



The Psychotherapy Networker, Sept/Oct 2004

Mirror, Mirror: Our Brains are Hardwired for Empathy

Babette Rothschild, MSW, LCSW

Empathy is the connective tissue of good therapy. It's what enables us to establish bonds of trust with clients, and to meet them with our hearts as well as our minds. Empathy enhances our insights, sharpens our hunches, and at times seems to allow us to "read" a client's mind. Yet, vital as it is to our work, empathy has remained a rather fuzzy concept in psychotherapy. To many of us, it seems to arise from a kind of potluck stew of emotional resonance and insight, seasoned with lots of attuned presence and a generous dollop of luck.

Far from the therapy office, in the precisely measured environment of the research lab, brain scientists are discovering that a particular cluster of our neurons is specifically designed and primed to mirror another's bodily responses and emotions. We are hardwired, it appears, to feel each other's happiness and pain—more deeply than we ever knew. Moreover, the royal road to empathy is through the body, not the mind. Notwithstanding the river of words that flow through the therapy room, it's the *sight* of a client looking unhappy, or tense, or relieved, or enraged, that really gets our sympathetic synapses firing.

This news is both exhilarating and scary. The good news—for therapists, their clients, and the world at large—is that human beings may be more deeply capable of empathy than we ever imagined. If we're truly born to connect, perhaps there is hope for us all. The scarier news: If we're truly designed to mirror each other's feelings, we therapists may be exquisitely vulnerable to "catching" our clients' depression, rage and anxiety, and succumbing to the ravages of "compassion fatigue." Given the hardwired nature of empathy, is it possible to say yea or nay to its effects on us? What steps might we take to harness and channel our natural-born empathy for the good of our clients—and ourselves?

I first recognized the physical force of empathy as a college student, with the help of my friend, Nancy, who was studying to be a physical therapist. As we walked down a street together, she would follow total strangers and subtly mimic their walking style. Copying a stranger's gait, and feeling it in her own body, gave her practice in identifying where one of her patients might be stiff, or in locating the source of a limp. Intrigued by this mysterious way of "knowing" someone, I asked her to teach me to do it, too. I began to surreptitiously mimic the walks of all manner of unsuspecting folk, from unsteady older people to cooler-than-thou teenage hipsters. What startled me was that not only did "walking in someone else's shoes" change the way I felt in my body, but it often altered my mood, as well. When I copied the swaggering gait of a cocky young man, for example, I would momentarily feel more confident—even happier—than before. I found this secret street life fascinating and fun, but I didn't think much about it until a few years later, when I started practicing clinical social work.

Breathless

On my first job in the mid-1970s, working in a family service agency, I began to notice peculiar things happening in my body while I sat in my office with clients. Some of my responses could be blamed on newbie jitters, but I strongly sensed that there was more to it than that. I particularly remember my bodily reactions to a young client named Allison. As she recounted the crises of her week in a spacey, disconnected way, she kept her body very still, and I had to lean

forward to hear her whispery, almost inaudible voice. As we worked together, I began to notice that I often felt lightheaded. When I began to pay attention to what was happening in my body, I found that my breathing had become very shallow—in fact, nearly undetectable. No wonder I was feeling lightheaded and spacey: I wasn't getting enough oxygen.

Turning my attention back to Allison, I noticed that *her* chest was barely moving. I was taken aback: We were breathing alike! I remembered, then, how my mimicry of walking patterns in college had often affected my bodily sensations and moods. Were my lightheadedness and general feelings of disconnectedness just the result of new-therapist nervousness, or the direct result of my imitation of Allison's breathing? If our respiration had actually become synchronized, I thought, it was totally unconscious on both our parts.

In all of my graduateschool discussions on the therapeutic relationship, including the fine points of transference and countertransference, I couldn't remember anyone ever mentioning the possibility of "catching" bodily behaviors. Intrigued and a bit bewildered, I took my observations to my supervisor. I still remember her look of startled skepticism. "What an odd hypothesis," she finally remarked, her cool tone clearly implying that my experience was not to be taken seriously. I was dumbfounded by her lack of curiosity, but I never doubted my own sensations. On the contrary, increasingly fascinated with the role of the body in relational and emotional life, I began a serious study and practice of body psychotherapy.

