#1 **NEW YORK TIMES** BESTSELLER

THE BODY KEEPS THE SCORE

BRAIN, MIND, AND BODY IN THE HEALING OF TRAUMA

BESSEL VAN DER KOLK, M.D.

"A MASTERPIECE THAT COMBINES THE BOUNDLESS CURIOSITY OF THE SCIENTIST, THE ERUDITION OF THE SCHOLAR, AND THE PASSION OF THE TRUTH TELLER." —JUDITH HERMAN, M.D.

Praise for *The Body Keeps the Score*

"This book is a tour de force. Its deeply empathic, insightful, and compassionate perspective promises to further humanize the treatment of trauma victims, dramatically expand their repertoire of self-regulatory healing practices and therapeutic options, and also stimulate greater creative thinking and research on trauma and its effective treatment. The body does keep the score, and Van der Kolk's ability to demonstrate this through compelling descriptions of the work of others, his own pioneering trajectory and experience as the field evolved and him along with it, and above all, his discovery of ways to work skillfully with people by bringing mindfulness to the body (as well as to their thoughts and emotions) through yoga, movement, and theater are a wonderful and welcome breath of fresh air and possibility in the therapy world."

—Jon Kabat-Zinn, professor of medicine emeritus, UMass Medical School; author of *Full Catastrophe Living*

"This exceptional book will be a classic of modern psychiatric thought. The impact of overwhelming experience can only be truly understood when many disparate domains of knowledge, such as neuroscience, developmental psychopathology, and interpersonal neurobiology are integrated, as this work uniquely does. There is no other volume in the field of traumatic stress that has distilled these domains of science with such rich historical and clinical perspectives, and arrived at such innovative treatment approaches. The clarity of vision and breadth of wisdom of this unique but highly accessible work is remarkable. This book is essential reading for anyone interested in understanding and treating traumatic stress and the scope of its impact on society."

—Alexander McFarlane AO, MB BS (Hons) MD FRANZCP, director of the Centre for Traumatic Stress Studies, The University of Adelaide, South Australia.

"This is an amazing accomplishment from the neuroscientist most responsible for the contemporary revolution in mental health toward the

recognition that so many mental problems are the product of trauma. With the compelling writing of a good novelist, van der Kolk revisits his fascinating journey of discovery that has challenged established wisdom in psychiatry. Interspersed with that narrative are clear and understandable descriptions of the neurobiology of trauma; explanations of the ineffectiveness of traditional approaches to treating trauma; and introductions to the approaches that take patients beneath their cognitive minds to heal the parts of them that remained frozen in the past. All this is illustrated vividly with dramatic case histories and substantiated with convincing research. This is a watershed book that will be remembered as tipping the scales within psychiatry and the culture at large toward the recognition of the toll traumatic events and our attempts to deny their impact take on us all."

—Richard Schwartz, originator, Internal Family Systems Therapy

"*The Body Keeps the Score* is clear, fascinating, hard to put down, and filled with powerful case histories. Van der Kolk, the eminent impresario of trauma treatment, who has spent a career bringing together diverse trauma scientists and clinicians and their ideas, while making his own pivotal contributions, describes what is arguably the most important series of breakthroughs in mental health in the last thirty years. We've known that psychological trauma fragments the mind. Here we see not only how psychological trauma also breaks connections within the brain, but also between mind *and* body, and learn about the exciting new approaches that allow people with the severest forms of trauma to put all the parts back together again."

—Norman Doidge, author of *The Brain That Changes Itself*

"In *The Body Keeps the Score* we share the author's courageous journey into the parallel dissociative worlds of trauma victims and the medical and psychological disciplines that are meant to provide relief. In this compelling book we learn that as our minds desperately try to leave trauma behind, our bodies keep us trapped in the past with wordless emotions and feelings. These inner disconnections cascade into ruptures in social relationships with disastrous effects on marriages, families, and friendships. Van der Kolk offers hope by describing treatments and strategies that have

successfully helped his patients reconnect their thoughts with their bodies. We leave this shared journey understanding that only through fostering self-awareness and gaining an inner sense of safety will we, as a species, fully experience the richness of life.

—Stephen W. Porges, PhD, professor of psychiatry, University of North Carolina at Chapel Hill; author of *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-Regulation*

"Bessel van der Kolk is unequaled in his ability to synthesize the stunning developments in the field of psychological trauma over the past few decades. Thanks in part to his work, psychological trauma—ranging from chronic child abuse and neglect, to war trauma and natural disasters—is now generally recognized as a major cause of individual, social, and cultural breakdown. In this masterfully lucid and engaging tour de force, Van der Kolk takes us—both specialists and the general public— on his personal journey and shows what he has learned from his research, from his colleagues and students, and, most important, from his patients. *The Body Keeps the Score* is, simply put, brilliant."

—Onno van der Hart, PhD, Utrecht University, The Netherlands; senior author, *The Haunted Self: Structural Dissociation and the Treatment of Chronic Traumatization*

"*The Body Keeps the Score* articulates new and better therapies for toxic stress based on a deep understanding of the effects of trauma on brain development and attachment systems. This volume provides a moving summary of what is currently known about the effects of trauma on individuals and societies, and introduces the healing potential of both age-old and novel approaches to help traumatized children and adults fully engage in the present."

—Jessica Stern, policy consultant on terrorism; author of *Denial: A Memoir of Terror*

"A book about understanding the impact of trauma by one of the true pioneers in the field. It is a rare book that integrates cutting edge neuroscience with wisdom and understanding about the experience and meaning of trauma, for people who have suffered from it. Like its author, this book is wise and compassionate, occasionally quite provocative, and always interesting."

