

# The Emotional Imperative

Psychotherapists Cannot Afford To Ignore The Primacy Of The Limbic Brain  
(Cover story for the July/August 1999 issue of the *Family Therapy Networker*)

Brent J. Atkinson, Ph.D.

On a humid evening last September, Susan and James burst into our office looking like two high schoolers in the grip of a classroom giggle fit. Usually serious and reserved, James, 36, explained between chuckles that he had been telling Susan a story about his boss's gaffe at a meeting earlier that day. Still chortling as she landed on our office sofa, 27-year-old Susan ran her fingers through her cropped, blond hair and tried to compose herself, then eyed her gleeful husband and began hooting all over again. I glanced at my wife and cotherapist, Lisa, for a microsecond and gave her a raised-eyebrow version of a high five: This had all the earmarks of an easy session. After a bit more banter, we steered the conversation to the main order of business-- the state of their six-year marriage. Susan began to recount an incident that had occurred a few days before, when James had volunteered Susan to drive his daughter to a birthday party so that his ex-wife wouldn't be inconvenienced. "I felt used," Susan said bluntly. So far, so good, I thought -- she is simply stating her feelings. Then looking directly at her husband, she continued: "But what upset me even more was your reaction when you saw that I was unhappy. You started defending her!"

With these words, Susan's voice began to shake and she ducked her head, staring at the flowered pattern of the Kleenex in her fist. When she looked up her eyes were narrowed and her face flushed a deep, mottled crimson. "You are so full of crap!" she spit out. "You're too weak to stand up to her then you look at me as if I'm the one with the problem. God, what a sucker I am to stay with you!"

James rolled his eyes and sighed elaborately, then turned toward us. "You see what I have to deal with here?" he asked beseechingly. It was as though he had lit a match to his wife's innards. "Oh, that's good James!" sneered Susan. "Blame me again! This is classic. You're such a fucking wimp!"

James didn't respond. In fact, I wasn't even sure he had heard her. His whole body seemed to contract as he turned toward the office picture window and stared unseeing through it, his mouth a taut line. Though he sat very still, I could hear the ragged sounds of his breathing. The relaxed, affable man who had entered our office 10 minutes earlier had simply vanished.

Looking back, I realize it was pure wishful thinking to equate this

couple's initial good cheer with an easy session. In fact, over the years I have often been struck by how swiftly and dramatically the moods of intimate partners can change in the midst of an interaction, as though some internal switch gets flipped that compels each partner to react in a particular, almost predetermined way. In a previous session, James had jokingly called Susan "Sibyl," noting that whenever she became deeply upset, she entered "the zone," a place from which she could only react with white-hot wrath. At times, that rage turned physical: during one particularly savage fight, she knocked James unconscious by pushing him into a wall. Yet, in my observation, Susan was not the only partner prone to meteoric mood shifts. James's predictable response to Susan's rage—a lightning-fast retreat into his own zone of tuned-out, protective distance—was every bit as sudden and intense as his wife's.

In the past, the goal of our therapy with a couple like Susan and James would have been to teach them new habits of thinking and behaving that they could call into play whenever conflict arose. We would have coached them to listen to each other more attentively, fight more fairly, and give each other more benefit of the doubt. But over the years, we have noticed that the progress couples made in these areas tended to be disturbingly short lived. Several years ago, we informally followed up with a number of our couples and found that within months of finishing therapy, many had reverted back to their old, well-honed tango of attach and withdraw, storm and stonewall. For some, it was as though they had never been in therapy at all.

Were we doing something wrong? My honest response is yes—and we have loads of company. Controlled studies of marital therapy outcome show that following a stint of treatment, only 50 percent of couples significantly improve. But even among those couples who do make progress, a big chunk—30 to 40 percent—relapse within two years. A close reading of this outcome research reveals a still more dispiriting reality: many of the so-called "successful" couples reported still feeling unhappy with their marriages at a two-year follow-up. In the course of therapy, they had merely progressed from "highly distressed:" to just plain "distressed."

Why are we doing such a lousy job of helping couples?

Numerous factors have been identified: couples come in too late to be helped; reimbursed sessions are too few; many clinicians are undertrained in marital therapy. But one possibility that we haven't yet confronted is that many of our most respected and widely used models for helping couples may be based on bad—or at least badly outdated—information.

Most couples therapy today is geared toward teaching partners to think and act differently toward each other, on the assumption that cognitive and

behavioral strategies such as reframing, active listening, doing more of the works and so on can short-circuit explosive emotions and promote renewed intimacy and trust. But all of the foregoing assumes that our rational brains are in charge of our emotions, that what distinguished Homo sapiens from so-called "lower" animals is our capacity to reason before we react.

