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Panic, Biology, and Reason: Giving the Body Its Due

Peter A. Levine, Ph.D.

Abstract

The key both to developing and healing traumatic symptoms resides in our primitive physiology. The involuntary and instinctual portions of the human brain and nervous system are virtually identical to those of mammals and even reptiles. Since the parts of the brain that are activated by life threatening situations are the parts we share with animals, much can be learned by studying how prey animals avoid traumatization even though their lives are threatened on a routine basis. When faced with what is perceived as inescapable or overwhelming threat, humans and animals both use the immobility response. The important thing to understand about this function is that it is involuntary. This simply means that the physiological mechanism governing this response resides in the primitive, instinctual parts of our brains and nervous systems, and is not under our conscious control. This is why the study of wild animal behavior is vital to the understanding and healing of human trauma.

Keywords

Biology – Healing – Panic – Primitive physiology - Reason

The Substitute Tiger

My interest in the essential role played by bodily responses in the genesis and treatment of panic anxiety and trauma began quite accidentally in 1969. A psychiatrist, knowing of my interest in “mind/body healing”-a fledging arena at the time, had referred a young woman to see me. Nancy had been suffering from panic attacks for about two years. She had not responded to psychotherapy, while tranquilizers and antidepressant drugs gave her only minimal relief. The referring psychiatrist asked me to do some “relaxation training” with her. My attempts were equally unsuccessful. She resisted; I tried harder. We got nowhere. Since I knew almost nothing about panic attacks at the time, I asked her for more detailed information about the ‘how and when’ of her attacks. Nancy revealed that the onset of her first attack occurred while she, along with a group of other students, was taking the Graduate Record Examination. She remembers breaking out in a cold sweat and beginning to shake. Forcing herself to complete the test, Nancy then ran out, frantically pacing the streets for hours, afraid to enter a bus or taxi. Fortunately, she met a friend who took her home. During the following two years her symptoms worsened and became more frequent. Eventually she was unable to leave her house alone and could not follow through with graduate school even though she had passed the exam and was accepted by a major university.

In our conversation, Nancy recollected the following sequence of events: Arriving early, she went to the cafe to have a coffee and smoke a cigarette. A group of students were already there, talking about how difficult the test was. Nancy, overhearing this, became agitated, lit another cigarette, and gulped a second coffee. She remembered feeling quite jittery upon entering the room. She recalled that the exams and marking pencils were passed out and that she wrote vigorously. She became almost breathless at this point and quite agitated—I noticed that her carotid (neck) pulse was increasing rapidly.

I asked Nancy to lie down and I tried to get her to relax. Relaxation was not the answer. As I naively, and with the best of intentions, attempted to help her relax, she went into a full-blown anxiety attack. Her heartbeat accelerated further to about 150 beats per minute. Her breathing and pulse rate then started to decrease. I was relieved, but only momentarily. Her pulse continued to drop, precipitously to around 50 beats per minute; she became still. Her face paled and her hands begin to tremble: “I'm real scared...stiff all over...I'm dying...I can't move...I don't want to die...help me...don't let my die.” She continued to stiffen, her throat becoming so tight that she could barely speak. Nancy forced the words, “Why can't I understand this...I feel so inferior, like I'm being punished...there's something wrong with me...I feel like I'm going to be killed...there's nothing...it's just blank.” (We had rather unfortunately co-discovered, some years before it was reported in the literature, “relaxation-induced panic syndrome.”)

The session continued as follows:

“Feel the pencil,” I requested without really knowing why.

“I remember now. I remember what I thought,” she replied. “My life depends on this exam.” Her heart rate increased now, moving back up into the eighties.

At this point, a ‘dream image’ of a crouching tiger jumping through the bush flashed before me. Quite startled, a fleeting thought about a zoological article I had recently read on “tonic immobility” or “death feigning” prompted me to announce loudly: “You are being attacked by a large tiger. See the tiger as it comes at you. Run toward those rocks, climb them, and escape!”

1 Peter A. Levine, Waking the Tiger - Healing Trauma (Berkeley: North Atlantic Books, 1997).
Nancy let out a blood-curdling yell—a shout that brought in a passing policeman (fortunately my office partner took care of the situation—perhaps explaining that I was doing “relaxation training”). She began to tremble, shake, and sob in waves of full body convulsions. I sat with her for almost an hour while she continued to shake. She recalled terrifying images and feelings from age four. She had been held down by doctors and nurses and struggled in vain during a tonsillectomy with ether anesthesia. She left the session feeling “like she had herself again.” We continued relaxation, including assertion training, for a couple more sessions. She was taken off medication, entered graduate school, and completed her doctorate in physiology without relapse.