—Glenn N. Saxe, MD, Arnold Simon Professor and chairman, Department of Child and Adolescent Psychiatry; director, NYU Child Study Center, New York University School of Medicine.

"A fascinating exploration of a wide range of therapeutic treatments shows readers how to take charge of the healing process, gain a sense of safety, and find their way out of the morass of suffering."

—Francine Shapiro, PhD, originator of EMDR therapy; senior research fellow, Emeritus Mental Research Institute; author of *Getting Past Your Past*

"As an attachment researcher I know that infants are psychobiological beings. They are as much of the body as they are of the brain. Without language or symbols infants use every one of their biological systems to make meaning of their self in relation to the world of things and people. Van der Kolk shows that those very same systems continue to operate at every age, and that traumatic experiences, especially chronic toxic experience during early development, produce psychic devastation. With this understanding he provides insight and guidance for survivors, researchers, and clinicians alike. Bessel van der Kolk may focus on the body and trauma, but what a mind he must have to have written this book."

—Ed Tronick, distinguished professor, University of Massachusetts, Boston; author of *Neurobehavior and Social Emotional Development of Infants and Young Children*

"*The Body Keeps the Score* eloquently articulates how overwhelming experiences affect the development of brain, mind, and body awareness, all of which are closely intertwined. The resulting derailments have a profound impact on the capacity for love and work. This rich integration of clinical case examples with ground breaking scientific studies provides us with a new understanding of trauma, which inevitably leads to the exploration of novel therapeutic approaches that 'rewire' the brain, and help traumatized people to reengage in the present. This book will provide traumatized individuals with a guide to healing and permanently change how psychologists and psychiatrists think about trauma and recovery."

—Ruth A. Lanius, MD, PhD, Harris-Woodman chair in Psyche and Soma, professor of psychiatry, and director PTSD research at the University of Western Ontario; author of *The Impact of Early Life Trauma on Health and Disease*

"When it comes to understanding the impact of trauma and being able to continue to grow despite overwhelming life experiences, Bessel van der Kolk leads the way in his comprehensive knowledge, clinical courage, and creative strategies to help us heal. *The Body Keeps the Score* is a cutting-edge offering for the general reader to comprehend the complex effects of trauma, and a guide to a wide array of scientifically informed approaches to not only reduce suffering, but to move beyond mere survival— and to thrive."

—Daniel J. Siegel, MD, clinical professor, UCLA School of Medicine, author of *Brainstorm: The Power and Purpose of the Teenage Brain; Mindsight: The New Science of Personal Transformation;* and *The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are*

"In this magnificent book, Bessel van der Kolk takes the reader on a captivating journey that is chock-full of riveting stories of patients and their struggles interpreted through history, research, and neuroscience made accessible in the words of a gifted storyteller. We are privy to the author's own courageous efforts to understand and treat trauma over the past forty years, the results of which have broken new ground and challenged the status quo of psychiatry and psychotherapy. *The Body Keeps the Score* leaves us with both a profound appreciation for and a felt sense of the debilitating effects of trauma, along with hope for the future through fascinating descriptions of novel approaches to treatment. This outstanding volume is absolutely essential reading not only for therapists but for all who seek to understand, prevent, or treat the immense suffering caused by trauma."

—Pat Ogden PhD, founder/educational director of the Sensorimotor Psychotherapy Institute; author of *Sensorimotor Psychotherapy: Interventions for Trauma and Attachment*

"This is masterpiece of powerful understanding and brave heartedness, one of the most intelligent and helpful works on trauma I have ever read. Dr. Van der Kolk offer a brilliant synthesis of clinical cases, neuroscience, powerful tools and caring humanity, offering a whole new level of healing for the traumas carried by so many."

—Jack Kornfield, author of *A Path with Heart*

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To my patients, who kept the score and were the textbook.

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PROLOGUE

FACING TRAUMA

One does not have be a combat soldier, or visit a refugee camp in Syria or the Congo to encounter trauma. Trauma happens to us, our friends, our families, and our neighbors. Research by the Centers for Disease Control and Prevention has shown that one in five Americans was sexually molested as a child; one in four was beaten by a parent to the point of a mark being left on their body; and one in three couples engages in physical violence. A quarter of us grew up with alcoholic relatives, and one out of eight witnessed their mother being beaten or hit.[1]

As human beings we belong to an extremely resilient species. Since time immemorial we have rebounded from our relentless wars, countless disasters (both natural and man-made), and the violence and betrayal in our own lives. But traumatic experiences do leave traces, whether on a large scale (on our histories and cultures) or close to home, on our families, with dark secrets being imperceptibly passed down through generations. They also leave traces on our minds and emotions, on our capacity for joy and intimacy, and even on our biology and immune systems.

Trauma affects not only those who are directly exposed to it, but also those around them. Soldiers returning home from combat may frighten their families with their rages and emotional absence. The wives of men who suffer from PTSD tend to become depressed, and the children of depressed mothers are at risk of growing up insecure and anxious. Having been exposed to family violence as a child often makes it difficult to establish stable, trusting relationships as an adult.

Trauma, by definition, is unbearable and intolerable. Most rape victims, combat soldiers, and children who have been molested become so upset when they think about what they experienced that they try to push it out of their minds, trying to act as if nothing happened, and move on. It takes tremendous energy to keep functioning while carrying the memory of terror, and the shame of utter weakness and vulnerability.

While we all want to move beyond trauma, the part of our brain that is devoted to ensuring our survival (deep below our rational brain) is not very good at denial. Long after a traumatic experience is over, it may be reactivated at the slightest hint of danger and mobilize disturbed brain circuits and secrete massive amounts of stress hormones. This precipitates unpleasant emotions intense physical sensations, and impulsive and aggressive actions. These posttraumatic reactions feel incomprehensible and overwhelming. Feeling out of control, survivors of trauma often begin to fear that they are damaged to the core and beyond redemption.