But what if the human brain isn't actually wired that way? What if our neural circuitry programs us instead to rage and cower and collapse in grief in a nanosecond, before we ever get a chance to fashion an "I" statement or otherwise think things through? With the help of ever more refined imaging techniques that generate highly precise portraits of the brain in action, a new generation of neurobiologists is in the process of documenting that our cerebral topography actually favors flaming emotionality, not sweet reason. Thinking still counts, but not nearly as much as we've always assumed. So doctrine shattering is this mounting evidence for the hegemony of the "emotion brain," or more formally, the limbic brain, that Jaak Panksepp, a pioneering neurobiologist at Ohio's Bowling Green State University, has called it a genuine "neuroscience revolution."

But while the lay public appears fascinated by this new look at our emotional brains, catapulting books such as Daniel Goleman's *Emotional Intelligence* and Steven Pinker's *How the Mind Works* onto the bestseller lists, thus far, clinicians have seemed curiously unmoved. In our professional journals and conferences, we have done little grappling with the implications for psychotherapy of this major new strand of emotion research even though it strikes at the very marrow of the work we do.

Perhaps our field has hesitated to seriously confront the core tenets of the new, affective neuroscience because if we did, we might find out that we are heading down a hazardous road. For if our very brain circuits are primed to favor our most volatile emotions over reason, we may need to call into question our field's predominant tilt toward therapeutic models that rely on the sovereignty of rational thought to engender change. As economic pressures spur us to move increasingly toward ever briefer, more cognitive-oriented models, we may unwittingly be investing enormous energy in approaches that are, to a large extent, at odds with our brain's most fundamental functions.

Let me say clearly that at this juncture, almost nothing about the brain's role in emotion can be stated with absolute authority. Behavioral neuroscience is still an infant field, which means that many conclusions are still in the realm of correlation and possibility. And high-tech tools notwithstanding, the task of mapping the emotional brain is simply a staggeringly complex undertaking. Each human brain houses up to 100 billion neurons, each of which is capable of making, literally, thousands of

connections with other neurons. Attempting to relate this intricate, electrochemical mesh to emotion, a concept that itself encompasses an enormously complex set of phenomena, is a truly daunting task.

Nonetheless, as the "black box" beneath our craniums is slowly and painstakingly being pried open, its contents deserve our close inspection. For while the latest findings about the primacy of emotion may be disquieting, they also hold the promise of more potent and effective ways of doing therapy. This new knowledge is already transforming my own work, spurring me to develop a clinical approach that empowers emotion and thought to work in common cause, rather than at cross-purposes, to help people manage their most volatile feelings. And whatever a therapist's current orientation-be it cognitive, behavioral, affective or some blend thereof-I believe that the newly charted links between our neural circuitry and our most primitive passions merit an open-minded and thoughtful response. For if we discover that we are, in fact, traveling down the wrong road, we will need to plot a powerful mid-course correction.

The conventional view of how the brain processes emotion is highly appealing to us humans, who love to fantasize that we're firmly in control. This comforting theory holds that information about the world is transmitted via our eyes, ears and other sensory organs to the thalamus, the brain's central relay station, which, in turn, ships it directly to the neocortex or "thinking brain." There, the incoming signals are efficiently recognized, sorted and assigned meaning, then ferried downstream to the limbic system or "emotional brain," which triggers the appropriate visceral response. In this tidy, reassuring scenario, emotion is the dutiful servant of the rational brain. Thought proposes, emotion disposes.

And much of the time, this is indeed how things work. But here's the catch: not always. Joseph LeDoux, a neuroscientist at the Center for Neural Science at New York University, recently discovered a second, parallel pathway that acts as a supersonic express route to the brain's emotional centers. This neural back alley, which appears to be reserved for emotional emergencies, bypasses the neocortex entirely, routing information from the thalamus directly to the amygdala, a tiny, almond-shaped structure in the limbic system that has recently been identified as the brain's emotional alarm center. The amygdala scans the information for potential danger: Is this bad? Could it hurt me?

If the information registers as dangerous, the amygdala broadcasts a distress signal to the entire brain, which in turn, triggers a cascade of physiological responses-from a speeded-up heart rate to jacked-up blood pressure to mobilized muscles to the release of the "fight or flight" hormones, adrenaline and noradrenaline. Within milliseconds, we explode

with rage or freeze in fear, well before our conscious mind can even grasp what is happening, much less persuade us to take a few deep breaths and maintain our cool.

This cranial takeover can occur because neuroanatomically speaking, our thinking brain is simply out-matched by the competition. At the same time that emotion-laden signals are zooming down our neurological express route-what LeDoux calls the "low road"-the same data is being transported via the customary, well-trodden "high road" from thalamus to neocortex to amygdala. But because the shorter, subterranean pathway transmits signals twice as fast as the more circuitous route involving the neocortex, the thinking brain simply can't intervene in time. By the time the neocortex gets into the act, the damage has been done-you have already called your late-to-dinner partner an inconsiderate jerk, shrieked at your smart-mouthed child, snapped at your critical colleague or simply shut down, shaking inside, in the face of someone else's rage.