The Body Has Its’ Reasons...

Aaron Beck and Gary Emery, in their seminal book, Anxiety Disorders and Phobias, make the point that to understand fear, anxiety, and panic, the person’s appraisal of a situation is most important. In the chapter, “Turning Anxiety on Its Head,” the authors consider cognitive appraisal to be a critical fulcrum in anxiety reactions. They argue that because anxiety has a strong somatic-emotional component, the subtler cognitive processing which occurs may be neglected both in theory and in clinical practice. Clearly Nancy’s belief of the difficulty of the exam—based in part on the overheard conversation in the café—lead to her thought: “my life depends on this,” an unconscious threat appraisal. By focusing narrowly on the cognitive aspects of anxiety, however, Beck and Emery overlook the fundamental role played by bodily responses and sensations in the experience of anxiety. When Nancy drank the coffee and smoked the cigarette (caffeine and nicotine, together, can be a robust stimulant), the physiological arousal of increased heart rate—both fed into and was fed by her cognitive assessment of the “threat” from the exam driving her heart rate sharply up. Together, both assessment and physiological activation, resonated with the ‘imprinted’ bodily reaction of being terrorized and overwhelmed, twenty years before, during the tonsillectomy. The panic attack was triggered from that synergy. In addition to recognizing the importance of cognitive factors, systematic study of bodily reactions and sensate experience is not only important, it is essential. This study needs to occur conjointly with the recognition and exploration of cognitive and perceptual factors. Appreciating the role of bodily experience illuminates the complex web called “anxiety” and connects many threads in understanding and modifying its physiological and experiential basis. In addition to turning anxiety on its head, we need also to connect the body with the head—recognizing the intrinsic psycho-physiological unity that welds body and mind.

Cognitive theorists believe that anxiety serves primarily to signal the brain to activate a physical response that will dispel the source of anxiety. The role of anxiety is likened in this way to that of pain. The experience of pain impels us to do something to stop it. The pain is not the disease. It is merely a symptom of fracture, appendicitis and so forth. Similarly, according to Beck, anxiety is not the disease but only a signal: “Humans are constructed in such a way as to ascribe great significance to the experience of anxiety so that we will be impelled to take measures to reduce it.” He notes that: “The most primal response depends on the generation of unpleasant subjective sensations that prompt a volitional intentional action designed to reduce danger. Only one experience of ‘anxiety’ is necessary to do this” (italics my emphasis). As examples Beck mentions the arousal of anxiety when a driver feels that he is not in complete control of the car and which prompts him to reduce his speed until he again feels in control. Similarly, a person approaching a high cliff retreats because of the anxiety.

What is the wisdom of an involuntary, primitive, global, somatic, and often immobilizing, brainstem response? Is it exclusively for calling the individual’s attention to making varied and specific voluntary responses? Such an inefficient arrangement is highly doubtful. A lack of refinement in appreciating the essential nuances played by bodily responses and sensations in the structures and experience of anxiety is typical of cognitive approaches. Beck, for example, flatly states that: “a specific combination of autonomic and motor patterns will be used for escape, a different combination for freezing, and a still different pattern for fainting. However, the subjective sensation—anxiety—will be approximately the same for each strategy.” In the following paragraph of this same article he adds: “An active coping set is generally associated with sympathetic nervous system dominance, whereas a passive set, triggered by what is perceived as an overwhelming threat, is often associated with parasympathetic dominance. . . as in a blood phobic. In either case the subjective experience of anxiety is similar.”

Beck’s statements reveal a significant glitch in the cognitive phenomenology of anxiety highlighting its paradoxical nature. According to his reasoning, the same body signal is relayed to the brain’s cognitive structures

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5 Aaron Beck, "Theoretical Perspectives on Clinical Anxiety," 188.
for all forms of threat. The “head” (cognitive) structures are then somehow expected to decide on an appropriate course of action. This top-heavy, Cartesian holdover goes against the basic biological requirements for an immediate, precise, and unequivocal response to threat. It is a view that is quite confusing because it requires that distinctly different kinesthetic, proprioceptive and autonomic feedback be experienced as the same signal. We have tended, in the post-Cartesian view of the world, to identify so much with the rational mind that the wider role of instinctive, bodily responses in orchestrating and propelling behavior and consciousness has been all but ignored.