• • •

The first time I remember being drawn to study medicine was at a summer camp when I was about fourteen years old. My cousin Michael kept me up all night explaining the intricacies of how kidneys work, how they secrete the body's waste materials and then reabsorb the chemicals that keep the system in balance. I was riveted by his account of the miraculous way the body functions. Later, during every stage of my medical training, whether I was studying surgery, cardiology, or pediatrics, it was obvious to me that the key to healing was understanding how the human organism works. When I began my psychiatry rotation, however, I was struck by the contrast between the incredible complexity of the mind and the ways that we human beings are connected and attached to one another, and how little psychiatrists knew about the origins of the problems they were treating. Would it be possible one day to know as much about brains, minds, and love as we do about the other systems that make up our organism?

We are obviously still years from attaining that sort of detailed understanding, but the birth of three new branches of science has led to an explosion of knowledge about the effects of psychological trauma, abuse, and neglect. Those new disciplines are neuroscience, the study of how the

brain supports mental processes; developmental psychopathology, the study of the impact of adverse experiences on the development of mind and brain; and interpersonal neurobiology, the study of how our behavior influences the emotions, biology, and mind-sets of those around us.

Research from these new disciplines has revealed that trauma produces actual physiological changes, including a recalibration of the brain's alarm system, an increase in stress hormone activity, and alterations in the system that filters relevant information from irrelevant. We now know that trauma compromises the brain area that communicates the physical, embodied feeling of being alive. These changes explain why traumatized individuals become hypervigilant to threat at the expense of spontaneously engaging in their day-to-day lives. They also help us understand why traumatized people so often keep repeating the same problems and have such trouble learning from experience. We now know that their behaviors are not the result of moral failings or signs of lack of willpower or bad character—they are caused by actual changes in the brain.

This vast increase in our knowledge about the basic processes that underlie trauma has also opened up new possibilities to palliate or even reverse the damage. We can now develop methods and experiences that utilize the brain's own natural neuroplasticity to help survivors feel fully alive in the present and move on with their lives. There are fundamentally three avenues: 1) top down, by talking, (re-) connecting with others, and allowing ourselves to know and understand what is going on with us, while processing the memories of the trauma; 2) by taking medicines that shut down inappropriate alarm reactions, or by utilizing other technologies that change the way the brain organizes information, and 3) bottom up: by allowing the body to have experiences that deeply and viscerally contradict the helplessness, rage, or collapse that result from trauma. Which one of these is best for any particular survivor is an empirical question. Most people I have worked with require a combination.

This has been my life's work. In this effort I have been supported by my colleagues and students at the Trauma Center, which I founded thirty years ago. Together we have treated thousands of traumatized children and adults: victims of child abuse, natural disasters, wars, accidents, and human trafficking; people who have suffered assaults by intimates and strangers. We have a long tradition of discussing all our patients in great depth at

weekly treatment team meetings and carefully tracking how well different forms of treatment work for particular individuals.

Our principal mission has always been to take care of the children and adults who have come to us for treatment, but from the very beginning we also have dedicated ourselves to conducting research to explore the effects of traumatic stress on different populations and to determine what treatments work for whom. We have been supported by research grants from the National Institute of Mental Health, the National Center for Complementary and Alternative Medicine, the Centers for Disease Control, and a number of private foundations to study the efficacy of many different forms of treatment, from medications to talking, yoga, EMDR, theater, and neurofeedback.

The challenge is: How can people gain control over the residues of past trauma and return to being masters of their own ship? Talking, understanding, and human connections help, and drugs can dampen hyperactive alarm systems. But we will also see that the imprints from the past can be transformed by having physical experiences that directly contradict the helplessness, rage, and collapse that are part of trauma, and thereby regaining self-mastery. I have no preferred treatment modality, as no single approach fits everybody, but I practice all the forms of treatment that I discuss in this book. Each one of them can produce profound changes, depending on the nature of the particular problem and the makeup of the individual person.

I wrote this book to serve as both a guide and an invitation—an invitation to dedicate ourselves to facing the reality of trauma, to explore how best to treat it, and to commit ourselves, as a society, to using every means we have to prevent it.

PART ONE

THE REDISCOVERY OF TRAUMA

CHAPTER 1

LESSONS FROM VIETNAM VETERANS

> I became what I am today at the age of twelve, on a frigid overcast day in the winter of 1975. . . . That was a long time ago, but it's wrong what they say about the past. . . . Looking back now, I realize I have been peeking into that deserted alley for the last twenty-six years.
>
> **—Khaled Hosseini, *The Kite Runner***

> Some people's lives seem to flow in a narrative; mine had many stops and starts. That's what trauma does. It interrupts the plot. . . . It just happens, and then life goes on. No one prepares you for it.
>
> **—Jessica Stern, *Denial: A Memoir of Terror***

The Tuesday after the Fourth of July weekend, 1978, was my first day as a staff psychiatrist at the Boston Veterans Administration Clinic. As I was hanging a reproduction of my favorite Breughel painting, "The Blind Leading the Blind," on the wall of my new office, I heard a commotion in the reception area down the hall. A moment later a large, disheveled man in a stained three-piece suit, carrying a copy of *Soldier of Fortune* magazine under his arm, burst through my door. He was so agitated and so clearly

hungover that I wondered how I could possibly help this hulking man. I asked him to take a seat, and tell me what I could do for him.

