



BRIDGING THE BLACK HOLE OF TRAUMA: THE EVOLUTIONARY SIGNIFICANCE OF THE ARTS

Sandra L. Bloom, M.D.

Every work of art points somewhere beyond itself; it transcends itself and its author; it creates a special force field around itself that moves the human mind and the human nervous system.

Vaclav Havel

Disturbing the Peace

INTRODUCTION

For as long as humans have been capable of pondering the nature of illness, disease has constituted a dis-integration, a loss of intactness, a separation into parts, a break up, a deterioration, a reduction to fragments or parts. One word for the Devil is "*Diabolos*" - the divider, the splitter-into-fragments (Skynner & Cleese, 1993). Western medicine traces its roots to the ancient Greeks and the original therapists, the *therapeutes*, those chosen as the attendants of the cult of Asclepius, the god of healing. According to Plato, it was Asclepius who was able to bring about "*love and reconciliation between the most antithetic elements in the body*" (Meier, 1989).

As the story goes, Asclepius was the son of Apollo who learned the art of healing from Chiron, the Centaur, half-man, half-beast. Healing the two Chiron-sides of man, the irrational and the rational, was the work of Asclepius, who practiced the double side of medicine - the science and the art. The other vital position that Asclepius held was as the patron of artists. Serving the god required artistic performance in the form of ritual, poetry, songs, music, and performances. Musical and poetic competitions took place at his place of worship and the temple of Asclepius in Athens was immediately adjacent to the great Theatre of Dionysus (Meier, 1989).

Native American cultures also provide us with examples of the relationship between healing and the arts. According to the Navaho, "*to be sick is to be fragmented. To be healed is to become whole, and to become whole one must be in harmony with family, friends, and nature*" (Van der Hart, 1983, p. 57). In tribal groups, healing ceremonies are the main therapeutic and the entire social group participates. The ceremony often

includes a re-enactment of the initial or pathogenic trauma that is supposed to have caused the loss of integration, and a fundamental part of the ceremony is often a re-enactment of the great myths of the tribe (Ellenberger, 1970). The ceremonies comprise a complex performance utilizing music, dance, art, costumes, and verbal scripts, all in a group setting that typically involves the entire community. This ceremonial activity is used for individual healing but serves a basic social function as well, marking off major events, both natural and traumatic, for the entire tribal group.

Throughout the centuries, philosophers and artists have pondered the question, “*What is art for?*”. Why are human beings drawing, staging, singing, and dancing at least as far back as our ancestors who lived within highly decorated caves? The art historian, Dissanayake (1988,1992) has written convincingly about the evolutionary nature of artistic development, but why would such a complicated and apparently superfluous capacity become so highly developed? What is the survival value of singing, painting, dancing, and storytelling?

Evolutionary psychology looks at the inherited architecture of the human mind as the product of an evolutionary process, reflecting the needs of our hunter-gatherer ancestors. After all, “*human minds, human behavior, human artifacts, and human culture are all biological phenomena - aspects of the phenotypes of humans and their relationships with one another*”, (Cosmides et al, 1992). This paper is an attempt to look at trauma, dissociation, and artistic performance from the point of view of “*conceptual integration*” - the principle that various disciplines within the behavioral and social sciences should make themselves mutually consistent and consistent with what is known in the natural sciences as well (Cosmides et al, 1992).

In this paper, I will make the case that artistic performance, in all its variations, is a primary integrating mechanism in an organism highly susceptible to the protective, but ultimately destructive mechanism we call *dissociation*. The traumatic nature of our evolutionary history necessitated the development of adaptive coping skills, but the result of employing these skills is fragmentation and the loss of integrated functioning. Human beings are uniquely capable of altering reality in many different ways, but this altering capacity can become so profound that we are equally capable of losing our way, trapped in our self-created, self-deceptive, dissociated reality that may bear little relationship to the fundamental nature of earth, air, and other living beings. There is already a large accumulated body of knowledge about the relationship between creativity and individual healing. I hope to establish a firmer theoretical framework for why this relationship is so important. This framework has not just individual, but social implications as well. We must keep in mind the lessons of our ancestors about the essentially social nature of human survival and of artistic performance - creative expression may turn out to determine the state of health or illness of an entire society as well.

ABOUT EVOLUTION, TRAUMA, DISSOCIATION, AND THE HUMAN BRAIN

Recalling Our Evolutionary Circumstances

Flooded with images of the wanton destruction that man has wrought on his environment and upon the other animal species that share this world with us, it is difficult to remember that it has not always been this way. For the millennia before written history, human beings were not predators, but prey. Exposure to

overwhelming traumatic events and human evolution are intimately entwined. In her book, *Blood Rites*, Barbara Ehrenreich (1997) has pointed out that, “*The original trauma, meaning of course, not a single event but a long-standing condition - was the trauma of being hunted by animals and eaten*”. Viewing our distant past from this perspective, it is a wonder that our species even survived, given our lack of adequate defense or protective adaptations.

To do so, we developed some very special adaptive skills. We learned to bond together – and fight together, not only for food but also for mutual defense. We developed unique forms of communication in order to convey information over time and over space – symbols and then language. Our brains enlarged, becoming capable of making thousands of associations to any event. Our memories became more tenacious than those of our mammalian ancestors, compelling us to hold on to information throughout a lifetime, particularly memories induced by fear. Our emotional systems, hardwired to our autonomic nervous system as an inheritance from our mammal relatives, became even more intimately connected to our memories, our need to attach to others of our kind, and our complex network of thoughts and ideas.

Although ultimately this growing complexity gave us superiority over other species, there were some distinctive problems. Like our modern computers, the sophisticated functioning of our complex brains demanded a high degree of “system integration” and certain optimal conditions for proper operation. Traumatic experience produces a physiological overload that the brain and body are unable to adequately manage and continue functioning normally. Our primary defense to cope with this physiological overload is a mechanism called “dissociation”. Although a life-saving coping skill in the short-run, dissociation produces fragmentation of vital mental functions, and the result is diminished integration and therefore impaired performance. Let’s look closer at how dissociation works.

Purposes of Dissociation

Human beings alter their reality with such consistency and frequency that we are forced to conclude that this capacity is innate and must therefore have significant survival value. We alter our reality through our capacity to enter different states of consciousness that allow us to maintain separate - and often contradictory - bodies of knowledge. We call this capacity “*dissociation*”. In its acute state, after some tragic occurrence, it is not uncommon to recognize that the people are “in shock” – that is, they are acutely dissociated. As a result they may not remember the terrible events that just occurred, or they may remember them but have no feeling about the events. Sometimes the shock is so sudden and profound that the person separates from consciousness and faints. Until recently, however, we have thought little about what it means to be “in shock” most of one’s lives, to suffer from chronic dissociation because of terrible things that have happened repeatedly. Nor has there been a clear recognition that dissociative experiences cover a wide spectrum from the extreme states that require psychiatric treatment to experiences that we all have every day.

Although it sounds quite complicated, dissociation is actually something we are all quite familiar with. Think back to the last time that you were driving your car for a reasonably long distance. While automatically engaging in an activity – driving – that years ago demanded your full attention, you were also able to engage in any number of other activities – planning a talk, recalling a conversation from the night before, singing a song and remembering the events surrounding the last time you heard that song. Here is an example of how you, in

your everyday life, carry on functioning while drawing upon several different bodies of knowledge, although only really paying attention to one. This everyday example of a trance-like experience is so routine for us that we barely ever recognize or think about it and yet this is an example of a dissociative experience.

There are several presumed reasons behind the evolutionary development of the capacity for dissociation, including the recognition, as in the example above, that it allows us to be more efficient, able to do two or more tasks simultaneously (Ludwig, 1983, Putnam, 1989, Schumaker, 1995). Through this mechanism, much of our behavior can become automated so that we are able to perform complex tasks like driving and navigating an automobile while planning a morning's lecture or reworking an argument with a spouse.

Another adaptive purpose for dissociation is the degree to which it promotes a group response. Inducing dissociation or a trance state is far easier in a group setting and all cultures have social mechanisms, often closely tied to artistic performance, that are designed to induce group trances (Schumaker, 1995). There are good evolutionary reasons for this. *"The central problem for any species whose primary adaptive techniques depend largely on collective, rather than individual, action, is to develop and maintain social coherence and coordination over time"* (D'Aquili, Laughlin, & McManus, 1979, p.28.) Dissociation serves this task extremely well, allowing participants in a socially contrived trance induction to enter the same emotional state, the same level of arousal, and the same level of vulnerability to suggestion. All of these factors serve to enhance group cohesion, decrease group conflict, and be more open to the instructions of a leader. Tribal dances, music, drumming and chanting all serve this purpose, affecting not just our psyche but our brain function as well.

But most importantly for the purposes of this discussion, dissociation is a primary response to traumatic experience. This appears related to at least two other functions of dissociation: it allows us to transcend, to escape from, the constraints of reality and in doing so, it allows us to tolerate irreconcilable conflicts. This is vital for a species whose consciousness demands the constant ordering of reality. This demand has been termed the *"cognitive imperative"*, referring to the *"drive in man, other mammals, and birds to order their world by differentiation of adaptively significant sensory elements and events, and to the unification of these elements into a systemic, cognitive whole"* (Laughlin, McManus, and d'Aquili, 1979). Or, as L.L. Whyte put it, *"Order is the primary goal of human mental activity"* (1960). Humans, however, though subject to this cognitive imperative have a special dilemma that does not appear to plague our mammalian or avian cousins - there is a great deal about reality that we simply cannot bear. There is a high price to pay for self-awareness. How does one place into a meaningful and ordered scheme, the idea of one's own death? *"The human brain evolved in such a way that it became capable of arriving at greater order than it perceives"* (Gazzaniga, 1985).

The order that we perceive in our reality, the order that allows our brain to have an environment necessary for maximal functioning, is the safety and meaning that we create together as a social species. When the human brain became capable of our unique consciousness and its overwhelming awareness of self, other, life, and death, our survival demanded an evolutionary strategy that would allow our brain to dissociate itself from its own information when necessary – when the contradictions that we perceive in our awareness of life and death become too much to bear. Through dissociation, we can deny important aspects of reality that are too disorganizing, too threatening to our own internal stability either individually or as a group. And yet, we needed to keep available both sides of the contradictory information just in case we should happen to need it – *"knowing without knowing"*. For the individual, this knowledge that is *"out of conscious awareness"* becomes

the material that people spend years in individual psychotherapy trying to retrieve. Groups of people tend to dissociate as well, often not fully dealing with a group traumatic event until decades after it has occurred (Pennebaker et al, 1997).

