

The Limits of Talk

Bessel van der Kolk
wants to transform the treatment of trauma

by Mary Sykes Wylie



The Limits of Talk

For more than 20 years, Bessel van der Kolk has been in the forefront of research in the psychobiology of trauma and in the quest for more effective treatments. Now he's touched off an intense debate about the role of scientific evidence in finding ways to alleviate suffering and the future of the traditional talking cure itself.....

Bessel van der Kolk likes to introduce his workshops on Post-Traumatic Stress Disorder (PTSD) with medical film clips from World War I showing veterans diagnosed with what was then called "shell shock." In these dramatic and riveting clips, one soldier sits hunched over on his hospital cot, staring blankly ahead, responding to nothing and nobody until the single word "bomb" is said, whereupon he dives for cover underneath the small bed. Another man lies almost naked on the bare floor, his back rigidly arched, his arms and hands clawing the air as he tries, spasmodically and without success, to clamber onto his side and stand up. Yet another, who once bayoneted an enemy in the face, now opens his mouth wide into a gaping yaw and then closes it, and opens it and closes it, over and over and over again.

The images are disturbing, heartbreaking, and all the stranger because these particular men, technically speaking, are physically unharmed. Their physical symptoms-paralysis, violent trembling, spasmodic movements, repetitive facial grimaces, zombielike demeanor-look exotic to our eyes because PTSD generally doesn't show up like this anymore in most clinicians' offices. Time and Western cultural evolution have changed the way traumatized people express their distress in a therapist's office. Now, trauma patients may

look fine on the surface, but complain of nightmares, flashbacks, feelings of numbness, generalized fearfulness, dissociative symptoms, and other problems that aren't as visible to the world at large. But to van der Kolk, these old images still represent what he calls the "pure form" of PTSD. The appearance in these World War I film clips that the veterans are possessed, mind and body, by invisible demons still captures the fundamental truth about PTSD—that it can reduce its victims to mute, almost animal-like, creatures, utterly isolated in their fear and horror from the human community.

Van der Kolk first became aware of the world of trauma in 1978, when he decided to go work for the Veterans Administration (VA), not to study PTSD (it hadn't been recognized yet as a formal diagnosis), but to get the government benefits to pay for his own psychoanalysis. While there, he discovered the reality of PTSD and the beginnings of a stunning, nationwide phenomenon. "At that time, tens of thousands of men who'd served in Vietnam suddenly seemed to come out of the woodwork, suffering from flashbacks, beating their wives, drinking and drugging to suppress their feelings, closing down emotionally," recalls van der Kolk. "It was a phenomenon that spawned a whole generation of researchers and clinicians fascinated by what had happened to these guys."

Van der Kolk himself soon became intrigued by the mysterious mental and emotional paralysis that seemed to afflict these traumatized veterans. Why, he wondered, did many of his patients seem so stuck emotionally in their horror that they relived it over and over in flashbacks and nightmares? What kept these men circling round and round on an endless treadmill of memory, unable to step off and resume life? In spite of their obvious suffering, why did they seem so obsessively *attached* to their traumatic experiences?

In the 25 years since then, the trauma field has gone from obscurity, if not disreputability, to become one of the most clinically innovative and scientifically supported specialties in mental health. Trauma researchers have led the pack in setting off an explosion of knowledge about psychobiology and the interaction of body and mind. And van der Kolk, as much as anyone else in the field, has defined the current framework for understanding trauma.

He's the author of more than a hundred peer-reviewed scientific papers on subjects such as self-mutilation, dissociation, the therapeutic efficacy of Eye Movement Desensitization and Reprocessing (EMDR), the developmental impact of trauma, and the nature of traumatic memories. He's also been a featured contributor in most of the standard textbooks in the trauma field. In addition to teaching at Boston University, Tufts, and Harvard, he directs the Trauma Center in Boston, possibly the largest trauma specialty center in the country, with 40 clinicians working with clients who range from infants to geriatrics, from incest survivors to international torture victims. Inhabiting both the world of the clinician and the researcher, he also runs a major research laboratory at the Trauma Center, staffed by 15 researchers who investigate everything from neuroimaging of treatment effects on the brain to the effects of theater groups on violent, traumatized teenagers.

Glowing testimonials about his contributions aren't hard to come by from the field's leading lights. "Very early on, more than anybody else, he introduced neurobiology to the trauma field, and helped us see the interaction between mind and body in trauma," says Charles Figley, professor at the School of Social Work at Florida State University and Vietnam vet, whose early work on war trauma is often credited with prompting the inclusion of PTSD as a diagnosis in the *DSM* (see sidebar, page X). "He's one of the most generative and creative minds in the trauma field, and his influence has been pervasive," says psychiatrist Judith Herman, renowned trauma expert at Harvard Medical School.