Beck’s statement that “a specific combination of autonomic and motor patterns will be used for escape, a different combination for freezing, and a still different pattern for fainting” and that “the subjective sensation—anxiety—will be approximately the same for each strategy” contradicts both evolutionary imperative and subjective experience. As one working for thirty-five years in what is now called somatic psychology, these statements simply do not fit the subjective facts and would have had William James turning over in his grave. If you ask several anxious people at random what they are feeling, they may all say that they are feeling “anxiety.” However, if they are then queried with the epistemological question: “How do you know that you are feeling anxiety,” you will get several different responses. One, for example, could be, “because something bad will happen to me.” Another may be that they are feeling strangulated in their throat; still another that their heart is leaping out of their chest; another that they have a knot in their gut. Other people might report that their neck, shoulders, arms, and legs are tight; others might feel ready for action, and still others that their legs feel weak or their chest collapsed. All but the first answer are specific and varied physical sensations. And if the person who said what he thought (“...like something bad will happen to me,”) was directed to a scan of her body, she would have discovered some somatic/physical sensation driving and directing the thought.

If we feel threatened and assess that we can escape or fight back, we will feel one set of physical sensations. If, on the other hand, we feel threatened and perceive that we cannot escape or fight back then we feel something quite different. Now here is the key factor: both the assessment of danger and the perception of our capacity to respond are not primarily conscious. Let’s look to our distant ancestors to illuminate these questions.

Instinct in the Age of Reason

Animals possess a variety of orientation and defensive responses that allows them to respond automatically to different, potentially dangerous situations rapidly and fluidly. The sensations involving escape are profoundly different from those of freezing or collapse. I am in agreement with Beck, in describing panic and post-traumatic anxiety states as having in common “the experience of dread with the perception of inescapability.” What I first gleaned from Nancy thirty-five years ago, and later confirmed by the ethological analysis of predator prey behaviors, was that the singular experience of ‘traumatic panic anxiety’ that Beck talks about occurs only where the normally varied and active defensive responses have been unsuccessful, that is, when a situation is both dangerous and inescapable. Anxiety, in its pathological panic form (as distinguished from so-called signal anxiety), represents a profound failure of the organism’s innate defensive structures to mobilize and thus allow the individual to escape threatening situations actively and successfully. Where escape is possible, the organism responds with an active pattern of coping. There is the continuous experience of danger, running, and escape. When, in an activated state, escape is successfully completed, anxiety does not occur. Rather a fluid (felt) sense of “biological competency” is experienced. Where defensive behaviors are unsuccessful in actively resolving severe threat, anxiety is generated. It is where active forms of defensive response are aborted and incomplete that anxiety states ensue. Beneath the Monolithic label of anxiety are ‘camouflaged’ a wealth of incomplete and identifiable somatic responses, sensations, and bodily feelings. These body experiences represent the individual’s response to past experience, but also to their “genetic potential” in the form of unrealized defensive responses. The recognition that these instinctive orientation and defensive behaviors are organized motor patterns, that is, prepared motor acts, helps to return the body to the head. Anxiety derives ultimately from a failure to complete motor acts.

Jean Genet, in his autobiographical novel, Thief’s Journal, states this premise in bold prose: “Acts must be carried through to their completion. Whatever their point of departure, the end will be beautiful. It is (only) because an action has not been completed that it is vile.” When orienting and defensive behaviors are carried out smoothly and effectively, anxiety is not generated. Instead, there is the complex and fluid sensate experience perceived as curiosity, attraction, or avoidance. It is only when these instinctive orientation and defensive resources are interfered with (“thwarted”) that the experience of anxiety is generated: I am not afraid of snakes or spiders, but of my inability to respond effectively to these creatures. Ultimately, we have only one fear, the fear of not being able to cope, of our own un-copeability. Without active, available, defensive responses, we are unable to deal effectively with danger and so we are, proportionately, anxious.

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6 Ibid.
Orientations, Defense, and Flight

A scene from an uplands meadow helps to illustrate the “motor act” concept. Suppose you are strolling leisurely in an open meadow. A shadow suddenly moves in the periphery of your vision. Instinctively all movement is arrested; reflexively you crouch in a flexed posture; perceptions are “opened” through activation of the parasympathetic autonomic nervous system. After this momentary arrest response your head turns automatically in the direction of the shadow or sound in an attempt to localize and identify it. Your neck, back, legs, and feet muscles coordinate so that your whole body turns and then extends. Your eyes narrow somewhat while your pelvis and head shift horizontally, giving you an optimal view of the surroundings and an ability to focus panoramically. This initial two-phase action pattern is an instinctive orientation preparing you to respond flexibly to many possible contingencies. The initial arrest-crouch flexion response minimizes detection by possible predators and perhaps offers some protection from falling objects. Primarily though, it provides a convulsive jerk that interrupts any motor patterns that were already in execution and then prepares the you, through scanning, for the fine-tuned behaviors of exploration or defense.

