutionary Process** (Harvard University Press, MA, 1981).

- 28) Mermin, D.N. *Extreme quantum entanglement in a superposition of macroscopically distinct states*, Phys. Rev. Lett. **65#15** (1990) 1838-1840.
- 29) McCullough, J.P. **Treatment for Chronic Depression: Cognitive Behavioral Analysis System of Psychotherapy** (Guilford Press, NY, 2000).
- 30) Ming-Dao, D., **Scholar Warrior: An Introduction to the Tao in Everyday Life** (HarperCollins San Francisco, CA, 1990).
- 31) Morris, D.B., **The Culture of Pain** (University of California Press, Berkeley, CA, 1991).
- 32) Piaget, J., **Intelligence and Affectivity: The Relationship during Child Development** (Annual Reviews, Palo Alto, CA, 1981 – originally published in 1954).
- 33) Rachleff, O.S., **Great Bible Stories and Master Paintings** (Abradale Press, NY, 1968).
- 34) Stone, R.B., **The Secret Life of Our Cells** (Whitford Press, PA, 1989).
- 35) Twain, M. **Christian Science** (Oxford University Press, NY, 1996).
- 36) Vale, V. and Juno, **Re/Search #12: Modern Primitives** (Re/Search Publications, Eugene, OR, 1989).
- 37) Weidner, R.T. and Sells, R.L., **Elementary Modern Physics 2<sup>nd</sup> Edition** (Allyn and Bacon, Boston, MA 1968).
- 38) Witten, T.M., **The Tao of Gender** (I-Universe Press, 2001, to appear).