At the same time, van der Kolk is also one of the trauma field's most controversial figures. Often prickly, rarely shy about offering his own opinions, and unafraid of a good fight, he's scandalized a number of cognitive-behavioral therapists and academic researchers by openly embracing EMDR, demonstrating an interest in such truly *outré* techniques as Thought Field Therapy, enthusiastically taking up nonstandard somatic therapies, and even sending his patients off to participate in theater groups and martial arts training.

Van der Kolk's bold criticism of the orthodoxies of psychotherapy and public advocacy of somatic approaches have, in particular, outraged many. "Advocating unproven body psychotherapies is professionally irresponsible," says Edna Foa, professor of psychology in the psychiatry department at the University of Pennsylvania. "He's marginalized himself as a scientific thinker—he's no longer in the mainstream," adds Richard Bryant, noted trauma researcher and psychology professor at the University of

New South Wales in Australia. “Until he provides data in support of his new [somatic] approach, the field isn’t obligated to pay any attention to what he’s doing,” sniffs psychologist Richard McNally, author of the widely cited *Remembering Trauma*, a critique of recovered-memory theory.

The intensity of response van der Kolk kicks up is an indication of the crusader’s fervor underlying his work and his determination to make the field viscerally understand that trauma isn’t simply a neutral mental health issue, but a profoundly moral concern. Spicing his talks with earthy, Dutch-accented American slang, van der Kolk regularly reminds his audience in a tone of subdued indignation that trauma forces the reality of human evil into our consciousness, often the evil of presumably good and upright people—our neighbors, our leaders, our families, and ourselves. It’s not a perspective people always welcome because, as he writes in his book *Traumatic Stress*, most of us like to believe “that the world is essentially just, that ‘good’ people are in charge of their lives, and that bad things only happen to ‘bad’ people. . . . Victims are the members of society whose problems represent the memory of suffering, rage and pain in a world that longs to forget.”

A Diagnosis Non Grata

While trauma is always clinically described as a horrifically abnormal event, for any casual student of the human condition, it’s actually a perfectly normal feature of history, one that has emotionally scarred billions of men, women, and children since before the beginning of recorded time. And yet, while philosophers, writers, and ordinary people have always known that terrible events can cause a lifetime of psychological pain, until the latter part of the 20th century, mental health professionals were oddly blind to this fact of life. “Psychiatry itself has periodically suffered from marked amnesias in which well-established knowledge has been abruptly forgotten,” writes van der Kolk in *Traumatic Stress*, “and the psychological impact of overwhelming experiences has been ascribed to constitutional or intrapsychic factors alone.” In other words, a failure to “get over” a trauma was often ascribed to personal weakness or an unconscious desire not to recover.

Even the official nosology of the psychiatric profession reflected this peculiar obtuseness. The 1952 edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-I)* had included combat-related stress under the diagnosis of “gross stress reaction,” but this was dropped from the *DSM-II* in 1968—the same year that troop strength reached its peak in Vietnam. All that was left of trauma in *DSM-II* was the pallid diagnosis “adjustment reaction to adult life,” under the general heading of “transient situational disturbance.” Adjustment reaction was a grab-bag diagnosis, including “fear associated with military combat and manifested by trembling, running and hiding” and “unwanted pregnancy.” It wasn’t until 1980, after years of lobbying and wrangling, that PTSD was included in *DSM-III* (see sidebar page 37).

So when van der Kolk first went to the VA in 1978, not only was there no official traumatic stress diagnosis, but the VA assumed that any psychiatric problems occurring more than one year after discharge couldn’t be related to military service. Besides denying veterans any compensation for delayed traumatic reactions—probably the overriding consideration in the VA’s longstanding lack of interest in the enduring impact of “combat stress”—this rule effectively scotched any research or clinical treatment directly focused on trauma. “When I went to work for the Boston VA,” remembers van der Kolk, “there wasn’t a single book in the library on war neurosis.”

Unable to do research on war trauma because the VA wouldn’t fund studies on a diagnosis that didn’t exist, van der Kolk and his colleagues did the first study ever on the real nightmares the vets had and, in another first, used the Rorschach inkblot test to reveal the twin pattern of hyperarousal and dissociation that traumatized vets showed. For van der Kolk, this research pointed to the paradoxical conundrum at the heart of trauma. “This is still the issue with traumatized people—they see and feel only their trauma, or they see and feel nothing at all; they’re fixated on their traumas or they’re somehow psychically absent.” In either case, traumatic memories from the past have utterly usurped the present.