If it had been an eagle taking flight that cast the shadow, a further orientation of tracking-pursuit occurs. Adjustment of postural and facial muscles occurs unconsciously. This new “attitude of interest,” when integrated with the contour of the rising eagle image, is perceived as the feeling of excitement. This aesthetically pleasing sense, with the meaning of enjoyment, is affected by past experience, but may also be one of the many powerful, archetypal predispositions or undercurrents which each species has developed over millennia of evolutionary time. Most Native Americans, for example, have a very special, spiritual, mythic relationship with the eagle. Is this a coincidence, or is there something imprinted deep with in the structures of the brain, body, and soul of the human species that responds intrinsically to the image of eagle with correlative excitement and awe? Most organisms possess dispositions, if not specific approach/avoidance responses, to moving contours. A baby chick, without learning from its mother, for example, flies from the moving contour of a hawk. If the direction of movement of this silhouette is reversed, however, to simulate a goose, the baby chick shows no such avoidance response.

If the initial shadow in the meadow had been from a raging grizzly bear-rather than from a rising eagle, a very different preparedness reaction would have been evoked—the preparation to flee. This is not because we think: “bear,” evaluate it as dangerous, and then prepare to run. It is because the contours and features of the large, looming, approaching animal cast a particular light pattern upon the retina of the eye. This stimulates a pattern of neural firing that is registered in phylogenetically primitive brain regions. This “pattern recognition” triggers preparation for defensive responding before it is registered in consciousness. These responses derive from genetic predispositions, as well as from the outcomes of previous experiences with similar large animals. Non-conscious circuits are activated, triggering preset patterns or tendencies of defensive posturing. Muscles, viscera, and autonomic nervous system activation cooperate in preparing for escape. This preparation is sensed kinesthetically and is internally joined as a gestalt to the image of the bear. Movement and image are fused, registered together, as the feeling of danger. Motivated by this feeling we continue to scan for more information—a grove of trees, some rocks—at the same time drawing on our ancestral and personal memory banks. Probabilities are non-consciously computed, based on such encounters over millions of years of historical evolution, as well as by our own personal experiences. We prepare for the next phase in this unfolding drama. Without thinking, we orient toward a large tree with low branches. An urge is experienced to flee and climb. If we run, freely oriented toward the tree, it is the feeling of directed running. The urge to run is experienced as the feeling of danger, while successful running is experienced as escape (and not anxiety!).

If, on the other hand, we chance upon a starved or wounded bear, and moreover find ourselves surrounded on all sides by sheer rock walls, that is, trapped, then the defensive preparedness for flight, concomitant with the feeling of danger, is “thwarted” and will change abruptly into the fixated emotional states of anxiety. The word fear, interestingly enough, comes from the old English term for danger, while anxious derives from the Greek root angst, meaning to “press tight” or strangle, as conveyed in Edward Munch’s riveting painting, The Scream. Our entire physiology and psyche become precipitously constricted in anxiety. Response is restricted to non-directed desperate flight, to rage, counterattack, or to freeze-collapse. The latter affords the possibility of diminishing the bear’s urge to attack. (If it is not cornered or hurt and is able to clearly identify the approaching human being, the bear usually will not attack the intruder. It may even remain and go on with business as usual.)

In summary, when the normal orientation and defensive escape resources have failed to resolve the situation, life hangs in the balance, with non-directed flight, rage, freezing, or collapse. Rage and terror-panic are the secondary emotional anxiety states that are evoked when the preparatory orientation processes (feelings) of danger-orientation and preparedness to flee are not successful—when they are blocked or inhibited. It is this “thwarting” that results in freezing and anxiety-panic.
Tonic Immobility-Freezing

Anxiety has often been linked to the physiology and experience of flight. Analyses of animal distress behaviors suggest that this may be quite misleading. Ethology (the study of animals in their natural environment) points to the “thwarting” of escape as the root of distress-anxiety. When attacked by a cheetah on the African plains, an antelope will first attempt to escape through directed-oriented running. If, however, the fleeing animal is cornered so that escape is diminished, it may run blindly, without a directed orientation, or it may attempt to fight wildly and desperately against enormous odds. At the moment of physical contact, often before injury is actually inflicted, the antelope abruptly appears to go dead. It not only appears dead, but its autonomic physiology undergoes a widespread alteration and reorganization. The antelope is in fact highly activated internally, even though outward movement is almost nonexistent. Prey animals are immobilized in a sustained (cataleptic-catatonic) pattern of neuromuscular activity and high autonomic and brain wave activity. Sympathetic and parasympathetic responses are also concurrently activated, like brake and accelerator, working against each other.