His name was Tom. Ten years earlier he had been in the Marines, doing his service in Vietnam. He had spent the holiday weekend holed up in his downtown-Boston law office, drinking and looking at old photographs, rather than with his family. He knew from previous years' experience that the noise, the fireworks, the heat, and the picnic in his sister's backyard against the backdrop of dense early-summer foliage, all of which reminded him of Vietnam, would drive him crazy. When he got upset he was afraid to be around his family because he behaved like a monster with his wife and two young boys. The noise of his kids made him so agitated that he would storm out of the house to keep himself from hurting them. Only drinking himself into oblivion or riding his Harley-Davidson at dangerously high speeds helped him to calm down.

Nighttime offered no relief—his sleep was constantly interrupted by nightmares about an ambush in a rice paddy back in 'Nam, in which all the members of his platoon were killed or wounded. He also had terrifying flashbacks in which he saw dead Vietnamese children. The nightmares were so horrible that he dreaded falling asleep and he often stayed up for most of the night, drinking. In the morning his wife would find him passed out on the living room couch, and she and the boys had to tiptoe around him while she made them breakfast before taking them to school.

Filling me in on his background, Tom said that he had graduated from high school in 1965, the valedictorian of his class. In line with his family tradition of military service he enlisted in the Marine Corps immediately after graduation. His father had served in World War II in General Patton's army, and Tom never questioned his father's expectations. Athletic, intelligent, and an obvious leader, Tom felt powerful and effective after finishing basic training, a member of a team that was prepared for just about anything. In Vietnam he quickly became a platoon leader, in charge of eight other Marines. Surviving slogging through the mud while being strafed by machine-gun fire can leave people feeling pretty good about themselves—and their comrades.

At the end of his tour of duty Tom was honorably discharged, and all he wanted was to put Vietnam behind him. Outwardly that's exactly what he did. He attended college on the GI Bill, graduated from law school, married

his high school sweetheart, and had two sons. Tom was upset by how difficult it was to feel any real affection for his wife, even though her letters had kept him alive in the madness of the jungle. Tom went through the motions of living a normal life, hoping that by faking it he would learn to become his old self again. He now had a thriving law practice and a picture-perfect family, but he sensed he wasn't normal; he felt dead inside.

Although Tom was the first veteran I had ever encountered on a professional basis, many aspects of his story were familiar to me. I grew up in postwar Holland, playing in bombed-out buildings, the son of a man who had been such an outspoken opponent of the Nazis that he had been sent to an internment camp. My father never talked about his war experiences, but he was given to outbursts of explosive rage that stunned me as a little boy. How could the man I heard quietly going down the stairs every morning to pray and read the Bible while the rest of the family slept have such a terrifying temper? How could someone whose life was devoted to the pursuit of social justice be so filled with anger? I witnessed the same puzzling behavior in my uncle, who had been captured by the Japanese in the Dutch East Indies (now Indonesia) and sent as a slave laborer to Burma, where he worked on the famous bridge over the river Kwai. He also rarely mentioned the war, and he, too, often erupted into uncontrollable rages.

As I listened to Tom, I wondered if my uncle and my father had had nightmares and flashbacks—if they, too, had felt disconnected from their loved ones and unable to find any real pleasure in their lives. Somewhere in the back of my mind there must also have been my memories of my frightened—and often frightening—mother, whose own childhood trauma was sometimes alluded to and, I now believe, was frequently reenacted. She had the unnerving habit of fainting when I asked her what her life was like as a little girl and then blaming me for making her so upset.

Reassured by my obvious interest, Tom settled down to tell me just how scared and confused he was. He was afraid that he was becoming just like his father, who was always angry and rarely talked with his children—except to compare them unfavorably with his comrades who had lost their lives around Christmas 1944, during the Battle of the Bulge.

As the session was drawing to a close, I did what doctors typically do: I focused on the one part of Tom's story that I thought I understood—his nightmares. As a medical student I had worked in a sleep laboratory,

observing people's sleep/dream cycles, and had assisted in writing some articles about nightmares. I had also participated in some early research on the beneficial effects of the psychoactive drugs that were just coming into use in the 1970s. So, while I lacked a true grasp of the scope of Tom's problems, the nightmares were something I could relate to, and as an enthusiastic believer in better living through chemistry, I prescribed a drug that we had found to be effective in reducing the incidence and severity of nightmares. I scheduled Tom for a follow-up visit two weeks later.

When he returned for his appointment, I eagerly asked Tom how the medicines had worked. He told me he hadn't taken any of the pills. Trying to conceal my irritation, I asked him why. "I realized that if I take the pills and the nightmares go away," he replied, "I will have abandoned my friends, and their deaths will have been in vain. I need to be a living memorial to my friends who died in Vietnam."

I was stunned: Tom's loyalty to the dead was keeping him from living his own life, just as his father's devotion to his friends had kept him from living. Both father's and son's experiences on the battlefield had rendered the rest of their lives irrelevant. How had that happened, and what could we do about it? That morning I realized I would probably spend the rest of my professional life trying to unravel the mysteries of trauma. How do horrific experiences cause people to become hopelessly stuck in the past? What happens in people's minds and brains that keeps them frozen, trapped in a place they desperately wish to escape? Why did this man's war not come to an end in February 1969, when his parents embraced him at Boston's Logan International Airport after his long flight back from Da Nang?

Tom's need to live out his life as a memorial to his comrades taught me that he was suffering from a condition much more complex than simply having bad memories or damaged brain chemistry—or altered fear circuits in the brain. Before the ambush in the rice paddy, Tom had been a devoted and loyal friend, someone who enjoyed life, with many interests and pleasures. In one terrifying moment, trauma had transformed everything.

During my time at the VA I got to know many men who responded similarly. Faced with even minor frustrations, our veterans often flew instantly into extreme rages. The public areas of the clinic were pockmarked with the impacts of their fists on the drywall, and security was kept constantly busy protecting claims agents and receptionists from

enraged veterans. Of course, their behavior scared us, but I also was intrigued.