To make matters worse, by this time, amygdala-triggered emotional information has invaded the neocortex itself, overwhelming its centers for logic and judgement. As a result, your emotion-flooded thoughts about the situation are apt to feel entirely accurate and justifiable. Whaddya mean, I'm overreacting?

So much for the doctrine that rationality rules.

This telling new glimpse at the topography of the brain helps to explain those moments in the consulting room when you can see that couples are honestly struggling to think and behave differently, but simply can't make the shift. You watch your client trying to listen empathetically to his wife, but when she lets him know that she is sick and tired of his shirking the housework, bam! Before you can say "reframe that thought," the amygdala is sounding its sirens and suddenly he's yelling that she's the slob, not him, in fact, she's let herself go big-time and is goddam fat! And as he's shouting all this, his face is turning the color of boiled lobster, his heart is practically leaping out of his chest and he is sweating gallons. Depending on your theoretical orientation, you might say this man had just contacted his "wounded child," or that he had been sabotaged by his "problem story" or that he was reenacting a hurtful, family-of-origin script. But at the level of brain wiring, his neocortex just got hijacked by his amygdala. And as we shall see, understanding this neural takeover isn't just some kind of intellectual exercise that explains our clients' reactivity: we can use it to help clients arm themselves against future cranial abductions.

But first, we need to understand a bit more about the tiny sliver of cerebral tissue that can so readily commandeer the brain-the amygdala. While neuroscientists are only just beginning to understand this complex

little emotional sentry, they are reasonable certain that it is a major player in producing fear and anger, the particular kinds of emotions that frequently push people into therapists' offices. In one set of studies, when researchers implanted electrodes in individuals' brains and stimulated a particular circuit originating in the amygdala, subjects responded with heart-racing terror. When a different, amygdala-driven neural circuit was stimulated, individuals erupted in rage. In one study by Robert Heath of Tulane University School of Medicine, a man whose amygdala-based rage circuit had been stimulated furiously tore his hospital robe and lashed out at the physician who was standing nearby, threatening to kill him. So much for lab-induced passions. But in our real lives, what makes our emotional brain kick into gear? Neuroscientists believe that in most instances, the amygdala makes its snap judgments based on the similarity of a current situation to past events that once enraged or terrified us. In short, the amygdala seems to be the repository of the very raw material of psychotherapy-emotional memory.

Until very recently, it was widely believed that the hippocampus, a sea-horse-shaped structure in the limbic brain, was our emotional memory bank. But research by LeDoux and other neuroscientists now suggests that the hippocampus is actually more concerned with registering factual and contextual data, while the amygdala is the repository of primitive feelings linked with those facts and situations. So while the hippocampus will remember what your ex-partner looks like-the jerk who dumped you for a new lover-the amygdala is responsible for the surge of fury that floods your body when you see someone who looks even vaguely like your former mate.

And "vaguely" is the operative word here. For when the amygdala tries to judge whether a current situation is hazardous, it compares that situation with its motley collection of past emotionally charged events. If any key elements are even crudely similar-the sound of a voice, the expression on a face-it instantaneously unleashes its warning sirens and accompanying emotional explosion. No doubt, this quick-and-dirty assessment method had tremendous evolutionary utility. For our early ancestors, it was far better to react to a false alarm than to miss an underfed saber-toothed tiger lurking in the tall grasses.

But for modern-day relationships, the amygdala's penchant for sloppy generalizations can exact a steep price. To the amygdala, it may make no difference that it is your spouse who is angry with you and not your father, who regularly took out his wrath on your helpless body some 30 or 40 years ago. The emotional state triggered by the hyper vigilant amygdala-shuddering fear or unholy rage-is apt to be exactly the same.

Back in our office, when Susan so suddenly turned on James, the volcanic

eruption of her fury suggested to us that her amygdala had made some link between the triggering event-her perception that James had been disloyal to her-and a painful situation in her past. Years ago, we might have invested considerable energy trying to help her become aware of these early events, so that she could learn to disentangle them from her current interactions with her husband. But recent brain investigations suggest that in some cases, this kind of trolling for early trauma may simply be a well-meaning waste of time.