During our long and traumatic evolutionary history, we learned to selectively perceive the environment, selectively process information, selectively store memories, selectively disengage from stored memories, and to selectively replace dissociated data with less disturbing data (Schumaker, 1995). The neural devices subserving this ability to deceive ourselves resulted in a sense of personal reality that could vary dramatically, from person to person and culture to culture.

This personal, individual sense of reality is profoundly determined by how much it lines up and is consistent with what our culture defines as reality. Cultural reality has been defined as *“the constellation of externally delivered suggestions that are normalized on the basis of group endorsement”* (Schumaker, 1995 p. 22).

Defining a shared cultural reality is a central function of any workable culture. Religious, moral, political, and economic ideological systems are designed to provide a basis for that sense of cultural reality in which each individual participates. The main difference between culturally accepted alterations of reality commonly noted in religious ceremonies and political events, and the common forms of twisted reality noted as the symptoms of psychopathology, is that in the former people agree together to ignore and deny the distortions and contradictions that exist, while in individual pathology not one else agrees with the view of reality shared by that individual. Instead, the person is called delusional, mad, or at the least eccentric. There is a borderline between these two realities, however. Children, artists, prophets, visionaries spend time there and how they will be greeted in their culture will be determined by many factors including how willing the culture is to come to grips with a denied reality and how well the individual can manage to fit into the culture without appearing too threatening.

Our capacity for dissociation grew out of another vital need springing from our traumatic past. Our central nervous system is very vulnerable to the effects of stress. Overwhelming stress is physiologically and cognitively disorganizing. Dissociation helps to protect and buffer the central nervous system from this physiological and emotional hyperarousal.

Our emotions alert us that something is out of kilter, not right, not what we want. They are our sensitive “mental radar”. We perceive the experience of our feelings through our minds but because every separate emotion evokes a specific pattern of response in the autonomic nervous system, every emotion radiates an effect throughout every organ in our body. Every language, in fact, has dozens of expressions for emotions that are expressed in physical terms – “a lump in the throat”, “a broken heart”, “bowels in an uproar”, “a sickening feeling” – all are examples of this deep knowledge. But because our emotions are so intimately connected to our vital organs, it is entirely possible to die of fright or die of a broken heart. Additionally, prolonged emotional arousal has negative consequences for vital organ systems in the form of stress-related illnesses (Horowitz, 1986).

Since one of the main purposes of our emotions is to alert us to the occurrence, significance, and nature of events and experiences that are part of our reality, any disorder, any disruption of established meaning or

belief, will evoke a powerful emotional response. This response will not stop until the disparities are resolved, until we have reordered our reality (Harber & Pennebaker, 1992). Our feelings will not let us rest until our inner conflicts have been resolved.

Given our evolutionary exposure to repeated traumatic experiences, it stands to reason that survival would be greatly served by the development of a mechanism like dissociation that allows us to reorder reality in a more palatable way, separate our emotions from our experience, and even separate our sense of self from the reality of what is happening. All of these devices can effectively calm down our bodies' hyperarousal. "*As we replace reality with bias and distortion, we buffer the nervous system and safeguard psychological intactness*" (Schumaker, 1995).

The result of this phenomenon is that health is associated with illusions, in fact "*a considerable amount of insanity, in the sense of being out of touch with reality, is requisite to optimal mental health*" (Schumaker, 1995, p.21). According to one researcher who has extensively studied "positive illusions", our ability to redefine our reality results in an increase in productive work, improves aspects of our intellectual function, improves our memory, inhibits disturbing memories, increases motivation, improves performance, improves coping, and gives us better physical health (Taylor, 1989). Certainly, people who are highly self-conscious, know themselves well and have more realistic perceptions of the world also tend to be more depressed (Schumaker, 1995). As Santayana put it, "*Sanity is madness put to good uses; waking life is a dream controlled*". Let's look in more detail at what we are learning about the effects of traumatic experience.

The Effects of Trauma

Traumatic experience is profoundly disruptive to every aspect of a person's function. Any experience of danger is associated with hyperarousal, a total body response that produces a profoundly altered state of consciousness and marked changes in the way our minds deals with information, memory, and emotions. The shocked individual goes into survival mode, preparing himself or herself to do anything that will further the chances of sustaining life. In service of this, consciousness narrows to a focus on whatever is provoking the dangerous situation. The body and mind prepare to take action. In this state, the capacity for decision-making is dramatically altered and information processing is confined to the needs of the immediate moment without consideration for alternative plans or the long-range consequences of decisions that are made (Janis, 1982). Emotional states of fear/terror are stimulated rapidly and serve to motivate the person to fight or to flee. If the emotional state is so paralyzing that the individual cannot adequately protect themselves by either fighting or fleeing, then the only option he or she may have open is to separate from - or dissociate - from emotions entirely. This is particularly true for children in frightening situations who are physically unable to fight back or to run away from the source of the danger.

One of the most remarkable aspects of trauma is the loss of language, the sense of "*speechless terror*" that so often accompanies overwhelming life events. Studies of the brain-in-action have demonstrated that when a traumatized person is remembering a traumatic event, the language areas of the brain literally shuts down while the nonverbal visual and sensory-emotional areas of the brain remain quite active (Rauch et al,

1996). Memory functions shift, so that verbal memory – the memory we draw upon when we are thinking - is diminished or shut-down entirely, while an alternative visual and sensory-physical memory function is utilized, providing faster access to information that could be life-saving (Van der Kolk, 1994). But the result is that we lose language – we lose the capacity to put the most terrifying aspects of an experience into words and therefore we cannot “remember” those aspects of the events, meaning we cannot put them into words. If we cannot remember the events, then we cannot think about them, cannot talk about them, cannot share the experience with others.

But this loss of language occurs in other states as well. As far back as 1912, the early psychoanalyst George Groddeck commented on this when he noted that *“when something has to be communicated from the innermost soul as happens particularly in relationships between men and women, then it is done by gesture, touch, by the light of the eyes, perhaps even by music, but never by language. The barrier is insurmountable”*. (Groddeck, 1977). Elaine Scarry, in her book about the body in pain, has pointed out that *“physical pain does not just resist language but actively destroys it, bringing about an immediate reversion to a state anterior to language, to the sounds and cries a human being makes before language is learned... to witness the moment when pain causes a reversion to the prelanguage of cries and groans is to witness the destruction of language”* (Scarry, 1985).

Two Hemispheres - Two Minds?

This loss of language function is critical to our understanding of what happens to the traumatized person. Language serves many functions including social communication, but perhaps most importantly, language allows us to order reality. As discussed above, there is evidence that this loss of language function under conditions of high stress is related to an actual inhibition of the language areas of the brain. Language functions are controlled by one hemisphere of the brain – whatever side is dominant in the particular person, usually the left side. During a traumatic experience it is thought that the dominant hemisphere is inhibited while the nondominant hemisphere, controlling sensory-perceptual experience is stimulated (Van der Kolk, 1994).

This lack of symmetry between left and right hemispheres is unique to human evolution. As a prominent neuroscientist has commented, *“hemispheric asymmetry is probably the most fundamental biologic hallmark of human cerebral evolution”* (Mesulam, 1985). The nondominant hemisphere – the right in most people - is specialized for at least four areas all of which relate to our topic: complex and nonlanguage perceptual tasks including our ability to identify familiar faces; where and what we decide to pay attention to; behavior that is influenced by emotions; and the emotional aspects of communication (Mesulam, 1985). This includes “prosody” - the parts of speech that convey attitudes and emotions - as well as “kinesics” - the limb, body and facial movements associated with nonverbal communication (Ross, 1985). As we will see, facial expression and the prosodic aspects of speech, and emotional behavior are all involved in emotional contagion, social interactions and the arts.

We also know that the nondominant hemisphere processes information differently than the dominant, language hemisphere. It reasons by nonlinear association rather than by syllogistic logic. For the dominant hemisphere, cause creates effect in a logical sequence. But in the world of the nondominant, usually right, hemisphere, things are not sequentially, cause-and-effect logical. One doesn't necessarily arise at conclusions as a result of a sequence of step-by-step thought. Instead, there is a holistic kind of knowing that often is described as "intuition" or "hunch".

The nondominant hemisphere is far superior to the dominant hemisphere in part-whole relations – seeing and experiencing events or objects all-at-once rather than in parts. There is a sense of timelessness about the nondominant hemisphere perception, since it may be the logical sequence of language that gives humans our sense of time (Van der Kolk, 1994). *"The perception of time and language are inextricably bound up with one another"* (Høeg, 1995). No other species speaks and no other wears watches or invents clocks. The "language" of the nondominant hemisphere is very different. It uses word-pictures, not words; recognizes facial expressions, and can sustain emotional expression and goals different from the left (Galín, 1974).

In fact, the nondominant hemisphere can apparently feel things that are different from what the dominant hemisphere feels. The hemispheres differ in the processing of emotion, with the dominant hemisphere appearing to control positive emotions and the nondominant controlling negative experience and expression of negative emotions (Mesulam, 1985). The left, or dominant hemisphere seems to operate the system that compels us to approach certain experiences or people by activating the emotion we describe as happiness, and the right, nondominant hemisphere operates the system that compels us to withdrawal from activities or people who upset, frighten or disgust us (Davidson et al, 1991).

It has been suggested that the two hemispheres experience two different realities, two separate states of consciousness. This separation has been demonstrated in people who have the connections between their two hemispheres severed to prevent epilepsy – the so-called "split-brain" patients. *"The mental processes in the right, cut off from the left that is directing overt behavior, may nevertheless continue a life of its own. The memory of the situation, the emotional concomitants, and the frustrated plan of action all may persist, affecting subsequent perception and forming the basis for expectations and evaluations of future input"* (Galín, 1974). But there is also reason to believe that trauma produces a kind of "split-brain" phenomenon in which there may be some kind of inhibition between the right and the left hemispheres as a result of experiences too overwhelming for the mind to handle that produces a similar effect.

At least one author has gone so far as to conclude that the unconscious mind *is* the nondominant hemisphere and that traumatic experience causes a disconnection syndrome between the hemispheres (Joseph, 1992). *"The right hemisphere maintains a highly developed social-emotional mental system and can independently perceive, recall and act on certain memories and experiences without the aid or active reflective participation of the left hemisphere"* (R. Joseph as quoted in Restak, 1994). The symptoms of "hysteria" are frequently associated with trauma and Joseph has pointed out that people suffering from hysteria are two to four times more likely to experience pain and other distortions on the left side of the body, suggesting an etiology related to the nondominant, right hemisphere (Joseph, 1988). Interestingly for our purposes here, the nondominant hemisphere is also involved in music, drawing, poetry, singing, cursive writing, construction, body image, and gestures (Joseph, 1988).