In contrast to my suspicious supervisor, my body psychotherapy colleagues and teachers seemed to easily assume that their bodies were "in tune with" or "resonating with" those of their clients. Like actors, they regarded their bodies as essential, finely-honed instruments of their craft. From these practitioners I learned "postural mirroring," a technique instigated by dance therapists, wherein I would attempt to get a reading on a client's emotional state through copying the way he sat, stood, or moved. There wasn't a lot of debate about the usefulness of such a technique: Body psychotherapists simply assumed that "the body doesn't lie."

Tracking Down the Source

While I was heartened by the confirmation of my own observations, I was concerned about body psychotherapy's uncritical acceptance of a link between a therapist's and client's body states and emotions. I needed to know more: Where does our ability to resonate with each other—and with such stunning immediacy and accuracy—*come from*? What core processes drove the dance-like synchronizations of movement and mood that I kept encountering?

Throughout the 1990's I became a voracious student of neuroscience—first to learn about the physiology of trauma. In the course of those studies I discovered the term "vicarious traumatization" and documentation that therapists could actually suffer symptoms similar to their traumatized clients. At once I was both concerned and excited. I wondered if the emotional and physiological reactions that accounted for this might have any relationship to my earlier gait experiments with Nancy, the incident with Allison, and my body psychotherapy colleagues' enthusiasm for client mimicry. I would need to dig further.

I nurtured my curiosity at the library, on the internet, and with PsychInfo and Medline databases. From the vast literature of social psychology, I learned that facial expressions were contagious—when baby smiles, Mom usually does, too—and that such synchrony affects the nervous system and can convey emotions. I also learned that people commonly—if unconsciously—copy one another's posture and synchronize breathing patterns.

As exciting as that research was, I still felt something was missing. The writings of neurologist Antonio Damasio, attachment specialist Allan Schore, and interpersonal neurobiologist Daniel Siegel, and others told me that scientists could locate effects of empathy in the brain. But, astonishingly, until the mid-1990's, no one had looked for a *source* of empathy in the brain! And as I was to find out, the discovery of brain-to-brain empathy happened by accident.

Monkey See, Monkey Do

In 1996, an Italian neuroscience research team led by Giacomo Rizzolatti and Vittorio Gallese was studying grasping behaviors in monkeys. They attached electrodes to the monkeys' brains in order to observe precisely which neurons fired when a monkey grabbed a raisin with its hand. The research was routine: monkey grasped, specific neurons fired.

Then, during a break, one of the researchers hungrily reached out for a raisin. His fellow researchers coincidentally noticed something extraordinary on the monitor: Neurons in the monkey's brain fired—*the exact same neurons* that had fired earlier when the monkey grasped a raisin itself!

The team was astonished: Nothing like this had ever been seen before. Their serendipitous finding was the first clue to the existence of what scientists now call “mirror neurons,” so-called because they appear to actually reflect the activity of another's brain cells. The monkey's response was not just simple recognition, as in “I know what the researcher is doing.” That kind of observation is activated elsewhere in the brain. What happened between monkey and researcher required a brand new concept, an altogether new theory of behavioral interdependence. The monkey's neurons fired *as if it had made the same movement itself*. This was a genuine brain-to-brain connection. In an instant, the definition of interconnectedness, the notion of empathy, changed forever.

Subsequent neuroimaging research in humans suggests that we, too, may have a similar mirror-neuron system that allows us to deeply “get” the experience of others. When people watch other individuals drumming their fingers, kicking a ball, or biting into an apple, the sectors of their brains that turn on are the same sectors that activate when they perform these behaviors themselves. Meanwhile, in a paper published last year entitled “The Roots of Empathy,” Gallese pushed the envelope further by hypothesizing that “sensations and emotions displayed by others can also be ‘empathized,’ and therefore implicitly understood, through a mirror matching mechanism” in the brain. Soon, he believes, scientists will discover a mirror neuron network that establishes, beyond a doubt, that we are born to resonate with each other at the deepest emotional levels.

Orchestrating Empathy

While neuroscientists continue the slow work of confirming these promising findings and theories, therapists can begin to apply them now to empathize more strategically and effectively with their clients. Because empathy is rooted in the body, the more mindful therapists are of their own somatic responses, the more skillfully they can choose to engage mirror neurons to gain valuable information about a client's emotional state. Equally important, a therapist can choose to slow down, or even halt, the brain's rush to empathize when it might overwhelm the client--or the therapist.