Nancy, in her re-experiencing of the examination room, exhibited this pattern when her heart rate increased sharply and then plummeted abruptly to a very low rate. In tonic immobility, an animal is either frozen stiff in heightened contraction of agonist and antagonist muscle groups, or in a continuously balanced, hypnotic, muscular state exhibiting what is called “wavy flexibility.” In the hypnotic state, body positions can be molded like clay, as is seen in catatonic schizophrenics. There is also analgesic numbing. Nancy described many of these behaviors as they were happening to her. She wasn’t, however, aware of her physical sensations but rather of her self-deprecating and critical judgments about those sensations. It is as though some explanation must be found for profoundly disorganizing forces underlying one’s own perceived inadequacy. Psychologist Paul G. Zimbardo has gone so far as to propose that “most mental illness represents not a cognitive impairment, but an (attempted) interpretation of discontinuous or inexplicable internal states.” Tonic immobility, murderous rage, and non-directed flight are such examples.

Ethologists have found wide adaptive value in these immobility responses: freezing makes prey less visible and non-movement in prey appears also to be a potent inhibitor of aggression in predators, often aborting attack-kill responses entirely. The park service, for example, advises campers that if they are unable to actively escape and non-movement in prey appears also to be a potent inhibitor of aggression in predators, often aborting attack-directed flight are such examples.

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Ethologists have found wide adaptive value in these immobility responses: freezing makes prey less visible and non-movement in prey appears also to be a potent inhibitor of aggression in predators, often aborting attack-kill responses entirely. The park service, for example, advises campers that if they are unable to actively escape an attacking bear, they should lie prone and not move. The family cat, seemingly on to nature’s game, bats a captured, frozen mouse with its paws hoping to bring it out of shock and continue in the game. Immobility can buy time for prey. The predator may drag frozen prey to its den or lair for later consumption, giving it a second chance to escape. In addition to these aggression-inhibiting responses, freezing by prey animals may provide a signaling and decoy effect, allowing con-specifics, who are farther away, a better chance for escape in certain situations. Loss of blood pressure may also help prevent bleeding when injured. An immobile prey animal is, in sum, less likely to be attacked. Further, if attacked, it is less likely to be killed and eaten, increasing its chances of escape and reproduction. In a world where most animals are both predator and prey at one time or another, analgesia is a “humane” biological adaptation.

Tonic immobility demonstrates that anxiety can be both self-perpetuating and self-defeating. Freezing is the last-ditch, cul-de-sac, bodily response where active escape is not possible. Where flight and flight escape have been (or are perceived to be) unlikely, the nervous system reorganizes to tonic immobility. Both flight-or-fight and immobility are adaptive responses. Where the flight-or-flight response is appropriate, freezing will be relatively maladaptive; where freezing is appropriate, attempts to flee or fight are likely to be maladaptive. Biologically, immobility is a potent adaptive strategy where active escape is prevented. When, however, it becomes a preferred response pattern in situations of activation in general, it is profoundly debilitating. Immobility becomes the crippling, fixating experience of traumatic and panic anxiety. Underlying the freezing response, however, are the flight-or-flight and other defensive and orientation preparations that are activated just prior to the onset of freezing. The “de-potentiation” of anxiety is accomplished by precisely and sequentially restoring the latent flight-or-fight and other defensive responses that occur at the moment(s) before escape is thwarted.

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The key in treating various anxiety and post-traumatic reactions is in principle quite simple: to uncouple the normally acute, time-limited freezing response from fear reactivation. This is accomplished by progressively re-establishing the pre-traumatic defensive and orienting responses, the responses that were in execution just prior to the initiation of immobility. In practice there are many possible strategies that may be utilized to accomplish this uncoupling of the immobility-fear or panic reaction. An example of one type of reworking follows:

Marius Inuusuttoq Kristensen is a native Eskimo, born and raised in a remote village in Greenland. He is a slight, intelligent, boyish-looking young man in his mid-twenties. He is shy but open and available. As a participant in a training class in Copenhagen, Denmark, he asks to work on his tendency toward anxiety and panic, particularly when he is with a man he admires and whose approval he wants. His anxiety is experienced somatically as a weakening in his legs and a stabbing ache on the lateral midline of his right leg. There are also waves of nausea moving from his stomach to his throat, where it then becomes stuck. His head and face feel very warm and he becomes sweaty and flushed. After talking with him and using some exploratory images, he recalled an event that occurred when he was eight. While returning from a walk alone in the mountains, he was attacked by a pack of three wild dogs and bitten badly on his right leg. He remembers only feeling the bite and then waking up in the arms of a neighbor. He remembers, too, his father coming to the door and being annoyed with him. Marius still feels bitterly angry and hurt at this rejection. He remembers, particularly, that his new pants were ripped and covered with blood. When he describes this, he is visibly upset. I ask him to tell me more about the pants. He tells me that they were a surprise from his mother that morning; she had made them especially for him. Marius holds his arms in front of himself feeling the fur and feasting on his “magic” polar bear fur pants.

“I feel like I want to jump up and down.”

“Marius, are these the same kind of pants that the men of the village, the hunters, wear?”

“Yes,” he responds.

“Do they wear them when they go out to hunt?”

“Yes.” Marius becomes more excited. He describes seeing the pants with clear detail and aliveness. I have him feel the pants now with his hand.

“Now, Marius,” I ask, “can you feel your legs inside the pants?”

“Yes, I can feel my legs. They feel very strong, like the men when they are hunting.” (I am beginning to build, as a resource, a somatic bridge utilizing neuromuscular patterns of the leg.) Marius’s walk into the mountains the day of the attack was an initiation, a rite of passage for him; his pants were power objects on this “walkabout.” I have him describe the sensations and images of walking up into the mountains. His descriptions are bright, embodied with awareness of detail. The experience he describes is clearly authentic and present. He is also aware of being in a group of students, though without self-consciousness. I would call his state of being primarily a state of presence and ‘retrogression’ rather than regression. As images and kinesthetic perceptions unfold he sees an expanse of rocks. I ask him to feel his pants and then look at the rocks again.

“My legs want to jump; they feel light, not tight like they usually do. They are like springs, light and strong.” He reports seeing a long stick that is lying by a rock and picks it up.

“What is it?” I ask.

“A spear.”

“What is it for? What do the men do when they see bear tracks?” (I am hoping that this “play in dream time” will stimulate predatory and counterattack behaviors which were thwarted in being overwhelmed by the attacking dogs. This successive ‘bridging’ helps to prime required defensive responses that could eventually neutralize the tonic immobility-freeze and collapse which occurred at the time of the attack.)

He goes on, “I am following a large polar bear. I am with the men, but I will make the kill.” Micro-flexor extensor movements can be seen in his thigh, pelvic, and trunk muscles as he imagines jumping from rock to rock in following the trail.

“I see him now. I stop and aim my spear.”

“Yes, feel that in your whole body, feel your feet on the rocks, the strength in your legs, and the arching in your back and arms. Feel all that power!”

“I see the spear flying,” he says. Again micro-postural adjustments can readily be seen in Marius’s body; he is trembling lightly now in his legs and arms. I encourage him to feel these sensations. He reports waves of excitement and pleasure.

“I did it. I hit him with my spear!”

“What do the men do now?” I ask.

“They cut the belly open and take out the insides and then cut the fur off...to...make pants and coats. The other men will carry the meat down for the village.”

Levine, Waking the Tiger – Healing Trauma.
“Feel your pants, Marius, with your hands, and on your legs.” Tears form in his eyes. “Can you do this?” I ask. “I don’t know…I’m scared.”

“Feel your legs, feel your pants.”

“…Yes, I cut the belly open; there is lots of blood…I take out the insides. Now I cut the skin. I rip it off, there is glistening and shimmering. It is a beautiful fur, thick and soft. It will be very warm.” Marius’s body is shaking and trembling with excitement, strength, and conquest. The activation/ arousal is quite intense.

“How do you feel Marius?”

“I’m a little scared…I don’t know if I’ve ever felt this much strong feeling…I think it’s okay…really I feel very powerful and filled with an energy. I think I can trust this…I don’t know…it’s strong.”

“Feel your legs. Feel your feet. Touch the pants with your hands.”

“Yes, I feel calmer now, not so much rush…it’s more like strength now.”

“Okay, yes, good. Now start walking down, back toward the village.” A few minutes pass, then Marius’s trunk flexes and his movements hold as in still-frame arrest. His heart rate accelerates, and his face reddens.

“I see the dogs…they’re coming at me.”

“Feel your legs, Marius! Touch your pants,” I sharply demand. “Feel your legs and look! What is happening?”