What is becoming increasingly clear is that the traumatized person loses access to language, that it is not that the words are present and then “repressed”, but rather that the traumatic experience has never been verbally processed. Instead, the traumatic experience is “articulated” in an entirely different language - the language of the nonverbal, of the enacted. These languages may not readily translate between each other, with the result that we end up seeing the behavior - the ultimate action - without having any access to the reasoning upon which that action is based (Galín, 1974).

This may relate to what is perhaps the most interesting aspect of dissociation, what John Beahrs has termed “co-consciousness”, meaning that every individual is both a unity and a multiplicity at once (Beahrs, 1983). The memories, feelings, and thoughts associated with dissociated fragments do not disappear from the mind; they simply disappear from consciousness. At the level of conscious awareness, the trauma - or parts of the trauma - did not occur. And yet, at another level of reality, the person does know, does remember the experience. *“At the level of unconscious awareness, reality remains undistorted and the person remains undeceived... All forms of dissociation-based reality distortion and self-deception are limited to the window of consciousness”* (Schumaker, 1995). This again, is “knowing and not knowing” that have been so well-described in Holocaust survivors (Laub and Auerhahn, 1993).

The trauma was too much to bear. It could not be categorized, ordered, or placed in a meaning scheme that is in the past and can therefore be relegated to the past as a memory. Instead, the traumatic experience will remain unmetabolized, unintegrated and still present, continuing an existence in the ever-present “now” of the nondominant hemisphere reality, haunting the person as it reappears as nightmares, flashbacks and behavioral reenactments. Until some other experience occurs which permits a reordering of reality and incorporation of the trauma into a new sense of meaning, this “haunting” will continue and the traumatized person, now victimized by the working of their own mind, may develop all kinds of secondary behaviors as attempts to cope with this continuing problem. Addictions, compulsive behaviors, behavioral reenactments, anxieties, phobias, depression, and a variety of physical symptoms can all be manifestations of these failed coping skills.

The victim of trauma can self-protect in the short-term from unbearable emotion by dissociating from parts of experience. But the incongruity does not go away. Instead, it begins haunting the person, fueled again by the “cognitive imperative”, the need to bring order to disrupted and incomplete cognitive-emotional schemas.

Mental health professionals see this as all the symptoms of post-traumatic stress disorder in which the dissociated memories emerge as nightmares, sensory and emotional flashbacks, and behavioral reenactments. These intrusions may be the way the nondominant hemisphere “remembers” or attempts to communicate with its other side. But integration between the two sides is prevented because the dominant, language-based and logical hemisphere cannot tolerate the strange and apparently chaotic ordering system that is more typical of nondominant hemispheric functioning. We experience this “stranger” within as something dark, dangerous, mysterious – perhaps the other that Carl Jung called “the Shadow” – something to fear, ignore, medicate, avoid, or run away from.

Without a cultural context, without some way of translating between the language of the right and that of the left, integration cannot occur. Instead, the psyche, like a broken phonograph player, keeps replaying the same fragments of a post-traumatic tune, unconnected to a melody line.

Traumatic Reenactment & Failed Enactment

It is this problem with integration that propels “traumatic reenactment”, the profound tendency to compulsively and behaviorally relive the traumatic experience outside of conscious awareness. History repeats itself but with every repetition, the price goes up. It was Freud who focused attention on the repetition compulsion: *“He reproduces it not as a memory but as an action; he repeats it without, of course, knowing that he is repeating... he cannot escape from this compulsion to repeat; and in the end we understand that this is his way of remembering”* (Van der Kolk & Ducey, 1989).

Robert Lifton, a psychiatrist who has made an intensive study of various traumatized and traumatizing populations, has talked about the “failed enactment” that occurs at the time of a traumatic event, as *“some beginning, abortive image forms toward enactment in a more positive way that is never possible to achieve... a schema for enactment that is never completed”* (Lifton, 1988). This failed enactment is associated with profound feelings of helplessness, which is a fundamental characteristic of any traumatic experience.

If we understand that reenactment behavior is a message, a signal, a “cry for help” from another parallel consciousness, a consciousness that is nonverbal and yet intelligent, we can begin to understand symptoms and all kinds of human pathology in an entirely different way. A schema for enactment that is incomplete will continue to press for completion according to the cognitive imperative. A speechless consciousness, attempting communication with its social group, can only do so through the medium of other forms of communication, through behaviors that *tell the story* of the wounding experience. If the person cannot integrate the traumatic experience because the experience itself resists words and therefore cannot be ordered, then the person can do nothing except turn outside himself to his or her cultural group for help. But as we will see, there are monumental barriers to getting this help.

Traumatic experience shatters basic personal and cultural assumptions about the primary way we order reality. Suddenly there is no safety, the world no longer makes sense, other people cannot be trusted, the future is no longer predictable, and because of dissociation, the past is no longer known (Janoff-Bulman, 1992). After the trauma, one of the most perplexing experiences for the individual victim is that the world goes on as before, even as their own world has been completely shattered. Other people outside of the “trauma envelope” appear relatively oblivious to the traumatic event. For the victim, personal reality is no longer congruent with cultural reality. The individual spontaneously attempts to realign the two realities to produce reattunement between the individual and the cultural, by behaving in ways that are obviously divergent from their previous behavior. Early on they may attempt to talk about their experience and to share their overwhelming emotional states. This need to talk, to confess, to release stored tension is powerful and important for continuing mental and physical health (Harber & Pennebaker, 1992)

But the culture actively inhibits their responses. Listeners will switch the topic away from the trauma and attempt to press their own perspective upon the victim. They often exaggerate the victim’s personal

responsibility or even avoid contact with the victim altogether. In mounting these social obstacles to meaning-making, the listeners protect themselves by avoiding having their own cognitive schemas disrupted and in doing so they avoid the hyperarousal that is frequently an accompaniment of emotional contagion (Coates et al, 1979; Harber & Pennebaker, 1992). The price for the individual victim, however, is a high one. They cannot make meaning out of the traumatic event without a cultural context and the consensual validation that accompanies it, yet the cognitive imperative demands a resolution of the conflict and a restablization of the sense of personal reality. The only viable solution is further dissociation.

Emotional Contagion

It is of interest that a social species would erect such social obstacles to the integration of post-traumatic experience. To understand the necessity of such obstacles we have to look more at the issue of emotional contagion. We are born with at least nine different “affect”. This is the word given to denote the biologically based, innate foundations for all emotional experience. *“Affect makes us care about different things in different ways. The reason that emotion is so important to a thinking being is that affect controls or acts upon the way we use thought....whenever we are said to be motivated it is because an affect has made us so... Affect is the engine that drives us...Not only does affect influence and often control the thinking made possible by the most advanced structures of the new brain...but it is a form of thinking - the action thinking of the old brain”* (Nathanson, 1992, p.59). As alluded to above, emotional experience profoundly influences thought, alerting us to contradictions in what we know or perceive and keeping us focused on this discrepancy until we have resolved whatever conflict exists (Harber & Pennebaker, 1992).

Managing our emotions – modulating and containing them - is dependent on the interaction we have with others *“from cradle to grave”*, in the words of John Bowlby, the great attachment theorist. Other people play a vital role in “training” the central nervous system how to respond and our relationships with other people has a great deal to do with the way in which our brain actually develops (Schoore, 1994). Because we are a social species, dependent for our survival on other people from the time we are born, evolution designed us to resonate with the emotions of others (Nathanson, 1992). Such resonance has high survival value. It is life-saving for a mother to have a special and specific reaction to the cry of her and it is very useful for the entire tribe when one individual scout, spotting danger is able to convey an immediate sense of that danger to his fellows by expressing his emotions through voice and gesture.

This resonance is conveyed in a number of ways. Every emotion evokes a different pattern of response in the nervous system affecting not just our internal organs but our facial and bodily expression as well. Every emotion also triggers a tendency to act in a certain way (Lazarus, 1991, Nathanson, 1992). And every emotion triggers a response in other people as well. Emotional contagion is defined as *“the tendency to automatically mimic and synchronize facial expressions, vocalizations, postures, and movements with those of another person, and consequently, to converge emotionally”* (Hatfield et al, 1994). We are profoundly influenced by other people’s emotional states, from the time we are born. We respond to another person’s emotional state within one twentieth of a second and in that time, our physiology is changed and our bodies become synchronized to the emotional state of the other. This happens outside of our conscious awareness and is beyond our ability to

control (Hatfield, et al, 1994). *“For people to match their behaviors within 50 milliseconds requires some mechanism unknown to man”* (Condon as quoted in Hatfield, et al, 1994).

Emotional contagion is so powerful and so much an implicit part of our voice, muscular effort, posture, and facial expression, that we can begin to alter our identity, and therefore our sense of reality, in fundamental ways without even knowing we are doing so.

This ability to change ourselves under the influence of others has been recognized since ancient times. Plutarch said, *“If you live with a cripple, you will learn to limp”* and Euripedes wrote, *“Where there are two, one cannot be wretched, and one not”*. Centuries later in *The Purloined Letter*, Edgar Allen Poe wrote, *“When I wish to find out how wise, or how stupid, or how good, or how wicked is anyone, or what are his thoughts at the moment, I fashion the expression of my face, as accurately as possible, in accordance with the expression of his, and then wait to see what thoughts or sentiments arise in my mind or hearts, as if to match or correspond with the expression.”* And Stephen King, in his latest novel, *Rose Madder* (1995) , has an enraged battering husband, who is tracking his wife, take on her identity as a strategy for finding her, *“Never mind, he told himself. Never mind, just do your job. And right now your job is to walk like Rosie, talk like Rosie, think like Rosie”* (p.110).

It should come as no surprise, given this vulnerability to experience the emotional states of others, that listening to victims of trauma could produce a noxious physiological and psychological state in the listener that people would quite naturally avoid. Members of their family and their extended social group are likely to take any possible measures to prevent victims from sharing their experience and therefore spreading the contagious emotion. This produces powerful negative consequences for the victims since the tendency to avoid disclosure of emotions is associated with increased risks for physical and mental illness, greater physiological work, and impaired information processing (Harber & Pennebaker, 1992).

