Memory, Trauma & Loss

By Dr. Peter A. Levine

The brain's function is to choose from the past, to diminish it, to simplify it, but not to preserve it.
- Henri Bergson, from The Creative Mind, 1911

Around 1900, the French philosopher Henri Bergson gleaned deep insights into the nature of memory that are just now being appreciated by contemporary researchers and clinicians. Bergson theorized that there are two fundamentally different forms of memory- one conscious, the other unconscious.

Neuroscientist Daniel Schacter (1996), in Searching for Memory, describes his examination of a patient with a serious head injury. This man (called Mickey) had little memory of his recent experiences. Schacter asked Mickey a series of obscure questions such as "Who holds the world's record for shaking hands?" and "Where was the first baseball game played?" Not surprisingly, Mickey did not know the answers to these questions. Schacter then gave them to him. When asked the same questions twenty minutes later in another room, Mickey correctly answered Teddy Roosevelt and Hoboken, New Jersey, etc., to the trivia questions. However, he had no recollection of how he got this information and thought that perhaps it might have been from his sister. Although he had an implicit memory of his meeting with Schacter twenty minutes earlier, he had no explicit memory of it.

Similar observations and extensive experiments have been carried out by experimental psychologists, cognitive neuroscientists and clinicians, confirming that we humans have two distinctly different forms of memory- one explicit and conscious, the other implicit and unconscious. The description by Schacter of Mickey's strange behavior illustrates the curious "dissociation" between the conscious and unconscious aspects of memory.

So, what role does memory play in the understanding and treatment of trauma? There is a form of implicit memory that is profoundly unconscious and forms the basis for the imprint trauma leaves on the body/mind. The type of memory utilized in learning most physical activities (walking, riding a bike, skiing, etc.) is a form of implicit memory called procedural memory. Procedural or "body memories" are learned sequences of coordinated "motor acts" chained together into meaningful actions. You may not remember explicitly how and when you learned them, but, at the appropriate moment, they are (implicitly) "recalled" and mobilized (acted out) simultaneously. These memories (action patterns) are formed and orchestrated largely by involuntary structures in the cerebellum and basal ganglia.

When a person is exposed to overwhelming stress, threat or injury, they develop a procedural memory. Trauma occurs when these implicit procedures are not neutralized. The failure to restore homeostasis is at the basis for the maladaptive and debilitating symptoms of trauma.
Acts must be carried out to their completion. Whatever their point of departure, the end will be beautiful. It is (only) because an action has not been completed that it is vile.
- Jean Genet, from Thief's Journal.

In response to threat and injury, animals, including humans, execute biologically based, non-conscious action patterns that prepare them to meet the threat and defend themselves. The very structure of trauma, including activation, dissociation and freezing are based on the evolution of survival behaviors. When threatened or injured, all animals draw from a "library" of possible responses. We orient, dodge, duck, stiffen, brace, retract, fight, flee, freeze, collapse, etc. All of these coordinated responses are somatically based- they are things that the body does to protect and defend itself. It is when these orienting and defending responses are overwhelmed that we see trauma.

The bodies of traumatized people portray "snapshots" of their unsuccessful attempts to defend themselves in the face of threat and injury. Trauma is a highly activated incomplete biological response to threat, frozen in time. For example, when we prepare to fight or to flee, muscles throughout our entire body are tensed in specific patterns of high energy readiness. When we are unable to complete the appropriate actions, we fail to discharge the tremendous energy generated by our survival preparations. This energy becomes fixed in specific patterns of neuromuscular readiness. The person then stays in a state of acute and then chronic arousal and dysfunction in the central nervous system. Traumatized people are not suffering from a disease in the normal sense of the word- they have become stuck in an aroused state. It is difficult if not impossible to function normally under these circumstances.

In an attempt to rationalize the highly activated survival responses in which they are stuck, traumatized people will often create stories that energetically match their internal experience. These "memories" may be accurate only in the sense that they are metaphors for what is stored implicitly. Many survivors of trauma need an "explanation" for their disturbing internal states. For example, I have worked with numerous people who came to me fairly certain that they had been molested or raped as children. In many cases the people were correct, but not in all of them. Several clients had created interpretations that seemed to explain their symptoms, but, in fact, they had been traumatized by early childhood surgical procedures. A child may experience a frightening surgical procedure very much like a rape.