At home my wife and I were coping with similar problems in our toddlers, who regularly threw temper tantrums when told to eat their spinach or to put on warm socks. Why was it, then, that I was utterly unconcerned about my kids' immature behavior but deeply worried by what was going on with the vets (aside from their size, of course, which gave them the potential to inflict much more harm than my two-footers at home)? The reason was that I felt perfectly confident that, with proper care, my kids would gradually learn to deal with frustrations and disappointments, but I was skeptical that I would be able to help my veterans reacquire the skills of self-control and self-regulation that they had lost in the war.

Unfortunately, nothing in my psychiatric training had prepared me to deal with any of the challenges that Tom and his fellow veterans presented. I went down to the medical library to look for books on war neurosis, shell shock, battle fatigue, or any other term or diagnosis I could think of that might shed light on my patients. To my surprise the library at the VA didn't have a single book about any of these conditions. Five years after the last American soldier left Vietnam, the issue of wartime trauma was still not on anybody's agenda. Finally, in the Countway Library at Harvard Medical School, I discovered *The Traumatic Neuroses of War*, which had been published in 1941 by a psychiatrist named Abram Kardiner. It described Kardiner's observations of World War I veterans and had been released in anticipation of the flood of shell-shocked soldiers expected to be casualties of World War II.[1]

Kardiner reported the same phenomena I was seeing: After the war his patients were overtaken by a sense of futility; they became withdrawn and detached, even if they had functioned well before. What Kardiner called "traumatic neuroses," today we call posttraumatic stress disorder—PTSD. Kardiner noted that sufferers from traumatic neuroses develop a chronic vigilance for and sensitivity to threat. His summation especially caught my eye: "The nucleus of the neurosis is a physioneurosis."[2] In other words, posttraumatic stress isn't "all in one's head," as some people supposed, but

has a physiological basis. Kardiner understood even then that the symptoms have their origin in the entire body's response to the original trauma.

Kardiner's description corroborated my own observations, which was reassuring, but it provided me with little guidance on how to help the veterans. The lack of literature on the topic was a handicap, but my great teacher, Elvin Semrad, had taught us to be skeptical about textbooks. We had only one real textbook, he said: our patients. We should trust only what we could learn from them—and from our own experience. This sounds so simple, but even as Semrad pushed us to rely upon self-knowledge, he also warned us how difficult that process really is, since human beings are experts in wishful thinking and obscuring the truth. I remember him saying: "The greatest sources of our suffering are the lies we tell ourselves." Working at the VA I soon discovered how excruciating it can be to face reality. This was true both for my patients and for myself.

We don't really want to know what soldiers go through in combat. We do not really want to know how many children are being molested and abused in our own society or how many couples—almost a third, as it turns out—engage in violence at some point during their relationship. We want to think of families as safe havens in a heartless world and of our own country as populated by enlightened, civilized people. We prefer to believe that cruelty occurs only in faraway places like Darfur or the Congo. It is hard enough for observers to bear witness to pain. Is it any wonder, then, that the traumatized individuals themselves cannot tolerate remembering it and that they often resort to using drugs, alcohol, or self-mutilation to block out their unbearable knowledge?

Tom and his fellow veterans became my first teachers in my quest to understand how lives are shattered by overwhelming experiences, and in figuring out how to enable them to feel fully alive again.

TRAUMA AND THE LOSS OF SELF

The first study I did at the VA started with systematically asking veterans what had happened to them in Vietnam. I wanted to know what had pushed them over the brink, and why some had broken down as a result of that experience while others had been able to go on with their lives.[3] Most of the

men I interviewed had gone to war feeling well prepared, drawn close by the rigors of basic training and the shared danger. They exchanged pictures of their families and girlfriends; they put up with one another's flaws. And they were prepared to risk their lives for their friends. Most of them confided their dark secrets to a buddy, and some went so far as to share each other's shirts and socks.

Many of the men had friendships similar to Tom's with Alex. Tom met Alex, an Italian guy from Malden, Massachusetts, on his first day in country, and they instantly became close friends. They drove their jeep together, listened to the same music, and read each other's letters from home. They got drunk together and chased the same Vietnamese bar girls.

After about three months in country Tom led his squad on a foot patrol through a rice paddy just before sunset. Suddenly a hail of gunfire spurted from the green wall of the surrounding jungle, hitting the men around him one by one. Tom told me how he had looked on in helpless horror as all the members of his platoon were killed or wounded in a matter of seconds. He would never get one image out of his mind: the back of Alex's head as he lay facedown in the rice paddy, his feet in the air. Tom wept as he recalled, "He was the only real friend I ever had." Afterward, at night, Tom continued to hear the screams of his men and to see their bodies falling into the water. Any sounds, smells, or images that reminded him of the ambush (like the popping of firecrackers on the Fourth of July) made him feel just as paralyzed, terrified, and enraged as he had the day the helicopter evacuated him from the rice paddy.

Maybe even worse for Tom than the recurrent flashbacks of the ambush was the memory of what happened afterward. I could easily imagine how Tom's rage about his friend's death had led to the calamity that followed. It took him months of dealing with his paralyzing shame before he could tell me about it. Since time immemorial veterans, like Achilles in Homer's *Iliad*, have responded to the death of their comrades with unspeakable acts of revenge. The day after the ambush Tom went into a frenzy to a neighboring village, killing children, shooting an innocent farmer, and raping a Vietnamese woman. After that it became truly impossible for him to go home again in any meaningful way. How can you face your sweetheart and tell her that you brutally raped a woman just like her, or watch your son take his first step when you are reminded of the child you

murdered? Tom experienced the death of Alex as if part of himself had been forever destroyed—the part that was good and honorable and trustworthy. Trauma, whether it is the result of something done to you or something you yourself have done, almost always makes it difficult to engage in intimate relationships. After you have experienced something so unspeakable, how do you learn to trust yourself or anyone else again? Or, conversely, how can you surrender to an intimate relationship after you have been brutally violated?