For while the amygdala is fully mature at birth, the hippocampus-our memory bank for factual data-doesn't fully develop until a child is at least 2 years old. This means that during early childhood, when relationships with care givers have such profoundly life-shaping impact, the amygdala is busy making emotion-charged associations about events that the embryonic hippocampus never even records. An adult, then, can be plagued by chronic, debilitating emotional out-bursts linked to a past event that he or she neither remembers nor has any way of recovering, since one cannot recover a memory that has never been recorded. Perhaps this is one reason why many clients seem so unwilling to relinquish their convictions that their explosive reactions to current spousal behavior-a wife's propensity to flirt at parties, a husband who forgets to call when he's going to be late-is entirely appropriate. There is no early memory, even a repressed, deeply buried one, to trace it back to.

But this bewildering amputation of emotion from its triggering event may take place at any point in our lives. Studies by Bruce McEwen, a researcher on the biology of stress at New York's Rockefeller University, indicate that even in a mature hippocampus, severe stress can cause a shriveling of dendrites, the stringy, branching ends of neurons that are largely responsible for the initial phases of long-term memory formation. Recent studies have shown that in trauma survivors, such as victims of chronic childhood abuse and Vietnam veterans with Post-Traumatic Stress Disorder, the hippocampus is measurably shrunken.

In stark contrast, stress seems to enhance the functioning of the amygdala. As blood levels of stress hormones shoot up, the amygdala seems to kick into overdrive, thereby facilitating extremely potent learned fear. So if a person endures a severely stressful situation, he or she may forget the distressing incident itself, yet become emotionally hyperactive to future events that are unconsciously reminiscent of the original, triggering situation a client may have forgotten that she was raped repeatedly by her uncle, yet become panicky and tearful whenever her husband approaches her for sex. Or a man may verbally attack his wife whenever he perceives that she is being "distant" from him, having altogether forgotten that as a

small child, his depressed mother regularly retreated to her locked bedroom, leaving him utterly alone for hours at the time.

The idea that a person's current emotional reactions can be embedded in past events is nothing new-Freud figured that out long before the neurobiology techno-wizards on the scene. But the gradually emerging portrait of our "emotional brain" gives us an illuminating window on why many clients find it so horrendously difficult to contain their reactivity in committed love relationships. If the amygdala's original purpose was to act as our emergency alert system, leaping into action in response to life-or-death threats facing our ancestors, it is apt to activate with particular vigor in our intimate partnerships, which are so thoroughly tangled in primal need. Once, in our helpless infancy, our need to stave off abandonment truly was a matter of survival. So when our partner says or does something that telegraphs *This person doesn't love me! This person is leaving me!* our amygdala scrambles blindly, frantically to the rescue.

The central role of this hair-trigger brain mechanism in creating marital misery is persuasively suggested by the now famous "love lab" research of University of Washington psychologist John Gottman. By hooking up couples to a battery of physiological sensors while they discussed sensitive subjects, Gottman has documented that during highly toxic arguments, partners' bodies become flooded by a virtual tidal wave of brain-mediated bodily changes, including a quickened heart rate stepped-up sweat production, tensed-up muscles and the release of a torrent of stress hormones. The split-second nature of these changes-an angry spouse's heart rate can accelerate 10 to 30 beats per minute in the space of a single heartbeat-strongly indicates a cranial coup d-etat originating in the amygdala.

And like most coups, this one can wreak ugly consequences. For Gottman further found that these classic bodily signs of an emotional hijacking were highly correlated with specific kinds of conflict behaviors-criticism, contempt, defensiveness, and stone-walling-that, in turn, strongly predicted later divorce. In his observation, the trajectory of divorce originates with frequent, nasty arguments that eventually cause both partners to develop a kind of bioemotional hypersensitivity to each other. In this state, observes Gottman, "you react to your spouse like an animal conditioned to fear a shock whenever it sees the color red."

In an ideal world, of course, couples would show up at a therapist's door long before this kind of knee-jerk hostility seeped into their marriage. Yet, research indicates that couples typically battle each other for a good six years before they finally find their way to a clinician's office. By this time, many couples have become so sensitized to each other that each partner may be only a spouse's caustic comment or a dismissive glance away from an

emotional mugging. In view of what we are learning about the hard-wired basis of these eruptions, it may be time to forthrightly confront our profession's gradual but unmistakable retreat from the whole arena of emotion. Might there be a link between our field's growing inattention to clients' internal emotional processes and our undeniably mediocre track record in helping couples?

There is little doubt that in psychotherapy today, the neocortex is where the action is. While a few emotion-centered approaches are still holding their own, they hardly represent the field's dominant direction. Instead, pressured by increasingly meager third-party reimbursements, clinicians have been scurrying to get trained in therapy models that promise the speediest possible results. And by and large, the briefest models tend to be those that zero in on retooling beliefs and behavior, based on the premise that changing thoughts and actions will, domino-style, cause feelings to change. In short, these models take for granted that the neocortex is firmly in charge of the limbic system.