Likewise, the benefits of emotional expression have been known since ancient times. The word, *catharsis*, derives from the Greek meaning purification, cleansing (Jackson, 1994). For Aristotle, the term expressed the effect produced by tragedy and certain kinds of music. Breuer and Freud (1895) observed, *“Each individual hysterical symptom immediately and permanently disappeared when we had succeeded in bringing clearly to light the memory of the event by which it was provoked and in arousing its accompanying affect, and when the patient had described that event in the greatest possible detail and had put the affect into words”*. Janet said that the *“cathartic treatment”* was another name for his *“mental disinfection by the dissociation of traumatic memories”*... in each case the traumatic memories were liquidated (Jackson, 1994). More recently, Pennebaker and colleagues have demonstrated the powerful health benefits of trauma confession (Dienstry, 1997; Pennebaker, 1993).

Survival Value?

From an evolutionary point of view, this sequence of events would not seem to have a great deal of survival value. Trauma produces dissociation, leaving us vulnerable to post-traumatic intrusive experiences that begin a cycle of continuing deterioration. Other members of our social group, who could theoretically promote healing and recovery, instead tend to avoid their own internal disruptive response by avoiding the victims so that *“victims may be trapped in a complicated dilemma, in which they can maximize their social acceptance only*

at the expense of their personal adjustment" (Coates et al, 1979). How then can we explain the survival value of such mechanisms? Why would we evolve a system that is life-threatening in the short-term, but produces such widely detrimental results to physical, emotional, and social health in the long-term?

It is my contention that post-traumatic effects are the unfortunate consequence of emergency measures aimed at promoting survival and that there is no other innate mechanism residing solely within the individual that insures reintegration. The result is that the unfortunate survivor of trauma encounters their own "black hole" phenomenon (Pitman and Orr, 1990) within which the light of awareness, of peace, and of wholeness is absorbed. On opposite sides of this gaping chasm are the individual and personal wholeness, the individual and the social group.

But if there is no innate mechanism in the individual then there must be other explanations for a system that appears so mystifyingly destructive. Three possibilities spring to mind: the effects of post-traumatic stress do, indeed have significant survival value; Nature made a boo-boo; or the healing mechanism resides not within the confines of biological evolution but social evolution. I will provide some evidence to support the latter hypothesis. I believe that it is in the evolved development of our mimetic response to others that we must look for some answers, and in our capacity to define cultural reality through ritual, religion, and all forms of art that we can delineate the key to individual and group healing. Artistic performance is the bridge across the black hole of trauma, the evolved individual and group response to the tragic nature of human existence.

Bridging The Black Hole

THE ARTS AND EVOLUTION - WHAT IS ART FOR?

There is a deep longing to create that resides within the soul of humanity.

R. Fritz

Unequivocal evidence for the artistic nature of man date back at least forty thousand years to Cro-Magnon man, and survive in the form of cave paintings, statues, necklaces, flutes and other musical instruments (Diamond, 1992). We cannot say for sure when such expressions of creativity began, although the groundwork for such organized behavior, as we will discuss, can be seen in our primate relatives. But, actual artistic expression appears to originate with our primal ancestors and predates language. Certainly, as the art historian Lucie Smith (1992) has said *“The cave paintings in particular, hidden in darkness for many millennia, and perhaps unseen previously by any but their original creators, give us a new perspective on the story of human culture taken as a whole. They seem to supply confirmation of the fact that the activity of making art, prompted by whatever impulse, is central to the existence of the species. The story of humankind now begins unequivocally with men’s and women’s activity as artists, and it is art which supplies the strongest threat of continuity as the tale develops.”*

The longstanding history of artistic achievement compels us to look at art from an evolutionary perspective. What evidence is there that art has anything to do with human evolution? Dissanayake (1988, 1992) has noted three important criteria for attributing evolutionary importance - and therefore selective survival value - to any trait or behavior. The first criteria is that artistic expression is universal. There is no human group existing today or ever known to have existed that did not engage in creative expression. In evolutionary theory it is generally accepted that if a behavior is found throughout an entire species, it must have contributed in some way to evolutionary fitness.

The second characteristic is that in most societies the arts are integral to many activities of life and not to be omitted. This is particularly true the closer we come to being able to find cultures more similar to our hunter-gatherer evolutionary heritage than our own. Again, we can assume that an evolutionary mechanism is at work if a great deal of effort is expended by individuals or by groups in performing certain activities.

Third, the arts are sources of pleasure and Nature usually associates pleasurable affect with advantageous behavior. Diamond (1992) has made three relevant observations about the relationship between art and evolutionary survival. He notes that art often brings direct sexual benefit to its owner and that artistic performances are common preludes to sex; that art is a quick indicator of status in most cultures, and that art helps to define human groups and is therefore a significant force behind group survival. As Grudin has said, *“We can call creative vision the edge of freedom, the evolutionary faculty by which, down through history, we have redefined our world and ourselves”* (Grudin, 1990)

There was a time when there was a much closer union between the arts and other forms of human behavior than are evidenced in our culture. For us, artistic expression has become specialized and marginalized, even dissociated, made into a commodity like everything else, a subject we will turn to later. But in other cultures the situation is quite different. For Native Americans and other tribal cultures even today, creative expression through ceremony and dance, in which everyone plays a role, remain the focus of communal life serving the combined purposes of worship, healing, education, building of group cohesion, confirmation of group identity, and entertainment.

For the ancient Greeks, the root source of Western culture, there was no such thing as “autonomous art”. There was, instead, a unity of cultural practices. To talk about what the citizens of ancient Athens did we must simultaneously discuss religious worship, tragic and comic theater, architecture, sculpture, painting, poetics, dance, and music. They cannot be separated as we would today. For the Greeks, art was always simultaneously personal and political (Dubois, 1994).

Artistic endeavors have served an important organizing function for human beings throughout our history. *“...creation of new aesthetic forms, including those of worship, has been the most fundamentally productive of all forms of human activity. Whoever creates new artistic conventions has found methods of interchange between people about matters that were incommunicable before. The capacity to do this has been the basis of the whole of human history”* (Young, 1971). So let’s look next at *how* this organizing function came to be. How did art become so important to the human species?

Mimetic Abilities

Mimesis is defined as the ability to produce conscious, self-initiated, representational acts that are intentional but not linguistic (Donald, 1991). Because mimesis is utilized to accomplish a specific purpose it is not just mimicry. Through mimesis we are able to re-enact or re-present an event or relationship. The mimetic level of representation predates language both in the evolutionary sense and as it unfolds in the individual. This level of representation, in fact, underlies all culture and forms the basis of human communication. If my thesis is correct, that artistic performance is a vital evolutionary development, then we should be able to see the beginnings of artistic behavior in our primate relatives. Sure enough, when apes communicate, they throw their entire bodies into it, indicating that this ability did not just evolve solely for hand control but that using one’s body to re-enact entire events required higher and integrated control centers in the brain. As in humans, apes communicate through vocal expression, facial expression, gesture, and posture (Eible-Eibesfeldt, 1989). Human babies as young as two months are giving their mothers intentional smiles aimed at communicating an affect and eliciting a specific response (Eibl-Eibesfeldt, 1989).

From infancy on, mimetic behavior forms the core of all human communication, remains a central factor in human society, and forms the basis of the arts. And as we have discussed earlier in reference to emotional contagion, it happens quickly, largely outside of our conscious awareness, and automatically. We synchronize to each other’s movements, gestures, vocal patterns, and expressions. And we do it in groups as well. Before we had a verbal language we had another nonverbal language. Before we had a culture based on verbal symbols, we had a culture based on nonverbal expression.

Uses of Ritual

One of the important consequences of our development of mimetic skill was that we were able to develop a voluntary, public communication system which helped promote the development of shared social customs, beliefs, and behaviors. Group mimesis became the basis for ritual, our earliest attempts to begin to control nature, and ritual provided us with an entirely new way of ordering reality. It has been said that our remote ancestors were creating rituals before we were even human and that ritual became the pathway to the human condition: *Ritualization is a way, an experimental way, of going from the inchoate to the expressive, from the pragmatic to the communicative... it is not as true to say that we human beings invented rituals as that rituals invented us.* (Driver, 1991).

Besides helping us to order reality, ritualization began to provide a way for human beings to maintain attachment bonds over time and space, a fundamental stabilizing need in a species so dependent on each other for survival. Studies have been done on human infants and leave-taking from mother in which leave-taking with the usual ceremonial gestures of a farewell ceremony were differentiated from leave-taking without any ceremony. Without ceremony, the children were far more distressed than with mother left with the proper rituals (Eibl-Eibesfeldt, 1989).

Rituals help us anticipate a safe or safer future and thereby lower our level of emotional and physiological hyperarousal that accompanies the unknown. *"The human need to put order in daily, yearly, and life cycles by means of ritual is no doubt a very strong one. Even small children invent their own conventions which they maintain during play. Rituals put order into daily life, providing a certain security, and it is not in vain that people are devoted to custom and feel that with shared customs they are part of a community and protected against the unforeseeable... Cultural ritualization is required to establish sequences of behavioral patterns in humans"* (Eibl-Eibesfeldt, 1989, p.519-20).

The development of ritualized behavior also served the purpose of helping us - and our mammalian ancestors - manage aggression. It is well-known that many animals engage in ritualized contests with others of their species. In most mammalian populations the ratio between ritualized aggression and injurious aggression is a relatively stable evolutionary strategy. In a discussion of baboon and chimpanzee infanticide and aggressive escalation, Eibl-Eibesfeldt observes that:

"They lose control in encounters characterized by strong emotional arousal... It is possible that this tendency toward emotional instability and behavioral pathology might be associated with the rapid evolution of group life, which, in part, is characterized by a rapid growth of the brain. It could well be that the fine structuring of the brain, by which critical points in social behavior get controlled did not keep pace with the rapid quantitative growth of the brain and that selection is still in progress. The same might hold true for humans" (p.95).

Rituals also have traditionally served vital roles in group life providing what Driver (1991) has termed the “social gifts of ritual”: ordering a chaotic, unpredictable, and therefore terrifying world, providing an opportunity for emotional union with others, and providing means for social transformations, for moving from one stage of life to another with enough emotional and material support from others to make those transitions possible without individual collapse or social disruption.