By the late-1980s, van der Kolk had had extensive experience working with vets and was becoming a well-known figure among PTSD researchers. He’d been responsible for several important studies, including, besides the Rorschach and nightmare papers, research into psychopharmacology and trauma, and had

published the book *Post-Traumatic Stress Disorder: Psychological and Biological Sequelae*, the first book published specifically about PTSD. But in spite of his impressive re'sume', he felt deeply discouraged. He'd learned a lot, but he didn't think he was fundamentally helping his patients. Even after months or years of work, his patients still suffered from flashbacks, nightmares, depression, aggressive rage, anxiety. They still either couldn't talk about their trauma at all or when he pushed them to talk about it-as he and many -therapists often did, and still do-they began hyperventilating, shaking, yelling, crying, became physically agitated, or just collapsed in a state of helpless fear and dread. "I'd become a reputable PTSD researcher and clinician, but I felt I'd utterly failed my patients," van der Kolk remembers. "I guess they thought I was a good guy, they felt understood by me, but that didn't necessarily help them to get back into their lives."

And what was the treatment that he felt was not really helping his patients to move on? It was standard talk therapy 101-helping them explore their thoughts and feelings-supplemented with group therapy and medications. During individual sessions with clients, he often focused intensely on patients' past traumas, in the interest of getting them to process and integrate their memories. "I very quickly went to people's trauma, and many of my patients actually got worse rather than better," he says. "There was an increase in suicide attempts. Some of my colleagues even told me that they didn't trust me as a therapist."

The Neurobiology of Trauma

The fundamental conundrum of how trauma affects the mind and body that still plays out in treating trauma survivors was already crystallizing in van der Kolk's mind 20 years ago. "When people get close to reexperiencing their trauma, they get so upset that they can no longer speak," he says. "It seemed to me then that we needed to find some way to access their trauma, but help them stay physiologically quiet enough to tolerate it, so they didn't freak out or shut down in treatment. It was pretty obvious that as long as people just sat and moved their tongues around, there wasn't enough real change."

Back in the early 1980s, believing that future progress lay in a better understanding of the biology-particularly the neurobiology-of trauma, van der Kolk had applied for a VA research grant on the subject. Even though PTSD was now "official," his proposal was turned down flat. The opening sentence of the rejection letter still vividly resonates in his mind. "It's never been shown that PTSD is relevant to the mission of the Veterans Administration." Since then, the VA has grown up and become a leading supporter and funder of trauma research, but in the early '80s, it was clearly a diagnosis non grata to the establishment. Both dumbfounded and enraged by the VA's response, van der Kolk says he never read past that first sentence, and decided right then to seek greener pastures and put in his notice.

He moved back to the Massachusetts Mental Health Center, a state hospital and psychiatric teaching institution associated with Harvard Medical School, where he'd received his psychiatric training and, before that, had spent a year as a mental health worker on a research ward for unmedicated schizophrenic patients. Here he discovered how easy it is for the best-intentioned therapist to inadvertently make traumatized patients worse. He was struck how some female patients fell apart during personal contacts with him and other male staff, becoming agitated and assaultive. Why would they so suddenly switch from being pleasant and sensible, to losing their minds when a man would pay attention to them? he wondered. Looking into the histories of the women, most of whom had been diagnosed as borderlines or schizophrenics, he found that they'd all been severely and chronically sexually abused as children and adults.

Van der Kolk began to realize that, for these women, being in a room alone with a man who directed questions at them emotionally hurled them back into their traumas. He noted that their entire bodies responded as if they were being molested again-heart pounding, muscles tensing-they seemed, literally, to take leave of their senses-unable to distinguish now from then. "It seemed that their traumatic memories, like those of Vietnam veterans, prevented them from being able to modulate their autonomic arousal," he observes. "Their physiological housekeeping systems had been messed up by trauma."

It now seemed to him that chronic trauma explained a great deal about how borderline patients acquired their deep impairments, and why they were so hard for therapists to treat. "Borderlines have a terrible reputation

because they often are simply impossible,” says van der Kolk. “They cling to you and then hate you, and, either way, they won’t leave you alone. But if you look at their behavior through their traumatic background, it makes perfect sense. If you’ve been raped and abused for years as a child and adult, your entire organism and personality has been organized around your trauma. If they have PTSD, the way they act is understandable-they’re not just people trying to make your life miserable, but people trying to survive.”

Van der Kolk’s experience with borderlines reinforced his belief that talk therapy by itself, even in the context of a warm, supportive therapeutic encounter, wasn’t enough to reverse the profound physical and emotional changes wrought in his patients by pervasive trauma. But he credits Hurricane Hugo with showing him see just how physical helplessness contributes to the development of serious post-traumatic symptoms, and making him wonder if physical movement might not contribute to healing.

In 1989, directly after Hurricane Hugo had ravaged Puerto Rico, van der Kolk accompanied FEMA officials to lend his expertise to dealing with the traumatic aftermath of the devastating storm. “I arrived in the middle of this devastation, and what I saw were lots and lots of people working with each other, actively putting their lives back together-carrying lumber, rebuilding houses and shops, cleaning up, repairing things.”