Let's begin with the body's gift for sleuthing. When you want to get a literal *feel* for what it's like to be in your client's skin, you can consciously mirror some aspect of his or her behavior or expression. I tried this when I worked with Fred, a new college graduate who'd come into therapy to address his anxiety about dealing with authority on his first “real job.” Though he'd grown up with a tyrannical father who had beaten him regularly as a child, Fred couldn't see or feel any relationship between his childhood trauma and his current fear of standing up to his boss.

One afternoon, Fred arrived for his session deeply depressed. He'd been thinking about suicide, he said, but had no idea why. I wasn't sure either. As I asked him to describe what “suicidal” felt like in his body, I tuned in by copying his flat facial expression and slumped posture. Almost immediately, I began to experience in my own body the sense of deadness he'd just described to me. It reminded me of the “freeze” response that is an instinctive reaction to inescapable threat.

All at once, a light bulb flashed in my mind. “Fred,” I asked, “have you ever seen a mouse that's been caught by a cat?” He nodded yes. “What does the mouse do?” I prodded. “It plays dead,” he replied, his face beginning to brighten with interest. We then discussed the protective function of freezing for all prey, both animals and people. Finally, I asked Fred if he'd ever reacted that way himself.

“Yeah,” he said softly, “when my dad beat me.” As his father hit him, he told me, his body would lose all power and “go dead.” For the first time, he made a felt connection between his childhood horrors and his current emotional state. It seemed a light bulb was also flashing in Fred's mind. As he began to talk thoughtfully about his own “internal mouse,” his body posture gradually became more upright and animated, and by the end of the session he reported that his thoughts of suicide had receded.

Could I have helped Fred make this breakthrough with talk alone? Perhaps, but it would likely have entailed several more sessions full of the usual conversational roundabouts, byways and detours. Instead, by mirroring him, I could quickly feel and then understand Fred's deadness.

While purposefully synchronizing with your client can often provide added insight or even jump-start a stalled session, be aware that the data you pick up is not "pure" information. Just as gaps can occur between speaker and listener in verbal communication, so can somatic communication be distorted by your own filters. If, for example, you mimic your client's head tilt and get a feeling of anxiety in your chest, your client may indeed be anxious. But it also could be that you habitually tilt your head when *you're* anxious, so that repeating this action triggers the emotion. So, as I did with Fred, be sure to check out your bodily hunches with your clients.

The Risks of Resonance

Mirroring a client can be a bit of a tightrope act. You can easily lose your balance and crash to the earth, especially if you fail to stay focused. I learned this lesson the hard way.

A few years ago, my client Ronald was angry with me because I was leaving town for a few weeks. He was so full of fury that for the first hour of a double session he would not talk at all. He sat half-facing away from me, tense and seething. From time to time, his eyes would fill with tears. Repeatedly, I tried to make verbal contact with him, using such standard gambits as "You seem very angry" and "This looks very difficult for you." But I had the unmistakable feeling that my words projected about a foot from my mouth, and then thudded heavily to the floor.

Finally, I decided to hold my tongue and let Ronald work it out himself. With my mind emptied of fix-it schemes and nothing much else to do, I began to consciously copy my client's hyper-tense posture. I clenched my jaw, clasped my hands tightly in my lap, and crunched my shoulders forward.

Two things happened. The first was that within a minute or so, Ronald's posture began to loosen up a little and he turned toward me, beginning to talk about his feelings of impending abandonment. (I've since learned that mimicking another's posture can nonverbally convey understanding.) As he aired his rage and hurt, I was able to acknowledge his feelings and let him know that I could understand and accept his anger. By the end of the session, he reported feeling somewhat calmer.

But not me. After Ronald closed the door behind him, I realized that *I* was very uncomfortable. Actually, that's an understatement: I was practically unhinged with fury. But why? Was I angry with Ronald? Had the session triggered something from my own life? I tossed around a half-dozen possibilities in my mind, but nothing seemed to fit. Only later, when I talked it over with a colleague did I remember: I had copied Ronald's infuriated posture! My mirror neurons had done their job too well. Once I made this crucial connection, the "infection" began to drain: I could almost feel the fury leaking out of me. I returned to myself again in a matter of seconds.