The Ritual Origins of Artistic Performance

Ritual is accompanied by the rudiments of behavior that eventuate in what we consider art. Musical rhythms synchronize specific physiological processes, even in lower vertebrates. A metronome can be used to slow or speed up the rate of gill motion of fishes and lullabies slow pulse rate and breathing in diverse cultures (Eibl-Eibesfeldt, 1989). Different rhythm patterns activate different emotional states and thus induce specific moods, although the mechanism is not yet precisely known. Numerous studies have been performed on the effects of music on humans showing that music can decrease depression, distress, pain perception & tolerance, anxiety, heart rate, cortisol levels after stress, and respiratory rate, while improving performance and self-esteem (Allen, et al., 1994; Hanser & Thompson, 1994; Heitz et al, 1992; Miller et al., 1992; Miluk-Kolasa et al, 1994; Palakanis et al, 1994); Rickert, V.I., 1994; Shorr, 1993; White, 1992; Whipple & Glynn, 1992). However, it is also well known that music can exert its effects on entire groups, probably as a result of the combined effect of the rhythms on each individual brain as well as the effect of emotional contagion. In doing so, music profoundly alters the state of consciousness of the listeners, increasing the chances that the entire group is in the same state of openness to suggestion (Eibl-Eibesfeldt, 1989; Schumaker, 1995).

“Dance is music expressed in movement” (Eibl-Eibesfeldt, 1989, p.694) and is a frequent part of structured ritual in tribal groups. Dance combines music with gesture and postural behaviors which further amplify the signal content of the ritual, expanding the range of the communication between dancers and to an audience. Group dances demonstrate unity and consolidate group identity and group purpose to the dancers themselves as well as to any onlookers. *“This aspect of the dance - its public nature - reaches back to the many forms and functions of dance in tribal, nonliterate societies”* (John-Steiner, 1985). Like music, dance also induces altered states of consciousness. While dancing, the entire group enters the same state of emotional arousal, the rhythms induce the same physiological state, all of which allows each member to enter a trance state in which they will be more open to the suggestions of the leader or the group (Schumaker, 1995). *“Good choreography fuses eye, ear, and mind”*, says well-known choreographer and dancer, Arlene Croce. And from Katherine Dunham, *“The emotional life of any community is clearly legible in its art forms and because the dance seeks continuously to capture moments of life in a fusion of time, space, and motion, the dance is at a given moment the most accurate chronicler of culture pattern.”*

W.H.Auden observed that *“Human beings are by nature actors, who cannot become something until first they have pretended to be it. They are therefore to be divided, not into the hypocritical and the sincere, but into the sane, who know they are acting, and mad who do not.”* To perform means “to do” and “to pretend”. Eible-Eisenfeldt (1989) has pointed out that animals that must learn a great deal after birth develop a behavioral category that we call “play”. One of the chief characteristics of play is that motor acts that are associated with instinctual drives become liberated from the drives that usually activate them.

In play, animals – including human animals - can combine different categories of behavior that could not appear together if the behavior were “serious” It is also possible to shift rapidly from one form of behavior or category of behavior, to another, a shift that could not happen if there were intense emotional involvement. This allows the playing animal to experiment with a new and wider range of behaviors alone and with other animals. As with sex, eating, and drinking, playing is associated with powerful positive feelings indicating the important survival value of this kind of experimental behavior for complex, intelligent and social species. Some preliminary work indicates that performance may have a positive physiological effect on our pain threshold and immune system as well (Moyer, 1993; Hall et al, 1994; Zillman et al, 1993).

Children begin fantasizing at a very early age. even before they are able to understand that other people have states of mind different from their own. Between the ages of three and six, thirty percent of children have imaginary playmates, the creation of which appears to be triggered by loneliness, sadness, and distress. These negative feelings are neutralized through fantasy in which the imaginary playmate becomes companion, scapegoat, or expressor of forbidden activities (Rue, 1994). Adornment, makeup, and costume are the human development of the display aspect evident in many animal species that evolved as forms of complex communication between potential mates and others (Eibl-Eisenfeldt, 1989). But in human ritual play, from childhood on, costumes provide a concrete and enacted way of entering a different role, becoming another animal, mythical being, or person in the enacted drama.

On a group level, theater, the universal playground of fantasy, is thought to have its origins in a similar attempt at resolution of negative feelings - the mourning ritual. *“The religious ritual out of which it is thought tragedy grew - the dance of mourning... was in itself an action, a response to a condition...an answer in terms of gesture and action rather than language and represents man’s first attempts to deal creatively with pain and fear. Any action at all was better than nothing”* (Sewell, 1990). Rituals were created as “social dramas” that were initiated by some breach of social custom, law, or ritual propriety, precipitating a crisis which could only be resolved through a ritual drama (Turner, 1974; 1982). Part of the drama involved the individual or the entire group entering the “confessional mode” in which suppressed thoughts, denied behaviors, and withheld emotions could be shared with others (Driver, 1991). In these group mimetic events, from which our theater derived, individual thoughts, feelings, and beliefs could be turned into coordinated social efforts, with different individuals playing different roles, experimenting with different behaviors, but all the while sharing the same global cognitive model of their society (Donald, 1991).

“The grave is the birthplace of tragic drama and ghosts are its procreators” (Cole, 1985). Tragedy, in particular, has played a vital role in the evolution of human social experience. Death is humankind’s greatest mystery and our awareness of our own mortality our greatest burden. Our profound and innate need to bond to others of our kind makes the unvarnished inevitability of loss unbearable unless we can alter the reality in some way, unless we can transform the tragic into some kind of shared meaning on an intellectual, but more importantly, an emotional level. As George Steiner (1961) has said, *“tragic drama must start from the fact of catastrophe”*.

Tragedies end badly, The tragic personage is broken by forces which can neither be fully understood nor overcome by rational prudence.. Tragic drama tells us that the spheres of reason, order, and justice are terribly limited and that no progress in our science or technical resources will enlarge their relevance. There is no use asking for rational explanation or mercy. Things are as they are, unrelenting and absurd. We are punished far in excess of our guilt.

The effect of tragic drama was to be wrought not just on the players but on the audience as well. *“It is not in the tragic characters that pity and fear manifest themselves - but rather in the spectators. Through those emotions the spectators are linked to the heroes... because, as Aristotle says, something undeserved happens to a character that resembles ourselves (Boal, 1985). Aristotle held that “Tragedy is thus a representation of an action that is worth serious attention, complete in itself and of some amplitude ... by means of pity and fear bringing about the purgation of such emotions”.* This purgation of emotions was called “catharsis”.

Catharsis is not a simple, unitary phenomenon, but a complex process, involving body, mind, and emotions and is most effective when it includes both components (Nichols and Zax, 1977). has observed that The formula for successful ritual is the same as that for successful drama: the ritual or the drama must reawaken collectively held distress which is unresolved in everyday life, but this reawakening must occur in a context which is sufficiently safe so that the distress is not experienced as overwhelming. Under such conditions, catharsis occurs (Scheff, 1979). This is important for the individuals and for the group because unresolved emotional distress gives rise to rigid or neurotic patterns of behavior. Thrill seeking can be seen as an attempt to relive, and therefore resolve, earlier painful experience and catharsis dissipates these dangerous patterns. As Geoffrey Gore has cautioned *“a society which denies mourning and gives no ritual support to mourners is thereby producing maladaptive and neurotic responses in a number of its citizens”* (Cole, 1985). As John Milton noted in 1671:

Tragedy has the power, by raising pity and fear, or terror, to purge the mind of those and such like passions, that is, to temper and reduce them to just measure with a kind of delight, stirred up by reading or seeing those passions well imitated.

Augusto Boal (1995), the originator of “Theatre of the Oppressed” and a trauma survivor himself, has stated that *“theatre is a vocation for all human beings; it is the true nature of humanity... theatre is a therapy into which one enters body and soul, soma and psyche... He practices in the second world (the aesthetic), in order to modify the first (the social).”* In our distant past, all of these nonverbal practices - music, dance, visual display, role-playing - allowed us to change our physiological states and in doing so, allowed us to enter states of consciousness within which we could alter reality and make the unbearable, bearable. But our capacity to alter reality was still bounded: *“What is a human being? The human being, first and foremost, is a body. Whatever our religious inclination, I am sure that we would all accept that there is no human being without a human body”*

(Boal, 1995). We still had to contend with the limitations of the natural world and our own bodies as a part of that world.

Our mimetic abilities kept us firmly rooted in the realities of everyday life, the touch, the smells, the sounds, the feel of other things, creatures, and people around us. All of these skills are so tied to our primitive affect states, rapid physiological responses and to our underlying needs, that they are extremely difficult to falsify. And we were limited by how much information we could pass on and how quickly and for how long. Nonverbal expression is time-consuming, takes tremendous coordination, can convey a limited amount of data per unit time, and is gone if the expressor is gone. To liberate ourselves from the constraints of time and space, to pass on large amounts of knowledge, even in our absence, we needed to develop speech (Eibl-Eibesfeldt, 1989).

Language

It is probably not a coincidence that the right hemisphere of the brain is dominant for the emotional aspects of communication, for music, drawing, singing, poetry, cursive writing, and spatial construction as well as for the experience and expression of negative emotions (Joseph, 1988; Mesalun, 1985). The left hemisphere specialized for language later in our evolutionary history than the right, just as the right matures earlier in childhood than the left and the part of the brain that connects the two hemispheres, the corpus callosum, does not mature until the age of ten. As a consequence, young children function as though their right and left hemispheres are not fully interconnected (Joseph, 1985). In our evolutionary and our individual histories, we “speak” the language of the nonverbal before we speak verbally. Nonverbal behavior, the roots of all artistic performance, preceded the development of language.

In fact, according to Donald (1991), it is quite likely that the development of mimetic skill laid the essential social and semantic groundwork for the later development of language.

On anatomical grounds, high-speed vocal language was a relatively recent invention, unique to Homo Sapiens... Prior to the evolution of a system as revolutionary as human language, the cognitive stage had to be set. There had to be an immediate rationale for the emergence of language; the mechanisms of evolution do not possess foresight. The immediate adaptive pressure for this new trait had to be closely tied to structures already in place in the preceding culture (p.164).

Once language developed the two modalities seemed to serve different communicative purposes and carried on in parallel (Donald, 1991). We see evidence of this today in everyday human speech in which the

actual verbal content of the message runs in parallel with the prosodic aspects of speech - the intonation, facial and postural expression, and vocal tone and rhythms that convey other information that may be congruent with the verbal message or completely incongruent. It is harder for us to lie nonverbally because we usually exert so little control over the mimetic aspects of our interactions. Skilled actors still must train for years to even begin exerting that kind of control.