But the FEMA officials immediately told everybody to cease and desist until assorted bureaucracies could formally assess the damage, establish reimbursement formulas, and organize financial aid and loans. Everything came to a halt. “People were suddenly forced to sit still in the middle of their disaster and do nothing,” van der Kolk remembers. “Very quickly, an enormous amount of violence broke out-rioting, looting, assault. All this energy mobilized by the disaster, which had gone into a flurry of rebuilding and recovery activity, now was turned on everybody else. It was one of the first times I saw very vividly how important it is for people to overcome their sense of helplessness after a trauma by actively doing something. Preventing people from moving when something terrible happens, that’s one of the things that makes trauma a trauma.”

Pondering this striking lesson, van der Kolk wondered if perhaps the most damaging aspect of trauma wasn’t necessarily the awfulness of it, but the feeling of powerlessness in the face of it, the experience of being unable to escape or fight or have any impact on what was happening. “The brain is an action organ,” he says, “and as it matures, it’s increasingly characterized by the formation of patterns and schemas geared to promoting action. People are physically organized to respond to things that happen to them with actions that change the situation.” But when people are traumatized, and can’t do anything to stop it or reverse it or correct it, “they freeze, explode, or engage in irrelevant actions,” he adds. Then, to tame their disorganized, chaotic physiological systems, they start drinking, taking drugs, and engaging in violence-like the looting and assault that took place after Hurricane Hugo. If they can’t reestablish their physical efficacy as a biological organism and recreate a sense of safety, they often develop PTSD.

The Monopoly of Talk

Van der Kolk was now sure that, just as the experience of physical helplessness was at the core of trauma, there was something about frustrated action to repair the situation that played a role in developing long-term PTSD. And he began to wonder if helping traumatized people engage in meaningful, physical action would allow them to recover from PTSD. His growing sense that the body, as much as the mind, might hold the key to recovering from trauma ran up against the sacrosanct tradition of the talking cure as the alpha and omega of all psychotherapy. It was about this virtual monopoly of mainstream therapy by institutionalized talk that van der Kolk was becoming increasingly skeptical.

Talk is relevant-even vitally important-he says, for traumatized patients who don’t yet really know what’s happened to them, who were too young to understand what was happening, who weren’t listened to or believed, or who still can’t make sense of what happened. His own therapy is still “very talky,” he adds. But, van der Kolk continues, “fundamentally, words can’t integrate the disorganized sensations and action patterns that form the core imprint of the trauma.” Treatment needs to integrate the sensations and actions that have become stuck, so that people can regain a sense of familiarity and efficacy in their “organism.”

Van der Kolk is also very tough on the old shibboleth of psychotherapy-as-restorative-relationship. Too often, he insists, trauma patients and therapists both move into a quasi-relationship because, that way, they can both evade the real pain of focusing on and dealing with the physical trauma imprints. "Clients may look for 'relationship' in therapy because they can't stand what they feel in their own bodies-as long as the therapist is with them, they can distract themselves from their inner experience. The 'felt sense' has become a minefield, and clinging to others is one way of avoiding the intolerable sensations within," says van der Kolk. But what patients really need, he believes, is the "therapist's attuned attention to the moods, physical sensations, and physical impulses within. The therapist must be the patient's servant, helping him or her explore, befriend, and trust their inner felt experience." Relationship therapy can seem like a kind of ersatz friendship, but "it doesn't make you better friends with yourself."

To underscore the shocking possibility that neither talk nor relationship may be necessary in trauma treatment, van der Kolk likes to tell the story of his training in Eye Movement Desensitization and Reprocessing (EMDR), an approach held in very low esteem by many of his research colleagues. Although he initially considered EMDR a fad, like est or transcendental meditation, he went for the training after seeing the dramatic effects it had on some of his own trauma patients. "They came back and told me how supportive our therapy relationship had been, but that EMDR had done more for them in a few sessions than therapy with me had done in four years," he recalls. Van der Kolk decided to go see for himself what this weird new thing was all about, and took the training.

He didn't like the training at all: "It felt too packaged, too much like a Billy Graham revival-type thing." He was, however, amazed at what happened to him when he subjected himself to EMDR as part of the training. The Trauma Clinic he'd established at Massachusetts General Hospital in 1991 had recently been closed-ostensibly for budgetary reasons, but most likely, he suspected, because of his high-profile advocacy of clergy-abuse victims, while his then department chair, a Jesuit priest, was serving as the principal advisor to Cardinal Law, who's since resigned after being accused of covering up incidents of pedophilia among more than one hundred priests in the Archdiocese of Boston. The sudden closing of the Trauma Clinic was the focus for his EMDR session. "During the session, I was fascinated by all the different images from my early childhood that made their way very rapidly through my consciousness, and which seemed somehow related to the loss of my clinic. It was like the kind of hypnopompic experience you have when you first begin to wake in the morning, with ideas coming and going and being forgotten before you really wake up." Afterward, he felt as if "something had been processed and left behind," and his distress about the clinic's closing had significantly lessened.