“I am turning, running away. I see the dogs. I see a pole, an electricity pole. I am turning toward it. I didn’t know that I remembered this.” Marius’s pulse starts to drop; he turns pale. “I’m getting weak,” he responds.

“Feel the pants, Marius!” I command. “Feel the pants with your hands!”

“I’m running.” His heart rate increases. “I can feel my legs…they’re strong, like on the rocks…” Again he pales. He yells out, “Agh…my leg, it burns like fire…I can’t move, I’m trying, but I can’t move…I can’t move! It’s numb now…my leg is numb. I can’t feel it.”

“Turn, Marius. Turn to the dog. Look at it.”

This is the critical point. I hand Marius a roll of paper towels. If Marius freezes now he will be re-traumatized. (This would occur if somatic bridges were not organized and in place.) He grabs the roll and “strangles” it. The group members, myself included, look on with utter amazement at his strength as he twists it and tears it in two. (I have asked weightlifting friends to replicate this and only a few have been able to do so.)

“Now the other one, look right at it.” This time he lets out screams of rage and triumph. I have him settle with his bodily sensations for a few minutes, integrating this intensity. Then I ask him again to look.

“What do you see?”

“I see them…they’re all bloody and dead.”

“Okay, look in the other direction. What do you see?”

“I see the pole…there are bolts in it.”

“Okay, feel your legs, feel your pants.” I am about to say, “Run!” (in order to complete the running response). Before I do, he reports, “I am running…I can feel my legs, they are strong like springs.” Rhythmic extensor-flexor undulations are now visible through his pants, and his entire body is trembling and vibrating.

“I’m climbing…climbing…I see them below…they’re dead and I’m safe.” He starts to sob softly and we wait a few minutes.

“What do you experience now?”

“It feels like I’m being carried by big arms. He’s carrying me in his arms. I feel safe.” Marius now reports a series of images of fences and houses in the village. Again, he softly and gently sobs. “He’s knocking at the door of my family’s house. The door opens…my father…he’s very upset, he runs to get a towel…my leg is bleeding very badly…he’s very upset…he’s not mad at me. He’s worried. It hurts, the soap hurts.” Marius sobs now in waves. “It hurts but I’m crying ‘cause he’s not angry at me. I can see he was upset and scared.”

“What do you feel in your body now?”

“I feel very peaceful now; I feel vibration and tingling all over. It is warm and very warm. I love me.” Again Marius begins to sob and I ask what happens if he feels that in his body, if he feels that his father loves him. There is a silence.

“I feel warm, very warm and peaceful. I don’t need to cry now. I’m okay and he was just scared. It’s not that he doesn’t love me.”

In reviewing the session, recall that initially the only image or memory of the event Marius had was the bloody pants, torn flesh, and his father’s rejection. Yet here also was the positive seed of the emerging healing nucleus, the “magic pants.” The experience of the pants is the thread by which the altered states, related to the traumatic event, were experienced and progressively renegotiated. In working with over a thousand clients, I have never found an instance where there was not this dual aspect of a critical image.15 Within an initial image are the first stirrings of the motoric plan that a person will develop. The renegotiation processes occur stepwise, from periphery to center, toward a de-structuring of the particular anxiety response or thwarting pattern, and restructuring of the underlying defensive and orienting responses.

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15 Akhter Ahsen, Basic Concepts in Eidetic Psychotherapy, (New York: Brandon House, 1972) refers to this, I believe, as the “Law of Bipolarity.”
The image of the ripped and bloodied pants was arousing to Marius, but so was the happiness (his legs wanting to jump for joy) he experienced when he saw the same pants for the first time earlier that morning. He was joyful when presented with this first possibility of manhood. In wanting, literally, to “jump for joy,” Marius activated motor patterns that were essential in the eventual renegotiation of his freezing response. It is necessary to build just such adaptive motor patterns successively with increasing activation. In moving from the periphery of the experience to the freezing “shock” core, one moves away from maladaptive neuromuscular patterns. The latter are neutralized by adaptive, flexible patterns at similar levels of activation.

As I encouraged Marius to track the initial positive pants experience gradually toward the traumatic, freezing shock core, the joyful extensor-dominated pants experience became linked to support, aggression, and competency, that is, when in somatic experiencing Marius sees the image of the rock field, the seed begins to sprout. In jumping from rock to rock and finding and picking up the stick, Marius’s dynamic body-unconscious propels the motor plan sharply ahead. He is now prepared to meet the impending challenge. He takes the offensive and moves toward mastery of the previously thwarted situation. Like the hunters, he tracks the polar bear as I track his autonomic and motoric responses. Supported by the magical pants and the village men, he makes the find and the kill in a crescendo of high activation, approaching ecstasy.