And in some cases, they're right on target. Brain-mapping studies suggest that in emotion-tinged situations that aren't perceived as all-out emergencies, our thoughts do indeed play a central role in influencing feelings. If you are confronting a situation that is emotionally salient but not perceived by you as a life-or-death matter-let's say, you've noticed a worrisome drop-off in client hours-that information would travel first to the discerning neocortex, which would mull over the situation and decide on the appropriate emotional response.

If you were to apply a solution-focused approach to this matter, your neocortex might be enlisted to make a mental list of ways you've successfully beefed up your practice in the past and secure a commitment to try those strategies. A narrative model, meanwhile, might urge your thinking brain coolly consider how Fear is trying to sabotage it. Within a traditional cognitive model, your neocortex might be encouraged to battle any rumination about imminent professional disaster with a tough-minded counter argument. Given the right conditions, each of these interventions would likely spur your rational brain to signal the amygdala to respond with, perhaps, mild anxiety leavened with a strong, motivating shot of hope. In short, when the neocortex has a chance to use its muscle, "think therapies" can be powerful agents of change.

The trouble is, of course, that the neocortex can be so swiftly hijacked. As we have seen, when we do deem a situation an emotional emergency, the amygdala lights up the entire brain and body with bioemotional fireworks before the neocortex ever gets into the act. It is in precisely these kinds of volatile, felt-crisis situations-which intimate partnerships, in

particular, seem so readily to create-that thinking-brain therapies are at a serious disadvantage. Many clinicians, including myself, have spent untold sessions trying to get fuming couples to engage in some kind of well-established communications technique, such as "active listening," only to watch the whole thing fly apart when one partner says something seemingly reasonable-"I feel that the kids don't get enough of your attention"-which feels, to the other, like a poison arrow to the heart.

"Screw that!" the "listener" shrieks, whereupon the partner flings back that this is just so typical, isn't it, you're too narcissistic to even listen to me, always have been, what's the damn use? And in those moments, when your office vibrating with fury and you feel more like a rookie referee at a mud-wrestling match than an authoritative, multidegreed professional, your bulging bag of reframings, restoryings and other sweet-reason techniques is worse than useless. Sweet reason just got clobbered. The amygdala is king.

So where does the bad-news tale of limbic mayhem leave therapists? If an element of our humanity as unalterable as brain architecture favors blind emotion over rationality, why even bother to try to help clients master their most volatile and disabling reactions? In my experience, this work remains not only critical, but eminently possible. For while the amygdala may run the neural show at times it is by no means an entrenched, power-mad despot. Instead, I have found it to behave more like an over-protective parent who, if approached in the right way, can be persuaded to relax its nervous grip on its child.

This neural "relaxation response" is possible because it turns out that our brains are wired not only for defense, but also for connection. In a related and far more heartening realm of neuroscience researchers have begun to chart paths for a number of discrete brain circuits that reliably activate specific emotions, along with associated thought and behaviors. While circuits for fear and rage have been most thoroughly mapped thus far, the neurological terrain of intimacy-arousing emotions-most notable sorrow and nurture-have very recently been identified.

Electrically stimulate an individuals' sorrow circuit, researchers have found, and that person will report feeling sad or lonely and express the need for comfort. Activate the nurture pathway, and an individual will experience a surge of tender, generous feelings and voice the urge to care for someone. When I first encountered this realm of research, I felt a ripple of hope: Perhaps there was some way to help clients move from a connection-breaking circuit, such as fear of anger, to one that promoted emotional vulnerability and intimacy. But how?

As I was trying to penetrate this puzzle, I recalled perusing recent research by University of Wisconsin psychologist Richard Davidson that

suggested that the left prefrontal lobes, the wedge of neocortex located just behind the forehead, played a critical role in moderating emotional reactivity. While it appeared that this sector of the brain could not keep the amygdala from spazzing out in the first place, in some cases it seemed able to reduce the longevity and intensity of neural hijackings and thereby to limit the fallout.

This made sense to me: It seemed all but inevitable that we would need to use a slice of our orderly neocortex to guide us out of the motional swamps. Yet, both my clinical experience and my growing familiarity with the workings of the brain told me that in the grip of a "survival" emotion, clients could rarely simply think themselves into a more tranquil state. Then, suddenly, I was struck by one of those unbidden, "aha" experiences.

It occurred to me that if the amygdala is, indeed, a vestige of our primeval survival arsenal, perhaps it will not-simply cannot-quiet its wailing sirens until it gets a clear signal that its urgent, life-preserving clamor has been heard. This would explain why new cognitions or behaviors are rarely sufficient to influence "emergency" emotional situations, for those interventions seek to override, rather than attend to, the amygdala's frantic distress calls. But what might happen instead, I wondered, if we helped our clients use their rational brains to fully acknowledge and soothe their primordial limbic systems?