His own EMDR practice student during the training was another clinician, who refused to tell van der Kolk anything about what he wanted to work on, except that it was "some very tough stuff between me and my dad when I was little." Overtly hostile and uncommunicative throughout the session, the clinician kept saying that he didn't really want to share what he was upset about. As a result, van der Kolk was totally in the dark about what was going on inside the person he was trying to "help" with the EMDR.

At the end of the session, the man looked relieved of much of his distress.

"How was that?" van der Kolk asked.

"I'd never refer a patient to you," the man barked at him.

Van der Kolk replied, "Oh, why is that?"

The man replied, "I really hated the way you dropped your fingers at the end of each movement!"

"But what about your original problem?" van der Kolk asked.

"Oh, I feel I completely resolved the issue with my dad."

This episode engaged van der Kolk's curiosity about the role of the therapeutic relationship. "This guy didn't trust me. We didn't have a warm relationship. I never knew anything about what was bothering him. Yet he seemed to have processed whatever it was he needed to take care of. It drove home to me the

possibility that maybe people can do excellent therapeutic work, even if they don't like and trust you (as happens, of course, in many victims of interpersonal trauma), as long as the therapist knows how to help them "digest" the imprint of the trauma."

Bottom Up, Not Top Down

In 1994, van der Kolk published a paper called "The Body Keeps the Score," in which he reviewed the existing research about the neurobiological underpinnings of traumatic reactions. The paper described how trauma disrupts the stress-hormone system, plays havoc with the entire nervous system, and keeps people from processing and integrating trauma memories into conscious mental frameworks. Because of these complex physiological processes, van der Kolk explained in the paper, traumatic memories, in effect, stay "stuck" in the brain's nether regions—the nonverbal, nonconscious, subcortical regions (amygdala, thalamus, hippocampus, hypothalamus, and brain stem), where they're not accessible to the frontal lobes—the understanding, thinking, reasoning parts of the brain. In short, he demonstrated with four-part scientific harmony that it was our bodies, not our much-vaunted minds, that control how we respond to trauma, what we do and don't consciously remember, and whether we recover from it or live in thrall to it. "We're much less controlled by our conscious, cognitive appraisal than our psychological theories give us credit for being," van der Kolk remarks dryly.

For a densely written article on psychobiology, "The Body Keeps the Score" had a far-reaching impact that brought van der Kolk into much wider circles of therapists than his previous books had done. For this, he credits the article's catchy title. "If you want to write something that gets people's interest, give it a great title. People wanted to know what the hell that article was all about." The paper attracted the interest of Scott Rauch, director of the neuroimaging lab at Massachusetts General, who asked van der Kolk if he'd like to take a look inside the brains of some of his trauma patients—something that would have been unthinkable before the '90s. The neuroimaging team scanned the brains of eight trauma-patient volunteers. The first scan was while they remembered neutral events in their lives, and the second scan was when they were exposed to scripted versions of their traumatic memories.

During the scanning, the images actually showed dissociation happen in the brains of these PTSD patients. When they remembered a traumatic event, the left frontal cortex shut down—particularly Broca's area, the center of speech. But areas of the right hemisphere associated with emotional states and autonomic arousal lit up, particularly the area around the amygdala, which might be called the "smoke detector" center of the brain. According to van der Kolk, what this suggested is that "when people relive their traumatic experiences, the frontal lobes become impaired and, as result, they have trouble thinking and speaking. They no longer are capable of communicating to either themselves or to others precisely what's going on."

Other neuroimaging studies Van der Kolk has collaborated on since also showed that the executive functions of the brain become impaired when traumatized people try to access their trauma. "The imprint of trauma doesn't "sit" in the verbal, understanding, part of the brain, but in much deeper regions—amygdala, hippocampus, hypothalamus, brain stem—which are only marginally affected by thinking and cognition. These studies showed that people process their trauma from the bottom up—body to mind—not top down." But if trauma is situated in these subcortical areas, "then to do effective therapy, we need to do things that change the way people regulate these core functions, which probably can't be done by words and language alone."

So what could trauma therapists do to help people "regulate their core functions"? Perhaps because of its title, van der Kolk's article caught the immediate and excited attention of many body psychotherapists, who'd worked with trauma patients for years, but had generally been dismissed—if noticed at all—by the psychiatric establishment as New Age flakes. To them, "The Body Keeps the Score" was something like an unexpected benediction from on high. "For the first time, a traditional, mainstream psychiatrist and neurobiology researcher was legitimizing the importance of understanding the effects of psychological disturbance on the body," says Babette Rothschild, a private practitioner in Los Angeles and author of *The Body Remembers: The Psychophysiology of Trauma and Trauma Treatment*. "It was very exciting to have him confirm what many practitioners had believed for a long time—that there's something called somatic

memory.”