Tom kept showing up faithfully for his appointments, as I had become for him a lifeline—the father he'd never had, an Alex who had survived the ambush. It takes enormous trust and courage to allow yourself to remember. One of the hardest things for traumatized people is to confront their shame about the way they behaved during a traumatic episode, whether it is objectively warranted (as in the commission of atrocities) or not (as in the case of a child who tries to placate her abuser). One of the first people to write about this phenomenon was Sarah Haley, who occupied an office next to mine at the VA Clinic. In an article entitled "When the Patient Reports Atrocities,"[4] which became a major impetus for the ultimate creation of the PTSD diagnosis, she discussed the well-nigh intolerable difficulty of talking about (and listening to) the horrendous acts that are often committed by soldiers in the course of their war experiences. It's hard enough to face the suffering that has been inflicted by others, but deep down many traumatized people are even more haunted by the shame they feel about what they themselves did or did not do under the circumstances. They despise themselves for how terrified, dependent, excited, or enraged they felt.

In later years I encountered a similar phenomenon in victims of child abuse: Most of them suffer from agonizing shame about the actions they took to survive and maintain a connection with the person who abused them. This was particularly true if the abuser was someone close to the child, someone the child depended on, as is so often the case. The result can be confusion about whether one was a victim or a willing participant, which in turn leads to bewilderment about the difference between love and terror; pain and pleasure. We will return to this dilemma throughout this book.

NUMBING

Maybe the worst of Tom's symptoms was that he felt emotionally numb. He desperately wanted to love his family, but he just couldn't evoke any deep feelings for them. He felt emotionally distant from everybody, as though his heart were frozen and he were living behind a glass wall. That numbness extended to himself, as well. He could not really feel anything except for his momentary rages and his shame. He described how he hardly recognized himself when he looked in the mirror to shave. When he heard himself arguing a case in court, he would observe himself from a distance and wonder how this guy, who happened to look and talk like him, was able to make such cogent arguments. When he won a case he pretended to be gratified, and when he lost it was as though he had seen it coming and was resigned to the defeat even before it happened. Despite the fact that he was a very effective lawyer, he always felt as though he were floating in space, lacking any sense of purpose or direction.

The only thing that occasionally relieved this feeling of aimlessness was intense involvement in a particular case. During the course of our treatment Tom had to defend a mobster on a murder charge. For the duration of that trial he was totally absorbed in devising a strategy for winning the case, and there were many occasions on which he stayed up all night to immerse himself in something that actually excited him. It was like being in combat, he said—he felt fully alive, and nothing else mattered. The moment Tom won that case, however, he lost his energy and sense of purpose. The nightmares returned, as did his rage attacks—so intensely that he had to move into a motel to ensure that he would not harm his wife or children. But being alone, too, was terrifying, because the demons of the war returned in full force. Tom tried to stay busy, working, drinking, and drugging—doing anything to avoid confronting his demons.

He kept thumbing through *Soldier of Fortune,* fantasizing about enlisting as a mercenary in one of the many regional wars then raging in Africa. That spring he took out his Harley and roared up the Kancamagus Highway in New Hampshire. The vibrations, speed, and danger of that ride helped him pull himself back together, to the point that he was able to leave his motel room and return to his family.

THE REORGANIZATION OF PERCEPTION

Another study I conducted at the VA started out as research about nightmares but ended up exploring how trauma changes people's perceptions and imagination. Bill, a former medic who had seen heavy action in Vietnam a decade earlier, was the first person enrolled in my nightmare study. After his discharge he had enrolled in a theological seminary and had been assigned to his first parish in a Congregational church in a Boston suburb. He was doing fine until he and his wife had their first child. Soon after the baby's birth, his wife, a nurse, had gone back to work while he remained at home, working on his weekly sermon and other parish duties and taking care of their newborn. On the very first day he was left alone with the baby, it began to cry, and he found himself suddenly flooded with unbearable images of dying children in Vietnam.

Bill had to call his wife to take over child care and came to the VA in a panic. He described how he kept hearing the sounds of babies crying and seeing images of burned and bloody children's faces. My medical colleagues thought that he must surely be psychotic, because the textbooks of the time said that auditory and visual hallucinations were symptoms of paranoid schizophrenia. The same texts that provided this diagnosis also supplied a cause: Bill's psychosis was probably triggered by his feeling displaced in his wife's affections by their new baby.

As I arrived at the intake office that day, I saw Bill surrounded by worried doctors who were preparing to inject him with a powerful antipsychotic drug and ship him off to a locked ward. They described his symptoms and asked my opinion. Having worked in a previous job on a ward specializing in the treatment of schizophrenics, I was intrigued. Something about the diagnosis didn't sound right. I asked Bill if I could talk with him, and after hearing his story, I unwittingly paraphrased something Sigmund Freud had said about trauma in 1895: "I think this man is suffering from memories." I told Bill that I would try to help him and, after offering him some medications to control his panic, asked if he would be willing to come back a few days later to participate in my nightmare study.[5] He agreed.

As part of that study we gave our participants a Rorschach test.[6] Unlike tests that require answers to straightforward questions, responses to the Rorschach are almost impossible to fake. The Rorschach provides us with a

unique way to observe how people construct a mental image from what is basically a meaningless stimulus: a blot of ink. Because humans are meaning-making creatures, we have a tendency to create some sort of image or story out of those inkblots, just as we do when we lie in a meadow on a beautiful summer day and see images in the clouds floating high above. What people make out of these blots can tell us a lot about how their minds work.