Whether you can remember a traumatic event explicitly is not highly significant for healing to take place. Trauma is implicit. What is significant in the resolution of trauma is the completion of the incomplete responses to threat and to discharge the energy that was mobilized for survival. In this way, survivors can begin to re-member in the sense of associating the dissociated aspects of their body experience and thawing the frozen energy that is at the core of their trauma. In doing this, they begin to integrate implicit experience into coherent conscious narratives. These stories are neither true nor false. They contain a balance of elements, some of which are historically accurate, some are symbolic of feeling states, while the primary function of others is to promote the healing process.

Twenty-five years ago, Jody's life was shattered. While walking in the woods near her boyfriend's house, a hunter came up to her and began a conversation. It was mid-
September. There was a chill in the air—her boyfriend and others thought nothing when they saw someone apparently chopping wood. A madman, however, was smashing Jody's head again and again with his rifle. The police found Jody unconscious. Chips from the butt of the rifle lay nearby where they had broken off in the violent attack.

When I first saw Jody two years ago, the only recollection she had of the event was scant and confused. She vaguely remembered meeting the man and then waking up in the hospital some days later. Jody had been suffering from anxiety, migraines, concentration and memory problems, depression, chronic fatigue and chronic pain of the head, back and neck regions (diagnosed as fibromyalgia.) She had been treated by physical therapists, chiropractors, and various physicians.

Jody, like so many head-injured and traumatized individuals, grasped desperately and obsessively in an attempt to retrieve memories of her trauma. When I suggested to Jody that it was possible to experience healing without having to remember the event, I saw a flicker of hope and a momentary look of relief pass across her face. We talked for a while, reviewing her history and struggle to function.

Focusing on body sensations, Jody slowly became aware of various tension patterns in her head and neck region. With this focus on the felt sense, she began to notice a particular urge to turn and retract her neck. In following this urge in slow gradual "micro movements" she experienced a momentary fear, followed by a strong tingling sensation.

Through following these movements, Jody began a journey through the trauma of her assault. In learning to move between flexible control and surrender to these involuntary movements, she began to experience gentle shaking and trembling throughout her body. Thus began, ever so gently, the discharge of her trauma. Jody's implicit memory was leading her home.

In later sessions, Jody experienced other spontaneous movements, as well as sounds and impulses to run, bare her teeth and claw at her assailant. By completing these responses, Jody was able to construct a sense of how her body prepared to react in that fraction of a second when she was attacked. In allowing these movements and sounds to be expressed, Jody began to experience a deep organic discharge along with her body's innate capacity to defend and protect itself.

While explicit memory is accessed primarily through thought, implicit memory must be reached through the body. Jody, through her felt sense, was able to follow her body's intentional movement. Intentional movement is non-conscious— it is experienced as if the body is moving of its own volition. Through completing the life preserving actions that her body had prepared for at the time of her attack, she released that bound energy and realized that she had, in fact, attempted to defend herself.

Renegotiation is a word I use to describe the process of healing or resolving trauma. It is the gradual discharge of the highly compressed survival energies, accompanied by a completion of biological defensive and orienting responses that were frozen at the time of overwhelm. It is not a cathartic reliving of the traumatic event, a method that can lead to re-traumatization.
Somatic Experiencing (SE) is the name I have given to this work. SE is based on the understanding of why animals in the wild, though their lives are threatened routinely, are rarely traumatized. Their ability to fully discharge the highly activated energies mobilized for survival and then reorient (resume normal functioning) points to an innate, instinctual capacity for the resolution of trauma. Humans share this innate capacity.

The foundation of Somatic Experiencing is built upon a tradition of somatic education and body-oriented psychotherapy. It draws upon the neurobiological study of the multidirectional interconnection between the body, brain and mind. This approach uses education about and awareness of body sensations as a primary tool to alter these pathways. When appropriate, gentle manipulation of the muscles, joints and viscera is employed. Traumatized individuals learn the biological strategies that enable animals to restore homeostasis after being aroused by a threat. Empowered with these innate resources, people can transform trauma.

One of the paradoxical and transformative aspects of implicit traumatic memory is that once it is accessed in a resourced way (through the felt sense), it, by its very nature, changes. Out of the shattered fragments of her deeply injured psyche, Jody discovered and nurtured a nascent, emergent self. From the ashes of the frantically activated, hypervigilant, frozen, traumatized girl of twenty-five years ago, Jody began to reorient to a new, less threatening world. Gradually she shaped into a more fluid, resilient, woman, coming to terms with the felt capacity to fiercely defend herself when necessary, and to surrender in quiet ecstasy.

copyright © Peter Levine Ph.D. 1996
This article is reprinted from Creations Magazine, November 2000