If the body people were entranced with van der Kolk, the feeling was mutual. As he looked out into the audience before delivering an address to them at this time, he remembers thinking, “How well put together these people all look compared to a typical audience of psychotherapists.” But while they appreciated his presence and what it stood for-his recognition that understanding the body was key to understanding the mind-he seemed to think they had more to teach him than he had to teach them. “I gave my talk, and a bunch of the people there shook their heads and said, ‘this poor fellow-he knows a little bit about the body, but he really doesn’t understand it.’ Several took pity on me and offered to teach me what I needed to learn.”

The body therapists made him see how much of the work of healing from trauma is, he says, “really about rearranging your relationship to your physical self. If you really want to help a traumatized person, you have to work with core physiological states and, then, the mind will start changing.” He adds, “if clinicians can help people not become so aroused that they shut down physiologically, they’ll be able to process the trauma themselves. Therapists must help people regulate their affective states. That’s what we do. We do it so a person can find the strength to face her own inner horrors and begin to move and regain a life for herself.”

One body therapist whose work especially impressed van der Kolk was Peter Levine, the developer of an approach to trauma treatment called Somatic Experiencing. Trauma, argues Levine, is “‘locked’ in the body, and it’s in the body that it must be accessed and healed.” PTSD, he argues, is “fundamentally a highly activated, incomplete, biological response to threat, frozen in time.” All animals, including humans, are physically programmed by evolution to flee, fight, or freeze in the face of grave threats to life and limb. But in humans, when these natural responses to danger are thwarted and people are helpless to prevent their own rape, or beating, or car accident, the unfinished defensive actions become blocked as undischarged energy in their nervous systems. They remain physiologically frozen in an “unfinished” state of high biological readiness to react to the traumatic event, even long after the event has passed. The undischarged energy of the blocked response to the trauma eventually metastasizes into the full-fledged panoply of PTSD symptoms. Levine believes that psychological trauma is very much about action interruptus, which the traumatized human organism still needs to complete.

Levine believes that trauma victims, having been totally helpless and unable to move-physically and psychologically-must regain in therapy that lost capacity to move, to fight back, to live fully in their bodies as much as in their minds. Instead of curling up into scared little balls when threatened, these patients need to learn in the very cells of their bodies that they can stand up and kick butt.

Just how to help numbed and terrified trauma clients acquire a little more of the Rambo spirit is demonstrated in another video van der Kolk likes to show at workshops. It features a body therapist named Pat Ogden, originator of a treatment method called Sensorimotor Psychotherapy. In it, the client-a young woman sexually abused as a child-says very faintly early in the session, “I’m not feeling my body” and “I’m just about gone,” indicating that the memory of the abuse causes her to shut herself down-go numb, blank, and frozen-in order not to feeling anything. “At this point,” comments van der Kolk, “she’s basically not there. The moment you’re not feeling your body, you’re gone, because the body really is the engine of aliveness, of thought. As long as people don’t feel their bodies, we’re wasting our time and theirs trying to do talking psychotherapy.” With great emphasis, he adds, “Becoming comfortable in their bodies is, for our patients, the number-one, paramount issue, and if we can’t help them do that, then we can’t help them at all.”

In the video, Ogden tracks the woman’s growing physical discomfort in the early stages of the session, helping her to focus on her feelings, rather than flee them. Says van der Kolk, “Asking her, ‘Where do you feel that? How does that feel? What happens in your body when you say this?’ helps her stay grounded in her body and in touch with a core part of herself; it allows her to keep her wits about her.”

Later in the session, when she’s standing, the woman says she feels “mushy” in her midsection, defenseless-“like, if you do anything to me I don’t want, I wouldn’t have the right to stop you.” Gradually, without getting into the content of her trauma at all, Ogden helps the woman “fight back”-first by letting her fulfill an urge she has to push by having her push hard against her (Ogden’s) shoulder. The woman looks more alive, stronger. When Ogden asks her what’s happened, her hands come together in fists and this woman, who earlier said she didn’t even have the right to stop someone from hurting her, now begins to

release some pent-up fury: “I want to say to you that if you fuck with me, I’ll kill you!” she almost hisses at an invisible attacker. Ogden encourages her to engage in a kind of mock combat-both of her hands pushing both of Ogden’s hands, while Ogden braces herself on the floor. It’s, in its way, a real struggle, with both woman really getting into it, pushing and grunting, and ending with both out of breath.