On seeing the second card of the Rorschach test, Bill exclaimed in horror, “This is that child that I saw being blown up in Vietnam. In the middle, you see the charred flesh, the wounds, and the blood is spurting out all over.” Panting and with sweat beading on his forehead, he was in a panic similar to the one that had initially brought him to the VA clinic. Although I had heard veterans describing their flashbacks, this was the first time I actually witnessed one. In that very moment in my office, Bill was obviously seeing the same images, smelling the same smells, and feeling the same physical sensations he had felt during the original event. Ten years after helplessly holding a dying baby in his arms, Bill was reliving the trauma in response to an inkblot.

Experiencing Bill’s flashback firsthand in my office helped me realize the agony that regularly visited the veterans I was trying to treat and helped me appreciate again how critical it was to find a solution. The traumatic event itself, however horrendous, had a beginning, a middle, and an end, but I now saw that flashbacks could be even worse. You never know when you will be assaulted by them again and you have no way of telling when they will stop. It took me years to learn how to effectively treat flashbacks, and in this process Bill turned out to be one of my most important mentors.

When we gave the Rorschach test to twenty-one additional veterans, the response was consistent: Sixteen of them, on seeing the second card, reacted as if they were experiencing a wartime trauma. The second Rorschach card is the first card that contains color and often elicits so-called color shock in response. The veterans interpreted this card with descriptions like “These are the bowels of my friend Jim after a mortar shell ripped him open” and “This is the neck of my friend Danny after his head was blown off by a shell while we were eating lunch.” None of them mentioned dancing monks, fluttering butterflies, men on motorcycles, or

any of the other ordinary, sometimes whimsical images that most people see.

While the majority of the veterans were greatly upset by what they saw, the reactions of the remaining five were even more alarming: They simply went blank. “This is nothing,” one observed, “just a bunch of ink.” They were right, of course, but the normal human response to ambiguous stimuli is to use our imagination to read something into them.

We learned from these Rorschach tests that traumatized people have a tendency to superimpose their trauma on everything around them and have trouble deciphering whatever is going on around them. There appeared to be little in between. We also learned that trauma affects the imagination. The five men who saw nothing in the blots had lost the capacity to let their minds play. But so, too, had the other sixteen men, for in viewing scenes from the past in those blots they were not displaying the mental flexibility that is the hallmark of imagination. They simply kept replaying an old reel.

Imagination is absolutely critical to the quality of our lives. Our imagination enables us to leave our routine everyday existence by fantasizing about travel, food, sex, falling in love, or having the last word—all the things that make life interesting. Imagination gives us the opportunity to envision new possibilities—it is an essential launchpad for making our hopes come true. It fires our creativity, relieves our boredom, alleviates our pain, enhances our pleasure, and enriches our most intimate relationships. When people are compulsively and constantly pulled back into the past, to the last time they felt intense involvement and deep emotions, they suffer from a failure of imagination, a loss of the mental flexibility. Without imagination there is no hope, no chance to envision a better future, no place to go, no goal to reach.

The Rorschach tests also taught us that traumatized people look at the world in a fundamentally different way from other people. For most of us a man coming down the street is just someone taking a walk. A rape victim, however, may see a person who is about to molest her and go into a panic. A stern schoolteacher may be an intimidating presence to an average kid, but for a child whose stepfather beats him up, she may represent a torturer and precipitate a rage attack or a terrified cowering in the corner.

STUCK IN TRAUMA

Our clinic was inundated with veterans seeking psychiatric help. However, because of an acute shortage of qualified doctors, all we could do was put most of them on a waiting list, even as they continued brutalizing themselves and their families. We began seeing a sharp increase in arrests of veterans for violent offenses and drunken brawls—as well as an alarming number of suicides. I received permission to start a group for young Vietnam veterans to serve as a sort of holding tank until "real" therapy could start.

At the opening session for a group of former Marines, the first man to speak flatly declared, "I do not want to talk about the war." I replied that the members could discuss anything they wanted. After half an hour of excruciating silence, one veteran finally started to talk about his helicopter crash. To my amazement the rest immediately came to life, speaking with great intensity about their traumatic experiences. All of them returned the following week and the week after. In the group they found resonance and meaning in what had previously been only sensations of terror and emptiness. They felt a renewed sense of the comradeship that had been so vital to their war experience. They insisted that I had to be part of their newfound unit and gave me a Marine captain's uniform for my birthday. In retrospect that gesture revealed part of the problem: You were either in or out—you either belonged to the unit or you were nobody. After trauma the world becomes sharply divided between those who know and those who don't. People who have not shared the traumatic experience cannot be trusted, because they can't understand it. Sadly, this often includes spouses, children, and co-workers.

Later I led another group, this time for veterans of Patton's army—men now well into their seventies, all old enough to be my father. We met on Monday mornings at eight o'clock. In Boston winter snowstorms occasionally paralyze the public transit system, but to my amazement all of them showed up even during blizzards, some of them trudging several miles through the snow to reach the VA Clinic. For Christmas they gave me a 1940s GI-issue wristwatch. As had been the case with my group of Marines, I could not be their doctor unless they made me one of them.

Moving as these experiences were, the limits of group therapy became clear when I urged the men to talk about the issues they confronted in their daily lives: their relationships with their wives, children, girlfriends, and family; dealing with their bosses and finding satisfaction in their work; their heavy use of alcohol. Their typical response was to balk and resist and instead recount yet again how they had plunged a dagger through the heart of a German soldier in the Hürtgen Forest or how their helicopter had been shot down in the jungles of Vietnam.