From this core idea, I have developed a clinical model that puts the thinking brain unreservedly at the service of the emotional brain. The goal of this approach, which I call Pragmatic-Experiential Therapy, is to help clients shift from the defensive, isolating brain circuits that control rage and fear to the connecting, healing circuits that mediate nurture and sorrow. Giving immediate and thorough attention to clients' up-and-running, defensive neural systems, we coach clients to sympathetically and respectfully interact with those brain states until they feel safe enough to switch to more vulnerable states.

In our experience, this internal sense of safety is the linchpin of change for couples. For only when an individual feels no longer threatened by his or her partner-threatened, at bottom, by the terrifying, annihilating prospect of abandonment-will the amygdala shut off its internal alarm system, freeing the individual to authentically shift to an intimacy-promoting neural state. So, unlike therapeutic models that zero in immediately on changing thinking or behavior we don't ask clients to change how they think about, or behave with, their partners until they feel safe enough to interact in a more vulnerable way.

This is not suggest that cognitive and behavioral strategies are unimportant to effective therapy. In our clinical work, the rational brain-

particularly the prefrontal cortex-is an absolutely central player. The key difference between our approach and explicitly cognitive models is that rather than using the thinking brain to try to dominate the emotional brain, we put it to work helping the ancient amygdala to gradually relax its defense. To do anything less, we believe, is to paddle against our neural currents.

As Lisa and I sat with James and Susan in our consulting room, we well knew that "helping the amygdala to relax" was the last thing they had in mind. What was clear, however, was that each partner was far too stuck in his or her respective emotional circuit-Susan in rage, James in fear-to make any immediate shift to a more intimacy-promoting state. Before that could happen, each partner would need to get on much better terms with the feelings that had so violently seized him or her. We responded, therefore, as we customarily do when couples encounter extremely "hot" emotional states-by calling a temporary time-out on conjoint work to conduct some one-on-one emotional exploration.

Leaving Lisa and Susan to work together in our office, I asked James to join me in a consulting room down the hall. There, I suggested that if he was willing to explore his inner experience a bit, he might be able to learn to respond to Susan in a way that helped her to treat him well in return. He agreed to try, warning me, however, that self-awareness wasn't his "thing." Like many men I work with, James had done a good job of numbing his body to the telltale, physiological signs of an emotional hijacking-the knotted muscles, the racing heart, the queasy stomach-and consequently, during his fights with Susan, he often had trouble knowing what he felt at all. His lifelong stance, he admitted, was to keep a "stiff upper lip" in the face of trouble-he saw no other options.

"None?" I inquired. "Who taught you that?" After a few moments of silence, he began to talk of his junior high football coach, whom he remembered as single-mindedly intent on forcing him and his teammates to perform endless calisthenics until their bodies screamed for relief. The coach would then stride up to the player with the most tortured expression, get right in his face and shout: "What do you feel?" On cue, the player would yell back: "Nothing, sir!" to the loud cheers of his teammates. On one broiling afternoon on the football field, James heard those rousing cheers for himself, and he recalled no how curiously proud he felt of his stoic denial of his own body. Shaking his head, he admitted: "I guess I learned the lesson well."

I assured him that it would be possible-necessary, in fact-to relearn to recognize his feelings. In an important way, I explained, the body was the voice of the emotions, eloquently communicating critical information about

our current emotional state. Tightened muscles and a sick sensation in the gut, for example, typically accompany fear, while rage is characterized by an upsurge in aggressive energy and increased body temperature. Learning to readily identify an "emergency" brain state via its characteristic physiological signals is the first, crucial step of our approach, because brain studies suggest that the moment you become aware of your internal state, you activate the prefrontal lobes, which in turn, can begin to moderate your response. I suggested to James that the next time he and Susan begin arguing, he simply try to notice any changes happening in his body.

At the next session, Susan and James came-or rather stalked-into our office, their signature brain states already activated. Susan was furious at James for forgetting to buy her flowers for their anniversary; James, already withdrawn, slumped sullenly into his corner of the sofa. As soon as Lisa and I got the gist of their current conflict, James and I took off again for a private tete-a-tete.

Before I had even closed the door behind us, James reported that he was feeling an uncomfortable tightness both in his stomach and his lower jaw, sensations he had noticed several times over the past week whenever Susan had become angry with him. At my suggestion, he checked his current pulse rate and was stunned to find it had soared to 85 beats per minute, in contrast to his usual, resting rate of 68 bpm. In fact, the dramatic jump in heart rate closely mirrors that of experimental animals in the "freeze" state after their fear systems have been electrically stimulated. James, whose clenched-jaw, stone-walling response to Susan's fury had a distinctly frozen quality, was clearly in the midst of a full-fledged, brain-mediated fear response.

