under two conditions. First, when the hippocampus is not yet functional, generally thought to be before the age of 4, the memories are being stored in the dorsal striatum (considered by some to be part of the limbic system). Second, it occurs when an immensely huge biological response to an event causes hippocampal dysfunction. This leads to an aspect of traumatization called dissociation. Here, a narrative is unavailable, and abnormal retrieval of the event occurs in the form of nightmares, intrusive thoughts, and flashbacks.

Traumatization cannot occur without a functional limbic system. Recent research by Melvin L. Harper and colleagues suggest that pathways involving glutamate-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptors in the LA and BLA are activated during encoding and reactivation. An enzyme called phosphokinase M zeta maintains these glutamate receptors. It now appears that these glutamate receptors become subject to disruption when activated, providing a potential mechanism for disrupting an encoded event. In summary, under ordinary circumstance, the limbic system is used to protect us from predation. Under conditions of traumatization, an event appears to be encoded as an immutable engram, forever affecting our lives. To be able to de-encode this has the potential to mitigate much of human suffering.

Ronald A. Ruden

See also Biology and Posttraumatic Stress Disorder; Dissociation; Fear, Posttraumatic

Further Readings


Literary Expressions of Trauma

Trauma can be so terrifying or indescribable in ordinary terms that it can be expressed only indirectly. The arts, with their use of symbolic, disguised, or nonverbal language, can therefore express some very powerful images of trauma. This entry explores the expression of traumatic experiences in literature, covering representative examples of different types of trauma, historical periods and locations, and the therapeutic uses of these expressions.

An early and very influential depiction of trauma was from the medieval poet Dante Alighieri, who vividly described the realms of Hell and Purgatory in The Divine Comedy. Other notable descriptions come from Samuel Pepys’s account of the catastrophic 1666 London fire and Arthur Koestler’s description of the Stalinist purges of the 1930s in his novel Darkness at Noon. A well-known semiautobiographical account of the Italian campaigns during World War I is Ernest Hemingway’s A Farewell to Arms. Kurt Vonnegut’s Slaughterhouse-Five, a fictional treatment of Vonnegut’s experience of the firebombing of Dresden in which thousands of civilians died, and Joseph Heller’s tragicomic Catch-22 told readers about the horrors and insanity of World War II. The most famous diaries recounting life in hiding and in a concentration camp came from Anne Frank, Elie Wiesel, and Primo Levi. After the Holocaust, German literature confronted the role of shame and guilt in postwar Germany, the task of dealing with destruction at the end of the war, the construction of a German identity before and after unification, and the international reactions to the war.
Literary expressions of trauma in Japan explore the role of the arts in “constituting” traumatic historical events so they can be assimilated and integrated. The representations of the Asia Pacific War experience through various Japanese media helped readers respond to images of extreme violence. Haruki Murakami, winner of the Franz Kafka prize and the Jerusalem prize, used the Wind-Up Bird Chronicle to look at the violence of the war years as a root of Japan’s malaise. Medoruma Shun, winner of the Akutagawa Prize, showed how the battle of Okinawa carries memories of the war forward to new generations. The appearance of the atom bomb signaled unimaginable higher stakes and a new willingness to risk annihilation. These themes were unforgettably explored in John Hersey’s nonfiction book Hiroshima, published in 1946 and widely taught in journalism schools as a classic of in-depth reportage.

Since then, many books, articles, and testimonials express survivor guilt, secondary trauma, and the use of literature to work through trauma, bear witness, bring agency, and fulfill responsibility to future generations. In 1984, the first 15-volume compendium was published in Japanese; in 1995, John Whittier Treat’s Writing Ground Zero: Japanese Literature and the Atomic Bomb was the English equivalent.

In Vietnam, the history of trauma literature is relatively recent. Tim O’Brien, perhaps America’s leading Vietnam writer, covered such topics as post-traumatic stress disorder and the act of writing, self-representation of the soldier versus the writer, and the recovery of personal experiences by capturing and disguising them over and over.

To explore how South Africa is still dealing with its traumatic past 20 years after the end of apartheid, 14 South African experts—authors, psychologists, and politicians—were interviewed to provide insights into the South African soul, hopes, and anxieties. Topics discussed included imagining the real, the tricks of memory and risks of false remembering, the importance of autobiographies in the reconstruction of history in South African Truth and Reconciliation process, the need for new modes of reading and listening to understand these stories, and the way in which fiction can mirror the relationship between concealing and disclosing. This collection of interviews illustrates the importance of an interdisciplinary approach to understanding the many layers of trauma and the use of literature to transform trauma memory (hot) into narrative memory (cool) through the telling of a story.

Children’s literature is another source of trauma writing. One tradition of 20th-century U.S. classics such as Old Yeller and Johnny Tremain shows trauma to be part of becoming a mature adult through the loss of the loved object and maturation of the self through love and loss. Another aspect of literary expressions of trauma, the relationship between childhood trauma, play and creativity, mythic stories, and the process of finding resolution is explored in Bruce St. Thomas and Paul Johnson’s book Empowering Children Through Art and Expression: Culturally Sensitive Ways of Healing Trauma and Grief. Psychologist Lenore Terr opens the question about the relationship between childhood trauma and creativity in the works of prominent artists and writers.

The role of memory and truth is examined through the works of James Joyce, who is central to the voice of Irish modernity, bearing witness to a shared traumatic colonial experience. His keen understanding of the politics of his day, his mastery of the English language and of literary form, and, late in his career, his exploration of world mythology and the limits of language itself raises questions about the nature of human reality. His work has profoundly influenced several generations of writers and thinkers, including the critical theorists Jacques Derrida and Slavoj Žižek.

Looking at the question of how the literature of trauma survivors affects the dominant culture, writer Kali Tal shows how it both threatens and educates the culture at large. Psychoanalyst David Aberbach examines the question of whether bereavement can inspire creative writing by examining the works of Walt Whitman, D. H. Lawrence, and literary works written after the Holocaust. Aberbach concludes that creativity can be stimulated by yearning following loss, whereas psychoanalyst Rollo May takes an existential approach in The Courage to Create.

Other authors build on the question of the value of expressing trauma through literature by describing the power of witnessing, shame, narrative, and life review to work through trauma. The question of what it means to “work through” trauma was famously explored by Sigmund Freud, whereas contemporary health psychologist James Pennebaker studies the health benefits of writing. The creative arts therapies—especially narrative, storycraft, and poetry therapy—are integrating recent advances in neuroscience with the use of writing as a modality in working with trauma. By transforming trauma
into art, artists and writers function as prophets and reporters to the culture at large.

Ilene Ava Serlin

See also Art and Trauma; Dance and Trauma; Expressive Art Therapies; Poetry and Trauma; Trauma and Metaphor

Further Readings