Various hypotheses have been suggested to explain the evolutionary press for the development of language. Eibl-Eibesfeldt (1989) in studying various tribal groups, has noted that most words do not center on work which was hypothesized to be the impetus for the evolution of language among hunter gatherers. Words center on food, on giving and taking, on sharing, on leave-taking and reunion, on other attachment bonds like marriage and other exchanges that fulfill bonding functions. *"It was with the help of speech that time and space were bridged so that bonds could continue across such barriers... Planning for the future and the building of alliances could scarcely occur without speech."*(p.526)

Language allowed us to *"make infinite use of finite media"* (Pinker, 1994). By pairing a concept with an infinite number of other concepts, we could convey volumes of information to each other with a minimum of effort and maximum speed. Speech could replace action and thereby serve as a control over our aggressive and sexual drives (Eibl-Eibesfeldt, 1989). Speech allowed us to pass information on to each other and to later generations in abstract form, without having to have at hand the actual objects or people to which the speech referred.

But, according to Eibl-Eibesfeldt (1989):

"The fulfillment of social functions was the decisive impetus for the development of speech. Social themes continue to dominate everyday talk in preindustrial societies. Indeed, a certain amount of material knowledge is transmitted during such conversations, but this function in tribal societies is much less important than the social ones. A change in thematic content occurred only with the development of technological civilization... I am of the opinion that the need to ritualize social behavior functioned as the most important selection pressure in the evolution of language. In particular, the ritualization of aggression finds its ultimate achievement in verbalization, since a tongue may be sharp as a dagger, but it rarely draws blood (p.526-7).

It is possible that language originated, in part, as a defense against overwhelming negative affect arising from right hemisphere stimulation and could be related to the triggering of positive affect more typical of left hemisphere activation. In an overwhelmingly traumatic environment, this development would have great survival value since negative affect can produce paralysis and the inability to self-protect or protect the young. This would be extremely important, particularly in the female of the species since her ability to protect her young would hinge on her ability to mobilize herself in the face of danger.

With speech, we could more easily distance ourselves from emotion than we could with nonverbal behavior, thus increasing the possibilities of decreasing social tensions. But because of this emotional detachment provided by speech, we also became much more able to lie - to each other and to ourselves. Speech allowed us the capacity for increasingly abstract thought and such abstractions. While allowing us to build complex cultures, religious beliefs, and philosophical systems, language also drew us further and further away from the grounding in the immediate sense of reality and contact with the natural world that was more typical of nonverbal, bodily-based, nonverbal expression and communication.

Cerebral Integration

"Whereas the left hemisphere might appreciate some of Groucho's puns, and the right hemisphere might be entertained by the antics of Harpo, only the two hemispheres unified can appreciate an entire Marx brothers routine" (Gardner et al, 1983). Under optimal conditions of human functioning, the two hemispheres of the brain, the verbal and the nonverbal, are designed to function in an integrated way.

In the course of evolution, integration between the two hemispheres must have been a challenge, particularly as they became so different in structure and content. Neuroscientists have speculated about four possibilities for how the two hemispheres could interrelate. One possibility is that they could operate in alternation, one off, the other on. Another possibility is that the dominant hemisphere could use part of the other and turn off the rest. A third possibility is that one dominates but can only disconnect from the other, but cannot turn it off - the other hemisphere remains independently conscious. His final possibility is that the two hemispheres could function in an integrated way, both fully active (Galín, 1974). This last possibility can be expressed as a definition of creativity. This is consistent with one psychiatrist's description of creativity as *"The fusion of the mental activity of the verbal and nonverbal brains. The magic in this process is the preservation of the nonverbal mental output in spite of the conscious illusion of unity and against the force of cerebral dominance"* (Tinnin, 1990).

The Role of Writing

Joseph (1988) has proposed that the evolution of written language suggests the possibility of an initial right hemisphere dominance since writing began as pictures, not signs. Writing may serve as some kind of integrating mechanism between the two hemispheres since it requires a combination of verbal and nonverbal skills.

Research is currently demonstrating some support for this hypothesis. For the last decade, James Pennebaker and his colleagues have been studying the relationship between writing, emotions, trauma and physical health. In study after study, students who are given the task of writing about their most emotionally provocative experiences for twenty minutes at a time, four days in a row, show significant improvement in their physical health months after this brief trial compared to a control group who are instructed to write about

innocuous events. These results have recently been replicated with asthmatics and people suffering from rheumatoid arthritis and in both groups there was significant and measurable physical improvement (Bloom, 1999; Dienstrey, 1999).

Trauma and Art

Earlier we reviewed the effects of traumatic experience on the victim. *“Disintegration is the expression of mental ill-health... Mental health, like physical health is a matter of balance, of all the different parts of us operating harmoniously together. Disease and disorder mean that the balance is upset... If one part of us gets split off, denied, lost to us our health is gone.”* (Skynner & Cleese, 1993). Overwhelming hyperarousal produces dissociation, a disconnection. Dissociation has been defined as *“A psychophysiological process whereby information - incoming, stored, or outgoing - is actively deflected from integration with its usual or expected associations”* (West quoted in Schumaker, 1995). Under conditions of stress, the victim experiences *“speechless terror”*. This loss of language function is frequently profound and extremely important. The traumatic experience and all associations to it can not be incorporated into a cognitive framework, cannot be ordered, partly because the brain system that accomplishes this task is shut-down under the impact of extreme stress.

Elaine Scarry (1985) has vividly talked about this deconstruction of language under the influence of pain:

Physical pain - unlike any other state of consciousness - has no referential content. It is not of or for anything. It is precisely because it takes no object that it, more than any other phenomenon, resists objectification in language...

So, for the person in pain, so incontestably and unnegotiably present is it that "having pain" may come to be thought of as the most vibrant example of what it is to "have certainty", while for the other person it is so elusive that "hearing about pain" may exist as the primary model of what it is "to have doubt"... Thus pain comes unshakably into our midst as at once that which cannot be denied and that which cannot be confirmed. A great deal then is at stake in the attempt to invent linguistic structures that will reach and accommodate this area of experience normally so inaccessible to language; the human attempt to reverse the de-objectifying work of pain by forcing pain itself into avenues of objectification is a project laden with practical and ethical consequence.

The victim experiences and remembers the trauma in nonverbal, visual, auditory, kinesthetic, visceral, and feeling ways, but is not able to “think” about it or process the experience in any way. Since cognitive processes are dependent on language function, without words we cannot “think”. As we have seen, trauma produces a disconnection syndrome, a functional “split-brain” preparation in which the two hemispheres appear

to function separately and autonomously, at least as it concerns the traumatic experience, much like Galin's third possibility mentioned in the previous paragraph.

The traumatized person becomes possessed, haunted by the theater in his mind. He cannot control the intrusive images, feelings, sensations. They come into consciousness unbidden, terrifyingly vivid, producing a vicious cycle of helpless self-revictimization. The intrusive images trigger a level of hyperarousal similar to that of the original trauma and dissociation escalates instead of diminishing. Any efforts he took to protect himself or others at the time of the trauma were a by definition, a failure since they failed to prevent the trauma, and yet images of what he could have done or fantasizes he could have done - "failed enactment" - continue to obsess him. Pierre Janet believed that traumatization resulted from failure to take action against a potential threat. The resulting helplessness gave rise to "vehement emotions" which, in turn, interfered with proper memory storage. He thought that successful integration of memories depends on successful action of the organism upon the environment (Van der Kolk, Brown and Van der Hart, 1989). Early in the study of the effects of trauma, Breuer & Freud (1895) noted the important connection between traumatic experience and language:

Each individual hysterical symptom immediately and permanently disappeared when we had succeeded in bringing clearly to light the memory of the event by which it was provoked and in arousing its accompanying affect, and when the patient had described that event in the greatest possible detail and had put the affect into words.

Freud wrote that in order for feelings to be experienced and become conscious, and therefore able to be shared with others, words had to be linked to them. (Sashin, 1993). Patsy Rodenburg (1993), a well-known acting-coach, has noted the same connection: "*When we need a word - really connect with it and release it in a brave, and physical sense - the experience is not just an act of intellect but a feeling act felt throughout our entire being*". As has Howard Barker (1989), the playwright: "*Attempts to restrict vocabulary are inevitably attempts to restrict emotion.*" But no one has made the point more effectively than William Shakespeare:

*The weight of this sad time we must obey,
Speak what we feel, not what we ought to say.*

King Lear

*Give sorrow words;
the grief that does not speak;
whispers the o'er-fraught heart
and bids it break*

Macbeth

Failed Enactment, Traumatic Reenactment, Enactment

Here we are faced with a dilemma - the victim of trauma is trapped within the silence of unwitnessed memory. To heal, he must speak, he must feel, and hearing the words, he must incorporate the experience into some kind of cognitive framework that allows him to make meaning and finally put the experience behind him so he can go on. But the biological responses to trauma inhibit and prohibit such speech. The brain is disconnected from itself and perceives any attempt to reconnect as a dangerous threat to survival. As a result, intrusive sensory experiences and negative feelings predominate and behavior becomes increasingly separated from the social meaning system. The person disconnects from other people as they actively avoid listening or participating in a dialogue with the victim.

Trapped in time, while the world moves on around him, the victim is neither alive or dead. He cannot escape the trap alone, the biological reverberations have set up a snare which grabs at him and refuses to let go. So, he does the only thing left to do - he speaks in the only voice he has - in the language of the nonverbal brain. He acts.

Victims of trauma look mad because we have largely put aside our abilities to translate nonverbal to verbal messages. Victims of interpersonal violence demonstrate ritual and performance gone amok. Just as the capacity for dissociation is biologically based, so too is the response to dissociation - the ritual signal - and it too happens automatically, hard-wired into the brain chemistry itself.

In earlier days, cultures provided for healing rituals in which trance was induced, emotions expressed, the trauma could be relived and the pain integrated into a meaningful whole consistent with a larger mythical system. The ritual would involve music, dance, drama, performance and the entire social group would be involved. In this way, cognitive, behavioral, and emotional change and transformation could occur, social relations and subjective experience could be brought into harmony (Levi-Strauss). Trauma and terror, pain and grief could be transmuted into the joy of performance, the creation of beauty, the healing rhythms of dance and song, story and poetry. Not forgotten, but changed and changed together. No longer a recurrent terrifying fantasy of the solitary victim, but the newly transformed addition to the culturally shared reality, another chapter in the culture mythical system.