I encouraged him to notice how his state of mind seemed to kick in all at once, as if a part of him just stepped forward and took over. He replied that he had already noticed this happening a few days earlier, when Susan was ragging at him about the state of their finances. "I actually tried to respond to her, you know, say something sympathetic about the bad day I knew she'd had," he reported. "But somewhere inside, I'd just gone cold." I suggested that he might think of that frozen, steely part of himself as a little guy within him whose job it was to defend him against Susan's attacks.

In our experience, personalizing emotional states is a powerful way of helping people to accept their survival-driven emotions, which prepares them to interact respectfully with them. For this personalizing strategy, we are indebted to Dick Schwartz's Internal Family systems model, which conceptualizes conflicting behaviors as inner family members, each with its own distinctive personality and function. In our work, we personalize particular bodily responses, such as a constricted throat or a nauseated

stomach, that correspond to a client's emotional state. While I was encouraging James to view his knotted stomach as a difficult but fanatically loyal friend, Lisa, two doors down the hall, was similarly helping Susan to understand her rage response—particularly a characteristic throbbing sensation behind her temples—as a desperate, love-hungry little kid inside her who was frantically trying to get her husband's attention. The next step would be to help each of them consult with these inner defenders about the possibility of letting down their respective guards.

At this point, proponents of systems therapy may well be raising their collective eyebrows, thinking: This is couples work? My response is that while we do a lot of individual work with intimate partners, we are very definitely doing couples therapy. In our experience, the hair-trigger defense system of the emotional brain is such that for many couples, learning to regulate brain states is all but impossible in each other's presence; nobody can calm down long enough to do the kind of quiet, deeply focused work that is necessary to allow an emotional system to shift. Particularly early in therapy, each partner is far more likely to chronically trigger the other's already hyper aroused limbic system than help to soothe it, a pattern that may lead many couples to prematurely quit therapy, convinced that theirs is a "hopeless case."

Consequently, our customary modus operandi is to do a lot of individual work during the first several sessions, until each partner develops enough skill in shifting brain states to rejoin his or her partner in the consulting room. At that point, couples begin to practice making these shifts in "real time," in the midst of authentic interactions. In this way, work on the internal system of brain states powerfully supports work on the external system of a relationship in action.

Over the next several sessions, Lisa and I stepped up our roles as personal coaches, helping Susan and James learn to shift their self-protective brain states to those mediating nurture and sorrow. We knew that when the sorrow neural system is electrically stimulated in animals, they emit distress vocalizations signaling a kind of mammalian separation anxiety, which in turn, triggers a "moving toward" response from nearby animals. This is, of course, the same primal dance we endlessly try to choreograph in our therapy offices: if he would only drop his Lone Ranger mask, we would bet the rent that she would reach out to him. The catch, of course, is that nobody wants to go first. By being more aware of the conditions that allow the brain to relax sufficiently its defenses, we hope to more effectively support our clients in making this leap out of fear and into connection.

To that end, I spent several sessions coaching James through

conversations with his stonewalling "defender," in an effort to help it to feel safe enough to let down its guard. Progress was gradual and halting. Then, toward the end of one particularly slow-moving session, I brought up how James's typical response to Susan-sullen stonewalling-had not managed to blunt her fury so far. He nodded, admitting that, in fact, his icy withdrawal seemed to aggravate his wife even more. I suggested that James notice how his inner sentry reacted when I asked: "what have you got to lose by trying something new-like reaching out to Susan?" This was a delicate moment: I was asking James to engage his prefrontal cortex to entertain a new thought, without asking him to willfully redirect his current thinking. His hand on his stomach, James closed his eyes and focused his attention within. Perhaps 15 seconds passed before he opened his eyes and looked at me. "It's okay," he softly said.

"You're sure it's okay with him?" I asked, pointing in the direction of his stomach. "Yeah, he's okay," nodded James. He looked relaxed and younger, somehow-less defended. His inner watchdog, he told me, had acknowledged that shutting down had only gotten him a redoubled dose of Susan's rage, the terrifying experience of all out attack that had activated his defense system in the first place. If there were a better way to stave off these assaults, his defender told him, it would do its best to stand aside. "I'm ready," James said quietly.

Susan was on her way to being ready, too. While James and I had been doing our work, Lisa and Susan had been making steady progress in helping Susan's inner defender feel safe enough to expose the intense yearning for love that hid behind her fury. As each partner's neural defense system gradually relaxed its hold, we began spending less time on one-on-one coaching and more time in conjoint sessions, helping them to practice real-world interactions without flipping into their respective fury and fear states.