To some therapists, what happened between Ronald and me may look like a textbook case of projective identification—a case of Ronald "putting" his uncomfortable feelings into me and thereby "inducing" my fury. I couldn't disagree more. I was a full participant in the process: Only after I actively mirrored Ronald did I begin to feel angry. But while my mimicry was entirely conscious—if later forgotten—I believe that this kind of brain-to-brain communication occurs at an unconscious level between clients and therapists all the time. The next time you feel that you may be suffering from the impact of a projective identification, you may need to look no further than your own body to discover whether you have mimicked your client's posture, facial expression or breathing pattern. Routinely adding such a simple step could eliminate blaming clients for feelings that are, in fact, rooted in our own, naturally responsive neural circuitry.

There is liberation here. Particularly for therapists who often find themselves on the edge of emotional overload. Active awareness of your own neurally-mediated role in absorbing clients' feelings can help you to control the contagion. Once you become aware of your mimicry, any behavior that brings you back to the sensations and feelings of your own body, and out of synchronization with the client, will help you to apply the "empathy brakes." You might stretch, take a drink of water, get up to fetch a pen, or write some notes. These steps won't short-circuit empathy, but rather will allow you to return to yourself, to a place of clarity, presence, and helpful attunement to your client.

When a Client Feels Your Pain

Empathy, of course, is a two-way street. Our clients often unconsciously parrot *our* body patterns and take on our corresponding emotional states. Many therapists instinctively foster this process. When, for example, you slow your own breathing and your anxious client subsequently slows his, you're engaging his mirror neurons. No words need be exchanged for the client to gradually match your slower respiration and begin to calm down.

But if clinicians' serenity is contagious, so, too, is their agitation. One morning, upon returning to Copenhagen (my then home) after a long visit to the United States, I was suffering from a particularly nasty case of jet lag. Though exhausted and headachy, I jumped right into my usual work schedule. At the end of my afternoon session with Helle, I asked her, per usual, "How are you feeling?" Helle proceeded to describe my jet lag in precise detail. "I feel very tired, and there's a feeling of pressure in my forehead," she said, rubbing her eyebrows. "I also feel an odd heaviness in my chest. And I'm hungry, though I shouldn't be. I ate a good lunch just before I came."

I suggested to Helle that she stand up and walk around the room, hoping that the physical activity would move her out of my somatic sphere of influence and back into her own body. After pacing for a minute or two, she returned to her chair, noticeably more energetic. "My exhaustion and hunger have disappeared!" she reported. I then told her how I was feeling, that she had described my sensations precisely.

Since consciousness is an important part of the process of controlling the neuronal dance, we spent a few minutes tracking down how Helle had "caught" my state. In retracing her steps—and postures—she realized she had rested her head on her hand as I had tiredly done. That ordinary act of unconscious mimicry was enough to make her vulnerable to feeling my jetlag and the untimely hunger that accompanied it.

Psychiatrist and early attachment expert Daniel Stern calls the moments of true meeting in therapy a "shared feeling voyage." Though each voyage may last but a few seconds, we've all experienced its potent rush—the sudden throb of feeling not just for but *with* a client, a sensation of jolting connectedness that can be both exhilarating and fearsome in its intensity. What we've always imagined to be a resonance born of voice, smile, tears, or touch is encoded in us, it turns out, far more deeply and inexorably than we ever knew. It may be that our mirror neurons, those tiny and inescapable vessels of empathy, encapsulate one of the most exciting challenges of psychotherapy—that of attuning two brains, and two hearts, so that they warmly vibrate together without melting into one.

Further readings:

Gallese, V. (2003). The roots of empathy: The shared manifold hypothesis and the neural basis of intersubjectivity. *Psychopathology* 36: 171-180.

Hatfield, E., Cacioppo, J.T., Rapson, R.L. (1994). *Emotional Contagion: Studies in Emotion and Social Interaction*. Cambridge, UK: Cambridge University Press.

Rothschild, B. with Rand, M.L. (2006). *Help for the Helper: The Mind and Body of Compassion Fatigue and Vicarious Trauma*. New York: W.W. Norton.

Babette Rothschild, M.S.W., L.C.S.W., is in private practice in Los Angeles and gives professional trainings worldwide. She is the author of *The Body Remembers: The Psychophysiology of Trauma and Trauma Treatment*, *The Body Remembers Casebook: Unifying Methods and Models in the Treatment of Trauma and PTSD*, and *Help for the Helper: The Psychophysiology of Compassion Fatigue and Vicarious Trauma*. Mailing address: P.O. Box 241783, Los Angeles, CA 90024. E-mails to the author may be sent to: babette@trauma.cc Website address: <http://www.trauma.cc>