But we have lost our awareness of the true nature of human existence, of tragic consciousness, of the "tragic sense of life" (De Unamuno, 1954). Now we largely and erroneously choose to believe in a just world, where each person gets what he or she deserves, a world of inevitably progress in which the just are justly rewarded. Sickness is the problem of the individual, probably genetically and biologically-based and the concern only of the medical and psychiatric experts assigned to ameliorate it or simply tolerate it. Poverty is the fault of the impoverished. Crime warrants punishment. Within our segregated, individualized, demystified, and fragmented lives we avoid resonating with the suffering of others, we are not "our brother's keepers". There is very little sense of the need for integration, the "*process of developing the parts in the service of the whole*"(White, 1919).

As a result, the victims begin to signal their distress in the only way left open to them, through the repetitive, often ritualized, seemingly bizarre signal, symbolic and emotionally charged behavior of the nondominant hemisphere. One man tries to jump off a building, another woman repeatedly runs razor blades across her breasts, another buys an assault weapon and sprays bullets across a crowded street.

These culminating acts of destruction are acts of desperation and helpless rage, the ultimate response to years of misunderstanding and misinterpretation on the part of the victim's social group. The play is performed over and over, often developing into such pervasive life themes that all that is apparent is pathology. In displaying a performance, traumatized people are doing what they are biologically evolved to do: engage their social group in a healing dialogue, a shared experience of pain.

The problem does not lie with their body, which is just doing what it is supposed to do. The problem resides within the culture which has failed to serve its socializing function for the individual. It is the corporate body which has become impaired. It is the corporate body that refuses to hear the meanings in the messages, the cries for help and healing that are consistently ignored. We cannot afford to hear their cruel secrets or their guilty confessions because we would have to respond, we would have to resonate with their pain, we would have to help them find a way out of their prison. Trapped within the tragic circumstances of their lives, the silenced victims of trauma are bereft of the shared experience of tragedy.

"Madness, in its wild, untamable words, proclaims its own meaning; in its chimeras, it utters its secret truth; its cries speak for its conscience... The crime hidden from all eyes dawns like day in the night of this strange punishment".

Michael Foucault

The Artist and Society

Over the years, many questions have arisen about the connection between creativity and madness, the artist and the madman. There is a connection, but not necessarily because you must be crazy to create. Both the artist and the madman speak a tongue that has become foreign to the rest of us. The mad person is to his or her family, what the artist is to the culture, containing what is hidden, secret, denied, and dissociated and trying with more or less desperation to reveal the vital secrets to us all. The artist is to society as the right hemisphere is to the left.

There have also been, within the practice of the arts, problem-posing aspects of artistic behavior. In many social groups the artist has been the *provocateur*, pointing out hidden, suppressed, and contradictory aspects of the culture, attempting to make conscious what is unconscious and denied. *"The more that is hidden and suppressed, the more simplistic the representation of daily life, the more one-dimensional and caught in the dominant ideology the society is, the more art must reveal... Art may be focused directly on the issues of daily life, but, because it seeks to reveal contradictions and not obfuscate them, art works which should spark a shock of recognition and effect catharsis actually appear alien and deliberately difficult. Art easily becomes the object of rage and confrontation"* (Becker, 1994). Jean-Pierre Vernant wrote about Greek tragedy but his words can just as well apply to modern art as well: *"Although it appears rooted in social reality, that does not mean it is a reflection of it. It does not reflect that reality but calls into question by depicting it rent, divided against itself, it turns it into a problem"* (Becker, 1994). The social group does not always take kindly to the artist's tendency to reveal its inner contradictions. In referring to the theater, which has historically been *"the most dangerous of all arts"* (Wickham, 1985), the British playwright Howard Barker (1989) has written that:

A theatre which dares to return the audience to its soul...will experience the hostility a wrecked ship feels for the gale...We require a different form of tragedy in which the audience is encouraged, not by facile optimism or useless reconciliation, but by the spectacle of extreme struggle and the affirmation of human creativity.

The artist frequently provokes a negative response from members of his social group because an essential role of the artist has been denied and dissociated by the larger social group. Art is meant to be an “investigation” (Becker, 1994), to tell us something about our inner contradictions, to illuminate what is in darkness, to assist us to integrate the split-off parts of our socially constructed consciousness. But in our modern culture, we resist facing these contradictions. We do not want to face up to the reality we have created. Art is only acceptable if it entertains and amuses. In discussing censorship, Becker has observed that:

The art that has been targeted for attack in each case reflected social concerns. It was work that would never allow us to believe that we all lived in the same America, shared similar desires, or were equally committed to maintaining the elaborate psychological, philosophical, economic, and sexual repression necessary to sustain Western Civilization as we have known it... Those who spend their time analyzing such events understood that if the national international art police were to have their way, art would be forced to lose its uniqueness and social value to become innocuous entertainment or else run the risk of losing its often minimal government support.

As we have discussed above, the culture joins together to distort and alter reality in a way that makes life bearable and in doing so creates “positive illusions” that promote health. But sometimes the culture goes too far, or for too long, distorts reality to the point of danger. The function of the artist is to stay in touch with the other truth, the truth of the less distorted, nonverbal, nonrationalized part of our consciousness. The part of us that still sees some vital importance in trees, and animals, and water and fish. The part of us, that despite deception, verbal gymnastics, elaborate rationalizations, and malignant propaganda realizes that we are organic parts of an organic whole and that the whole cannot remain intact without all of its parts. The part of us that resists epidemic robopathology, the attempt to turn us all into machines. (Yablonsky, 1972). The part of us that always remains in touch with primary, natural reality, no matter how much we choose to distort our personal and cultural reality. Through their paintings, sculptures, photographs, poetry, plays, songs, music, and stories, artists attempt to show us, remind us, of what we are missing, what we fail to see, or have forgotten, or fear too much to know.

It is no wonder we want to marginalize and silence the artist. Orwell (1989) knew that with language you could exert virtual control over an entire population:

The purpose of Newspeak was not only to provide a medium of expression for the world view and mental habits proper to the devotees of Ingso, but to make all other modes of thought

impossible. it was intended that when Newspeak had been adopted once and for all and Oldspeak forgotten, a heretical thought - that it, a thought diverging from the principles of Ingsoc - should be literally unthinkable, at least so far as thought is dependent on words.

But this strategy will only work if the culture does not get too much disturbing input from the other reality, from the artists and the mad. Rosler (1994) has asked the question, *“What is the responsibility of the artist to society? It is an open question what role art might play in a society that has all but ceased recognizing the existence of a public arena in which speech and symbolic behavior address important questions for the sake of the common good.”*

Physical pain has no voice, but Scarry tells us that when it does finally find a voice, it begins to tell a story, but that story is a political as well as a personal one. *“All drama is a political event: it either reasserts or undermines the code of conduct of a given society”* (Eslin, 1976). Barker points out that:

It is a simple task to persuade an audience of a character’s evil. The important task is to persuade the audience of its potential or actual participation in evil.... We are reviving a medieval social theology in which human nature is deemed incurably corrupt in order to reconcile the poor with poverty, the sick with sickness, and the whole race with extermination.

If we are to survive as a viable species on a viable earth, then we must become grounded once again, in the values of the Earth. To do this, we must be willing to remember and feel our social past, just as victims of trauma must remember and feel their personal past. We must confess our wrongs, give voice to our sorrows, resolve our contradictions. Marcuse has said that the artist has a responsibility to help society deal with its hidden conflicts and contradictions and must embody hope in any way possible. To do this we must be able to share in a vision of what does not, but still could, exist. He said, that *“if art cannot change the world, it can help to change the consciousness and drives of the men and women who would change the world”* (Marcuse, 1978; Becker, 1994)

The bad guys have always known how to manipulate and exploit the power of the other brain, the shadow self. The purpose of the Nazi parades, ritual discipline, marching, banners, symbols, music, art, literature, architecture, slogans, and mass gatherings was to allow the expression of mimetic behavior (Horkheimer & Adorno, 1987). By staging art only to entertain, we do not protect ourselves in any way from this recurrence. It simply makes it more likely that we will find ourselves vulnerable to the manipulation of some religious or political demagogue who can use all available techniques to alter our consciousness so that we become available for his suggestions of destruction.

Instead, we need to face the truth of our social past. James Baldwin reminds us that *“Experience which destroys innocence, also leads one back to it.”* Speaking of his hometown, the theater, Vaclav Havel insists that *“The theatre must be something more” a living spiritual and intellectual focus, a place for social self-awareness,*

a vanishing point where all the lines of force of the age meet, a seismograph of the times, a space, an area of freedom, an instrument of human liberation”.

We are barbarians, yet we have the possibility of producing a genuine culture in the future. But language, the most important tool with which to further this, almost entirely fails us. Perhaps other means will appear later which are more useful for the spirit and for truth.

Georg Groddeck

The Meaning of Illness

REFERENCES

- Barker, H. (1989) *Arguments for a Theatre*. London: John Calder
- Barnes, J.A. (1994) *A Pack of Lies: Toward a Sociology of Lying*. New York: Cambridge University Press.
- Beahrs, J.O. (1990). The evolution of pos-traumatic behavior: Three hypotheses. *Dissociation*, 3, 15-21.
- Beahrs, J.O. (1983) *Unity and Multiplicity: Multilevel Consciousness of Self in Hypnosis, Psychiatric Disorder, and Mental Health*
- Becker, C. (1994) Introduction: Presenting the problem. In Becker, C. (ed) *The Subversive Imagination: Artistis, Society, and Social Responsibility*. New York: Routledge.
- Bloom, S.L. (1999). Give Sorrow Words. Email From America. *Psychotherapy Review* 1(6): in press.
- Breuer, J. & Freud, S. (1957) *Studies on Hysteria*. New York: Basic Books.
- Coates, D., Wortman, C.B. & Abben, A. (1979) Reactions to victims. In I.H. Frieze, D. Bar-Tal, & J.S. Carroll (Eds.) *New Approaches to Social Problems*. San Francisco: Jossey Bass.
- Cole, S.L. (1985) *The Absent One: Mourning Ritual, Tragedy, and the Performance of Ambivalence*. University Park, PA: Pennsylvania State University Press.
- Cosmides, L., Tooby, J., & Barkow, J.H. (1992) Introduction: Evolutionary psychology and conceptual integration. In J.H. Barkow, L. Cosmides, & J. Tooby (eds) *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*. New York: Oxford University Press.
- Davidson, R.J., Ekman, P., Saron, C.D., Senullis, J.A., & Friesen, W.V. (1991) Approach-Withdrawal and Cerebral Asymmetry: Emotional Expression and Brain Physiology I. *Journal of Personality and Social Psychology* 58(2), 330-341.
- De Unamuno, M. (1954) *Tragic Sense of Life*. New York: Dover Publications.
- Diamond, J. (1992) *The Third Chimpanzee: The Evolution and Future of the Human Animal*. New York: Harper Collins.
- Dienstrey, H. (1999). Disclosure and health: An interview with James W. Pennebaker. *Advances in Mind-Body Medicine* 15:161-195. (Good review article with multiple authors).
- Dissanayake, E. (1988). *What Is Art For?* Seattle: University of Washington Press.
- Dissanayake, E. (1992). *Homoaestheticus: Where Art Comes From and Why*. New York: The Free Press.
- Donald, M. (1991). *Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition*. Cambridge, MA: Harvard University Press.