Then one evening, Susan and James walked into our office in utter silence. They had had a violent argument two days before and had barely spoken to each other since. The issue at hand was James' relationship with his younger brother, Sam, and his sister-in-law, Claire, who lived only a few streets away from them. Susan had long felt resentful toward Sam, whom she felt took advantage of James's helpful nature, but even more hostile toward Claire, a stunningly beautiful local fashion model. James denied feeling attracted to Claire, but Susan had not believed him since the night she had seen James flipping through the pages of her modeling portfolio, which included some nude pictures.

Susan was furious now because, on the first day of a recent, heavy snow-storm, James had called to say he was stopping on his way home from work to help Sam and Claire dig out their driveway before coming home to help

Susan shovel out so she could attend an evening yoga class. An hour later, when Susan walked the half-mile to her in-laws' house to drag her husband home, she was incensed to find James and Claire working in the driveway and laughing companionably together, with Sam nowhere in sight. That evening Susan never made it to her yoga class; instead, she raged hard and long at James, accusing him of caring more about his brother's long legged, exotic-looking wife than about her.

As our session began, Susan warned that this was a horribly painful issue for her. As she began to recount the incident, within seconds she was breathing so hard and fast that I thought she might start hyperventilating. "James," she managed between jagged breaths, "do you have any clue what you're like when you get within sniffing distance of Claire?"

I quickly looked at James, who had turned his gaze downward and was sitting stock-still. I feared he was shifting into a full-scale shutdown. But after a long moment he looked up again at his wife. "Susan," he began softly, "I don't give a damn about Claire." When Susan hooted bitterly at this, James shook his head in frustration. But he didn't fold. "When Sam called me to help out, I just didn't think," he went on. "I should have."

When Susan turned away in disgust, James looked suddenly desperate. "Look, Susan," he said pleadingly, "when you get mad at me like this, it's awful." She looked back at him, clearly surprised. "It makes me feel sick inside," he admitted to her. "I feel kind of lost." As Susan continued gazing at him, he touched her arm. "But whatever I did, I'm sorry I hurt you."

At this, Susan's face began to crumple. "You did hurt me, James," she cried out. Tears spilling down her cheeks, she jumped up and fled the room. For a moment, James looked stunned and disoriented: A tearful Susan was not what he had expected. Then he, too, abruptly rushed out into the hallway, where his wife was weeping. "God, Susan, I really didn't know what a big deal this was to you," we could hear him say. "Will you help me understand?" As she continued to sob, we stepped out into the hall in time to witness James enveloping his wife in a bear hug and whispering into her hair: "It's you I want."

It was a moment of great tenderness, one of those exchanges of naked need and open-hearted nurture that remind a couples therapist why he or she has chosen this work. Yet ultimately, the melting moment of bonding that we had just witnessed was not what made us feel optimistic about James and Susan's futures. For we knew that such jolting shots of connectedness, however real and deep, would inevitably fade; stinging disappointments and misunderstandings would arise again. What encouraged us most was that in the midst of this highly charged interaction, James had demonstrated the ability to shift from a reaction of fearful withdrawal to a

warmly empathetic state that, in turn, allowed Susan to shift from her own state of fury to one of sorrowful hurt. We knew that if they were to construct an intimate bond that could truly sustain them-and not remain on a neural roller coaster of endless highs and lows-they would need to continue the difficult and delicate work they had begun. Little by little, they were teaching their brains to trust.

To imagine ourselves this way-as beings whose deepest passions are rooted in the pushing and pulling of neurons along the electrochemical tracks of our brains-is, at best, a disturbing experience. To therapists, especially, all this talk of neural circuitry and amygdalian imperatives may seem distastefully cold and mechanistic for a phenomenon as warm-blooded and mysterious, even sacred, as emotion. Yet, what may be finally most disquieting about this exploration of the emotional brain is not that it separates us from the pulsing core of our feeling selves, but rather that it brings us so uncomfortably close. Any serious examination of the ancient, neural bases of emotion forces us to confront our essential kinship with other mammals-those instinctual beasts who seem all bared tooth and bloody claw, so fundamentally different from our proudly cerebral human selves.

We get ourselves into far more trouble than it's worth, suggests neurobiologist Jaak Panksepp in his ground-breaking book *Affective Neuroscience*, through "our strangely human need to aspire to be more than we are-to feel closer to the angels than to other animals." So deeply uneasy are we with the quivering, feral forces that can, in an eye-blink, burst through our surfaces that we risk encasing ourselves in a kind of protective cognitive supremacy, identifying much too thoroughly with our city-building, book-writing, resolutely right-minded selves. Of course, our rational brains are potent, indispensable human equipment. But the paradox is that these impressive cerebral capacities can only guide us to safety if we acknowledge and honor, too, the primeval responses that still lurk in the lattices of our neural wiring. Far from dehumanizing us, they are the elements of our humanity that we most urgently need to welcome.