The effects are remarkable. The client, who’s been almost palpably rigid and shrunken into herself, now is laughing, at ease, confident, even exultant. “I feel totally energized and strong,” she says breathlessly. “That was really good!” A week later, she returns-a different woman-alive, open-faced, smiling. “I feel great,” she says, telling Ogden that she’s bought some new clothes and gone to a party. “Every day, I see a brighter face in the mirror.” As for the trauma, she half shrugs and says, “What was done was done.”

Van der Kolk emphasizes that at no point during this session does Ogden ask the woman to describe what happened to her. “Her problem isn’t that she hasn’t told the story, but that her body continues to collapse in the face of reminders of her trauma. Pat helps her stay embodied, so that she doesn’t lose control of herself.

“Once you can do what you couldn’t do during the trauma,” adds van der Kolk, “once you can take the action you need to protect yourself, and once you’re able to recenter and refocus yourself on a deep, organismic basis, you’ll move on. The trauma is no longer interesting.”

A Huge Debate

While some of the mainstream trauma field’s leaders are intrigued by the potential in this treatment, many prominent figures are dismissive, when not positively horrified. In fact, the only issue that’s generated as much heat in the trauma community has been the recovered-memory debate. Van der Kolk now finds himself in the thick of a battle that, once again, pits people of passionate convictions, high-minded purpose, and not a little professional ambition against each other.

This particular clash over the place of body psychotherapy in trauma treatment exploded at the 2000 World Congress meeting of the International Society for Traumatic Stress Studies in Melbourne, Australia. Van der Kolk himself inadvertently lit the fuse when he was asked to chair a plenary session on body psychotherapy, which featured the work and videos of several somatic therapists. One video (which van der Kolk hadn’t seen) showed a practitioner sitting astride a rape victim. Although van der Kolk later repudiated this particular work, saying it exhibited serious boundary violations, the film caused an uproar. “It had a remarkable fallout,” says Australian psychology professor and trauma specialist Richard Bryant. “Nearly all the major players in the trauma field were appalled by the fact that he’d used a leading trauma meeting to demonstrate a therapy like this, which was both ethically marginal and had no empirical support whatsoever. A huge debate emerged about the role of evidence in science versus the belief of many therapists that if they ‘know’ something works, they don’t have to wait for the science to prove them right.”

The “huge debate” continues to churn on. While this particular skirmish involves somatic therapy, the overall conflict is an old one, which basically reflects the division between two subcultures in the profession-practitioners and scientists. This is certainly not a “pure” division (clinicians do research; researchers do clinical work), but the world views of each differ substantially. Clinicians are immersed in the messy reality of daily clinical practice with multiply-diagnosed patients, and are often glad to try out innovations on the say-so of colleagues and on their own personal experiences that almost none would care to subject to a controlled, double-blind study. To researchers, “innovative” is often just another term for “outlandish.” From their perspective, the only safe and dependable treatments are those that have been empirically proven in carefully controlled studies with homogeneous populations, that are easily put in the form of a “treatment protocol.”

These differences lead to “enormous tension” between practitioners and scientists, says Bryant, a tension he believes therapists tend to use to their own advantage when they accuse scientists, as they regularly do, of being more interested in their dry paradigms than in real-life patients. “Therapists often put forward the view that the process of validating new treatments is too difficult and takes too long, in the meantime depriving suffering patients of treatment they know from experience works, just because scientists want

them to do randomized trials. But, we [researchers] would argue the opposite—that because we’re treating people who are in such pain, we have an ethical responsibility to make sure we aren’t making them worse.”

Edna Foa, one of the foremost authorities on prolonged-exposure therapy—in which traumatized patients repeatedly recount their trauma until it loses its disturbing power—is also not enchanted by van der Kolk’s expedition into somatic therapy. Indeed, she suggests that the whole clinical practice of psychotherapy needs to be renovated along more scientific lines. “I think we’ve come to the point in the scientific research of therapy that clinicians shouldn’t be allowed to practice and disseminate treatments without solid evidence that they work. Doctors can lose their licenses if they use unproven treatments. Why shouldn’t we be the same way? Why allow practitioners to go wild with unvalidated therapies that may not help and can even make people worse?” Van der Kolk counters that scientific funding organizations virtually never support research in unproven treatments, thus promoting an Orwellian cycle of only advancing the exploration and practice of what is already known and closing the door on true exploration. In essence, such strictures would not only eliminate the practical insights and experience of therapists who actually see the real-life complexity of human suffering, but would put the kibosh on any original and potentially useful ideas emerging from clinical practice.

Living both in the laboratory and in the clinical office, van der Kolk has firsthand experience with the different paradigms that rule these worlds: Laboratory researchers pose a particular question they want answered, choose the subjects and methodology that will provide the best test of that question, and ruthlessly screen out any confounding variables. But “confounding variables” are the stuff of ordinary therapy. “As a clinician, you always have to listen to what your patients are bringing in, listen to what they’re telling you that doesn’t necessarily fit *DSM* categories,” van der Kolk says. “It’s the raw data of daily clinical practice and the variations in clinical experience that generate new research protocols.”