Driver, T.F. (1991) *The Magic of Ritual: Our Need for Liberating Rites That Transform Our Lives and Our Communities*. San Francisco: Harper San Francisco.

Dubois, P. (1994) The prehistory of art: Cultural practices and Athenian democracy. In Becker, C. (ed) *The Subversive Imagination: Artists, Society, and Social Responsibility*. New York: Routledge.

Eibl-Eibesfeldt, I. (1989) *Human Ethology*. New York: Aldine de Gruyter.

Ehrenreich, B. (1997). *Blood Rites: Origins and history of the passions of war*. New York: Metropolitan Books.

Ellenberger, H.F. (1970) *The Discovery of the Unconscious: The History and Evolution of Dynamic Psychiatry*. New York: Basic Books

Fritz, R. (1991). *Creating*. New York: Fawcett Columbine

Galin (1974) Implications for psychiatry of left and right cerebral specialization. *Archives of General Psychiatry*. 31: 572-583.

Gardner, Brownell, Wapner & Michelow as quoted in Calvin, W.H. & Ojemann, G.A. (1994). ***Conversations with Neil's Brain: The Neural Nature of Thought and Language***. Reading, MA: Addison-Wesley Publishing Company.

Gazzaniga, M. (1985) *The Social Brain: Discovering the Networks of the Mind*. New York: Basic Books.

Groddeck, G. (1977) *The Meaning of Illness*. New York: International Universities Press.

Grudin, R. (1990) *The Grace of Great Things: Creativity & Innovation*. New York: Ticknor & Fields.

Harber, K.D. & Pennebaker, J.W. (1992). Overcoming traumatic memories. In S.A. Christianson, (Ed.) *The Handbook of Emotion and Memory: Research and Theory*. Hillsdale, N.J.: Lawrence Erlbaum Associates. pp. 359-387.

Hatfield, E., Cacioppa, J.T., & Rapson, R.L. (1994). *Emotional contagion*. New York: Cambridge University Press.

Havel, V. (1990). *Disturbing the peace: Conversations with Karel Hvizdala*. New York: Alfred A. Knopf.

Høeg, P. (1995) *Borderliners*. Great Britain: The Harvill Press.

Horowitz, M.J. (1986). *Stress response syndromes*. Northvale, NJ: Jason Aronson.

Jackson, S.W. (1994) Catharsis and abreaction in the history of psychological healing. *Psychiatric Clinics of North America* 17(3): 471-489.

Janis, I.L. (1982). Decision making under stress. In L. Goldberger & S. Breznitz (Eds.), *Handbook Of Stress: Theoretical And Clinical Aspects*. (pp.69-87). New York: Free Press.

Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. New York: The Free Press.

John-Steiner, V. (1985) *Notebooks of the Mind: Explorations in Thinking*. New York: Harper and Row.

Joseph, R. (1992). *The right brain and the unconscious: Discovering the stranger within*. New York: Plenum.

Joseph, R. (1988) The right cerebral hemisphere: emotion, music, visual spatial skills, body-image, dreams, and awareness. *Journal of Clinical Psychology* 44(5): 630-673.

Kemeny, M. (1993) Emotions and the immune system. In Moyers, B. *Healing and the Mind*. New York: Doubleday.

King, S. (1995) *Rose Madder* . New York: Viking.

Laub, D. & Auerhahn, N. (1993) Knowing and not knowing massive psychic trauma: Forms of traumatic memory. *International Journal of Psycho-Analysis* 74, 287, 261-276.

Laughlin, C.D., McManus, J. & D'Aquili, E.G. (1979).In D'Aquili, EG, Laughlin Jr. C.D., McManus, J. (Eds.). *The Spectrum of Ritual: A Biogenetic Structural Analysis*. New York: Columbia University Press.

Lazarus, R.S. (1991). *Emotion & Adaptation*. New York: Oxford University Press.

Lifton, R.J. (1988). Understanding the traumatized self: Imagery, symbolization, and transformation In J.P. Wilson, Z. Harel, & B. Kahana (Eds.), *Human Adaptation To Extreme Stress: From The Holocaust To Vietnam*. New York: Plenum Publishing.

Lucie-Smith E (1992). *Art and Civilization*. New York: Harry N. Abrams, Inc.

Ludwig, A. M. (1983) The psychobiological functions of dissociation. *American Journal of Clinical Hypnosis* 26: 93-99.

Meier, C.A. (1989) *Healing Dream and Ritual*. Switzerland: Daimon Verlag.

Mesulam, M-M (1985). Patterns in behavioral neuroanatomy: Association areas, the limbic system, and hemispheric specialization. In M. Mesulam (Ed.) *Principles of Behavioral Neurology*. Philadelphia: F.A. Davis Co. (Pp.1-70).

Moyers, Bill. 1993. *Healing and the Mind*. New York: Doubleday.

Nathanson, D.L. (1992). *Shame and pride: Affect, sex, and the birth of the self*. New York: W.W. Norton.

Nichols, Michael P and Melvin Zax. 1977. *Catharsis In Psychotherapy*. New York: Gardner Press.

Orwell, G. (1989) *1984*. New York: Signet

Pennebaker, J.W. (1993). Putting stress into words: health, linguistic, and therapeutic implications. *Behav. Res. Ther*, 31(6): 539-548.

Pennebaker, J.W., Paez D., & Rimé B (Eds.), *Collective Memory of Political Events*. Mahwah, NJ: Lawrence Erlbaum.

Pinker, S. (1994) *The Language Instinct: How The Mind Creates Language*. New York: William Morrow & Co.

Pitman, R.K., & Orr, S. (1990). The black hole of trauma. *Biological Psychiatry*, 27, 469-471.

Putnam, F.W. (1989). *Diagnosis and treatment of multiple personality disorder*. New York: Guilford Press.

Rauch, S. L., Van der Kolk, B. A., Fisler, R. E., Alpert, N. M., Orr, S. P., Savage, C. R., Fischman, A. J., Jenike, M. A., & Pitman, R. K. (1996). A symptom provocation study of posttraumatic stress disorder using positron emission tomography and script-drive imagery. *Archives of General Psychiatry*, 53, 380-387.
Restak, (1994) *The Modular Brain*. New York: Scribner's.

Rodenburg, P. (1993). *The Need For Words: Voice and Text*. New York: Routledge.

Ross, E.D. (1985). Modulation of affect and nonverbal communication by the right hemisphere. In M. Mesulam (Ed.) *Principles of Behavioral Neurology*. Philadelphia: F.A. Davis Co. (pp.239-257).

Rue, L. (1994) *By The Grace of Guile: The Role of Deception in Natural History and Human Affairs*. New York: Oxford University Press.

Sashin, J.I. (1993) Duke Ellington: The creative process and the ability to experience and tolerate affect. In S.L. Ablon, D. Brown, E.J. Khantzian, & J.E. Mack (Eds.), *Human feelings: Explorations in affect development and meaning*. Hillsdale, NJ: The Analytic Press.

Scarry, E. (1985) *The Body in Pain*. New York: Oxford University Press.

Scheff, Thomas J. 1979. *Catharsis in Healing, Ritual, and Drama*. Berkeley: University of California Press.

Schore, A.N. (1994) *Affect Regulation and the Origin of the Self: The Neurobiology of Emotional Development*. Hillsdale, N.J.: Lawrence Erlbaum.

Schumaker, J. F. (1995) *The Corruption of Reality: A Unified Theory of Religion, hypnosis, and psychopathology*. Amherst, N.Y.: Prometheus Books

Sewell, R.B. (1990) *The Vision of Tragedy*. New York: Paragon House

Skyner & Cleese (1993) *Life and How To Survive It*. London: Methuen

Steiner, G. (1961) *The Death of Tragedy*. London: Faber & Faber

- Taylor, S. (1989) *Positive Illusions: Creative Self-Deception and the Healthy Mind*. New York: Basic Books.
- Tinnin, L (1990) Mental Unity, Altered States of Consciousness and Dissociation. *Dissociation* III(3): 154-159.
- Turner, Victor. 1974. *Dramas, Fields, and Metaphors: Symbolic Action in Human Society*. Ithaca: Cornell University Press.
- Turner, Victor. 1982. *From Ritual to Theatre: The Human Seriousness of Play*. New York: PAJ Publications.
- Van der Hart, O. (1983). *Rituals in psychotherapy: Transition and continuity*. New York: Irvington Books.
- Van der Kolk, B.A. (1994). The body keeps the score: Memory and the evolving psychobiology of posttraumatic stress. *Harvard Review of Psychiatry*, 1, 253-265.
- Van der Kolk, B.A. & Ducey, C.P. (1989). The psychological processing of traumatic experience: Rorschach patterns in PTSD. *Journal of Traumatic Stress*, 2, 259-274.
- Van der Kolk, BA, Brown, P., and Van der Hart, O(1989) Pierre Janet on Post-Traumatic Stress. *Journal of Traumatic Stress* 2(4): 365-378
- West, L.J. (1967) Dissociative reactions. In Freeman, A.M> & Kaplan, H.I. (eds) *Comprehensive Textbook of Psychiatry*. Baltimore: William and Wilkins.
- White, W.A. (1919) *Thoughts of a Psychiatrist on the War and After*. New York: Paul B. Hoeber.
- Whyte, L.L. (1960) *The Unconscious Before Freud*. New York: Basic Books.
- Wickham, G (1985) *A History of the Theatre, Second Edition*. London: Phaidon Press.
- Yablonsky L. (1972). *Robopaths: People As Machines*. New York: Bobbs-Merrill.
- Young, J.Z. (1971) *An Introduction to the Study of Man*. Oxford: Oxford University Press.