Whether the trauma had occurred ten years in the past or more than forty, my patients could not bridge the gap between their wartime experiences and their current lives. Somehow the very event that caused them so much pain had also become their sole source of meaning. They felt fully alive only when they were revisiting their traumatic past.

DIAGNOSING POSTTRAUMATIC STRESS

In those early days at the VA, we labeled our veterans with all sorts of diagnoses—alcoholism, substance abuse, depression, mood disorder, even schizophrenia—and we tried every treatment in our textbooks. But for all our efforts it became clear that we were actually accomplishing very little. The powerful drugs we prescribed often left the men in such a fog that they could barely function. When we encouraged them to talk about the precise details of a traumatic event, we often inadvertently triggered a full-blown flashback, rather than helping them resolve the issue. Many of them dropped out of treatment because we were not only failing to help but also sometimes making things worse.

A turning point arrived in 1980, when a group of Vietnam veterans, aided by the New York psychoanalysts Chaim Shatan and Robert J. Lifton, successfully lobbied the American Psychiatric Association to create a new diagnosis: posttraumatic stress disorder (PTSD), which described a cluster of symptoms that was common, to a greater or lesser extent, to all of our veterans. Systematically identifying the symptoms and grouping them together into a disorder finally gave a name to the suffering of people who were overwhelmed by horror and helplessness. With the conceptual framework of PTSD in place, the stage was set for a radical change in our

understanding of our patients. This eventually led to an explosion of research and attempts at finding effective treatments.

Inspired by the possibilities presented by this new diagnosis, I proposed a study on the biology of traumatic memories to the VA. Did the memories of those suffering from PTSD differ from those of others? For most people the memory of an unpleasant event eventually fades or is transformed into something more benign. But most of our patients were unable to make their past into a story that happened long ago.[7]

The opening line of the grant rejection read: “It has never been shown that PTSD is relevant to the mission of the Veterans Administration.” Since then, of course, the mission of the VA has become organized around the diagnosis of PTSD and brain injury, and considerable resources are dedicated to applying “evidence-based treatments” to traumatized war veterans. But at the time things were different and, unwilling to keep working in an organization whose view of reality was so at odds with my own, I handed in my resignation; in 1982 I took a position at the Massachusetts Mental Health Center, the Harvard teaching hospital where I had trained to become a psychiatrist. My new responsibility was to teach a fledgling area of study: psychopharmacology, the administration of drugs to alleviate mental illness.

In my new job I was confronted on an almost daily basis with issues I thought I had left behind at the VA. My experience with combat veterans had so sensitized me to the impact of trauma that I now listened with a very different ear when depressed and anxious patients told me stories of molestation and family violence. I was particularly struck by how many female patients spoke of being sexually abused as children. This was puzzling, as the standard textbook of psychiatry at the time stated that incest was extremely rare in the United States, occurring about once in every million women.[8] Given that there were then only about one hundred million women living in the United States, I wondered how forty seven, almost half of them, had found their way to my office in the basement of the hospital.

Furthermore, the textbook said, “There is little agreement about the role of father-daughter incest as a source of serious subsequent psychopathology.” My patients with incest histories were hardly free of “subsequent psychopathology”—they were profoundly depressed,

confused, and often engaged in bizarrely self-harmful behaviors, such as cutting themselves with razor blades. The textbook went on to practically endorse incest, explaining that "such incestuous activity diminishes the subject's chance of psychosis and allows for a better adjustment to the external world."[9] In fact, as it turned out, incest had devastating effects on women's well-being.

In many ways these patients were not so different from the veterans I had just left behind at the VA. They also had nightmares and flashbacks. They also alternated between occasional bouts of explosive rage and long periods of being emotionally shut down. Most of them had great difficulty getting along with other people and had trouble maintaining meaningful relationships.

As we now know, war is not the only calamity that leaves human lives in ruins. While about a quarter of the soldiers who serve in war zones are expected to develop serious posttraumatic problems,[10] the majority of Americans experience a violent crime at some time during their lives, and more accurate reporting has revealed that twelve million women in the United States have been victims of rape. More than half of all rapes occur in girls below age fifteen.[11] For many people the war begins at home: Each year about three million children in the United States are reported as victims of child abuse and neglect. One million of these cases are serious and credible enough to force local child protective services or the courts to take action.[12] In other words, for every soldier who serves in a war zone abroad, there are ten children who are endangered in their own homes. This is particularly tragic, since it is very difficult for growing children to recover when the source of terror and pain is not enemy combatants but their own caretakers.

A NEW UNDERSTANDING

In the three decades since I met Tom, we have learned an enormous amount not only about the impact and manifestations of trauma but also about ways to help traumatized people find their way back. Since the early 1990s brain-imaging tools have started to show us what actually happens inside the brains of traumatized people. This has proven essential to understanding the

damage inflicted by trauma and has guided us to formulate entirely new avenues of repair.

We have also begun to understand how overwhelming experiences affect our innermost sensations and our relationship to our physical reality—the core of who we are. We have learned that trauma is not just an event that took place sometime in the past; it is also the imprint left by that experience on mind, brain, and body. This imprint has ongoing consequences for how the human organism manages to survive in the present.

Trauma results in a fundamental reorganization of the way mind and brain manage perceptions. It changes not only how we think and what we think about, but also our very capacity to think. We have discovered that helping victims of trauma find the words to describe what has happened to them is profoundly meaningful, but usually it is not enough. The act of telling the story doesn't necessarily alter the automatic physical and hormonal responses of bodies that remain hypervigilant, prepared to be assaulted or violated at any time. For real change to take place, the body needs to learn that the danger has passed and to live in the reality of the present. Our search to understand trauma has led us to think differently not only about the structure of the mind but also about the processes by which it heals.