More than just about any other field, the town-gown split between scientists and practitioners in psychotherapy reflects sharp differences in fundamental ways of taking in the world. “Skepticism is the core of scientific enquiry,” says trauma expert Alexander McFarlane of the University of Adelaide. “Science is based on statistical comparisons between groups—it’s not a science of the individual subject. And it’s supposed to be critical—scientists make their money out of criticizing ideas. Therapy, on the other hand, happens in the realm of the individual stories people tell, and the variety of ways they do it.” The therapeutic endeavor is built on a framework of reasonable trust and belief in what the patient says, not criticism. “You can’t treat patients if you don’t believe in what you’re treating,” says McFarlane. In a moment of candor not calculated to endear him to his researcher colleagues, van der Kolk says simply, “It’s an issue of temperament: Therapists seem to enjoy living with the uncertainty, unpredictability, and complexity that comes with the intimacy of the relationship, whereas most laboratory scientists are most committed to establishing ‘facts,’ which, by virtue of the dictates of the scientific method, can only encompass a small slice of the total complexity of human beings.”

But van der Kolk is nothing less than an equal-opportunity provocateur. He seems determined to make clinicians fundamentally reconsider their usual responses to the suffering souls who visit their offices, down to the furnishings they choose. With his characteristic wryness, he insists that “As long as people sit on their *tochas* and simply move their tongues around, they may not be able to make enough of a difference to affect internal sensations and motor actions. People need to learn to regulate their physical states in order to get their minds to work. Once they shift their physiological patterns, their thinking can change.”

It’s been an implicit premise of psychological science and clinical practice both, as it is of our entire culture, that our singular human identity resides in our disembodied minds. The West’s infatuation with Cartesian dualism has made our bodies somehow strange to us, a self-alienation reinforced by clinical psychology. It’s hard even to conceive of the lofty mind—our own, anyway—as an indisputably physical, material *organ*, a wrinkled, ovoid mass of blood and tissue. PTSD—or any deeply painful emotional state—is experienced as a foreign intrusion that smothers our “true self,” our mind’s self. Most of psychotherapy is geared to getting this mind-self back, and most of it is conducted as a mental exchange between two people sitting quietly in chairs. Even psychopharmacology seems intended more to quell the rebellious body—quiet and soothe it, get it out of the way and under wraps—than acknowledge and welcome its living presence in the therapy room.

For all the ferment he’s helped create, van der Kolk admits that he doesn’t have any easy answers about how to unravel the tangled web of trauma, much less reconcile our culturally enshrined mind-body split.

During a presentation last year, he confessed his discomfort to several hundred therapists. “I always wonder how I can continue to do workshops like this and ask you to sit on your rear ends all day listening to me talk, knowing that people really only learn when they move and act,” he says. “I feel increasingly bothered by the real contradiction between what I practice and what I preach.” With his penchant for stirring things up and raising questions that can’t be ignored, it’s a safe bet that as long as van der Kolk feels uncomfortable with therapy’s conventional wisdom, the rest of us will, too.

Mary Sykes Wylie, Ph.D., is a senior editor of the Psychotherapy Networker.

A Theory of Language, Self-Talk, and Emotion. “The limits of my language are the limits of my world” Ludwig Wittgenstein. Negative self-talk, rumination, compulsive thinking, and unrealistic rule-following are parts of most forms of human suffering. Maybe you can relate to this. One powerful explanation of why we engage in these harmful behaviors comes from relational frame theory (RFT), a novel account of language, self-talk, and emotion. At its core, RFT argues that language and self-talk are relational in nature, where “relating” is a type of covert behavior that involves responding to on There are limits on the extent to which people and institutions can interfere with the things you own, or control the material you read. We can understand the right to free speech as an extension of this right to individual freedom. This argument provides additional support for free speech on campus, but there are important limits on what it establishes. Individual freedom does not include the freedom to harm others. As the aphorism goes, your right to swing your fist ends where my nose begins. Talk:Limits of computation. From Wikipedia, the free encyclopedia. Jump to navigation Jump to search. The limits mentioned involve advanced physics, but a simple limit is omitted: irreversible computation generates heat throughout a volume, but heat must be removed through the surface. Seymour Cray, designer of the CDC 7600 and other super computers, cited heat removal as one of the hardest problems. Evidence that it is still a problem? Lap top computers warm your lap. oldrider (talk) 16:56, 12 April 2016 (UTC). External links modified[edit]. Hello fellow Wikipedians, I have just modified 2 external links on Limits of computation. Please take a moment to review my edit.