In the next sequence of events, the true test will be made. Empowered and triumphant, he heads back down toward the village. There is expansion and awareness. For the first time he sees and describes the road and the dogs. (Previously, these images were constricted as in amnesia.) He senses orientation movements away from the attacking dogs and toward the electric pole. Because he now senses his legs moving, the inhibitory freezing response is no longer the exclusive channel of response. The ecstatic trembling for the kill is now bridged into running. This action is, however, only partial; he begins to run but does not escape! I ask him to turn and face his activated sympathetic to parasympathetic resolution, the more primary orienting responses can come into play. The motor plan has succeeded. Marius is now victorious; he is no longer the defeated victim.

The event, however, is still not complete. As the sensations and autonomic responses shift from highly activated sympathetic to parasympathetic resolution, the more primary orienting responses can come into play.

Jody-In a Fraction of a Second-Another Example of Resolving Anxiety States through Completing Innate Defensive Responses:

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

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

Jody, like so many head-injured and traumatized individuals, grasped desperately and obsessively in an attempt to retrieve memories of her trauma. When I suggested to Jody that it was possible to experience healing

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16 Gellhorn, Autonomic-Somatic Integration.
18 The Polyvagal Theory represents a new understanding of the autonomic nervous system (ANS). The theory stems from the research and writings of the psycho-physiologist, Stephen Porges, Ph.D. This research has significantly altered the traditional, commonly accepted view of the ANS, which views two component subsystems, the sympathetic and parasympathetic branch. The parasympathetic maintains the essential, homeostatic background operations such as respiration, blood flow, and digestion, those of sustenance, maintenance and procreation. The sympathetic provides a global stress-response to mobilize vast sources of energy and muscular readiness for fight-or-flight. Ernst Gellhorn and others have suggested that the two branches work in an oppositional, reciprocal, manner. It was assumed that anxious states were associated with sympathetic hyper-arousal and relaxation with dominance of the parasympathetic branch. The Polyvagal Theory is rooted in comparative neuro-anatomy and autonomic psychophysiology. Porges showed that the ANS has three, rather than two, branches. In addition their organization is sequential rather than reciprocal. (See Porges: Psychophysiology, 32 (1995), 301-318. Cambridge University Press).
without having to remember the event. I saw a flicker of hope and a momentary look of relief pass across her face. We talked for a while, reviewing her history and struggle to function. Focusing on body sensations, Jody slowly became aware of various tension patterns in her head and neck region. With this focus, she began to notice a particular urge to turn and retract her neck. In following this urge in slow gradual "micro movements", she experienced a momentary fear, followed by a strong tingling sensation. Through following these movements, Jody began a journey through the trauma of her assault. In learning to move between flexible control and surrender to these involuntary movements, she began to experience gentle shaking and trembling throughout her body. Thus began, ever so gently, the discharge of her trauma.

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

Jody, through her felt sense, was able to follow her body’s intentional movement. Intentional movement is non-conscious. It is experienced as if the body is moving of its own volition. Through completing the life preserving actions that her body had prepared for at the time of her attack, she released that bound energy and realized that she had, in fact, attempted to defend herself. Gradually as more defensive and orienting responses reinstated, her panic anxiety progressively decreased.

In Somatic Experiencing, traumatic reactions are addressed by a wide variety of strategies. What unifies them is that they are all used in the service of de-structuring the thwarted anxiety response and restoring defensive and orienting resources. The overall picture shows how each individual's needs and resources call forth a unique, creatively adaptive solution.19 20

Biography

Peter A. Levine received his Ph.D. in medical biophysics from the University of California at Berkeley, and also holds a doctorate in psychology from International University. He is the developer of “Somatic Experiencing” and teaches trainings in this work throughout the world and in various indigenous cultures. He has been stress consultant for NASA in the development of the first Space Shuttle. Dr. Levine was a stress consultant for NASA on the development of the space shuttle project. He is a member of the Institute of World Affairs Task Force of “Psychologists for Social Responsibility” and serves on the APA “Presidential Initiative on responding to large scale disasters and ethno-political warfare.

Peter is the author of the best selling book Waking the Tiger - Healing Trauma, available in eight languages as well as three audio learning series for “Sounds True”: “Healing Trauma, Restoring the wisdom of the Body,” “It Won’t Hurt Forever, Guiding your Child through Trauma,” and “Healing Sexual Trauma-Transforming the Sacred Wound.”

Peter is the Director of the Foundation for Human Enrichment and may be contacted through www.traumahealing.com

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