

quickness of a gesture—are almost always taken in unconsciously, without paying specific attention to the nature of the message, but simply tacitly receiving it and responding. The skills that allow us to do this well or poorly are also, for the most part, learned tacitly.

HOW EMPATHY UNFOLDS

The moment Hope, just nine months old, saw another baby fall, tears welled up in her own eyes and she crawled off to be comforted by her mother, as though it were she who had been hurt. And fifteen-month-old Michael went to get his own teddy bear for his crying friend Paul; when Paul kept crying, Michael retrieved Paul's security blanket for him. Both these small acts of sympathy and caring were observed by mothers trained to record such incidents of empathy in action.⁴ The results of the study suggest that the roots of empathy can be traced to infancy. Virtually from the day they are born infants are upset when they hear another infant crying—a response some see as the earliest precursor of empathy.⁵

Developmental psychologists have found that infants feel sympathetic distress even before they fully realize that they exist apart from other people. Even a few months after birth, infants react to a disturbance in those around them as though it were their own, crying when they see another child's tears. By one year or so, they start to realize the misery is not their own but someone else's, though they still seem confused over what to do about it. In research by Martin L. Hoffman at New York University, for example, a one-year-old brought his own mother over to comfort a crying friend, ignoring the friend's mother, who was also in the room. This confusion is seen too when one-year-olds imitate the distress of someone else, possibly to better comprehend what they are feeling; for example, if another baby hurts her fingers, a one-year-old might put her own fingers in her mouth to see if she hurts, too. On seeing his mother cry, one baby wiped his own eyes, though they had no tears.

Such *motor mimicry*, as it is called, is the original technical sense of the word *empathy* as it was first used in the 1920s by E. B. Titchener, an American psychologist. This sense is slightly different from its original introduction into English from the Greek *empathia*, “feeling into,” a term used initially by theoreticians of aesthetics for the ability to perceive the subjective experience of another person. Titchener's

theory was that empathy stemmed from a sort of physical imitation of the distress of another, which then evokes the same feelings in oneself. He sought a word that would be distinct from *sympathy*, which can be felt for the general plight of another with no sharing whatever of what that other person is feeling.

Motor mimicry fades from toddlers' repertoire at around two and a half years, at which point they realize that someone else's pain is different from their own, and are better able to comfort them. A typical incident, from a mother's diary:

A neighbor's baby cries ... and Jenny approaches and tries to give him some cookies. She follows him around and begins to whimper to herself. She then tries to stroke his hair, but he pulls away.... He calms down, but Jenny still looks worried. She continues to bring him toys and to pat his head and shoulders.⁶

At this point in their development toddlers begin to diverge from one another in their overall sensitivity to other people's emotional upsets, with some, like Jenny, keenly aware and others tuning out. A series of studies by Marian Radke-Yarrow and Carolyn Zahn-Waxler at the National Institute of Mental Health showed that a large part of this difference in empathic concern had to do with how parents disciplined their children. Children, they found, were more empathic when the discipline included calling strong attention to the distress their misbehavior caused someone else: "Look how sad you've made her feel" instead of "That was naughty." They found too that children's empathy is also shaped by seeing how others react when someone else is distressed; by imitating what they see, children develop a repertoire of empathic response, especially in helping other people who are distressed.

THE WELL-ATTUNED CHILD

Sarah was twenty-five when she gave birth to twin boys, Mark and Fred. Mark, she felt, was more like herself; Fred was more like his father. That perception may have been the seed of a telling but subtle difference in how she treated each boy. When the boys were just three months old, Sarah would often try to catch Fred's gaze, and when he would avert his face, she would try to catch his eye again; Fred would respond by turning away more emphatically. Once she would look

away, Fred would look back at her, and the cycle of pursuit and aversion would begin again—often leaving Fred in tears. But with Mark, Sarah virtually never tried to impose eye contact as she did with Fred. Instead Mark could break off eye contact whenever he wanted, and she would not pursue.

A small act, but telling. A year later, Fred was noticeably more fearful and dependent than Mark; one way he showed his fearfulness was by breaking off eye contact with other people, as he had done with his mother at three months, turning his face down and away. Mark, on the other hand, looked people straight in the eye; when he wanted to break off contact, he'd turn his head slightly upward and to the side, with a winning smile.

The twins and their mother were observed so minutely when they took part in research by Daniel Stern, a psychiatrist then at Cornell University School of Medicine.⁷ Stern is fascinated by the small, repeated exchanges that take place between parent and child; he believes that the most basic lessons of emotional life are laid down in these intimate moments. Of all such moments, the most critical are those that let the child know her emotions are met with empathy, accepted, and reciprocated, in a process Stern calls *attunement*. The twins' mother was attuned with Mark, but out of emotional synch with Fred. Stern contends that the countless repeated moments of attunement or misattunement between parent and child shape the emotional expectations adults bring to their close relationships—perhaps far more than the more dramatic events of childhood.

Attunement occurs tacitly, as part of the rhythm of relationship. Stern has studied it with microscopic precision through videotaping hours of mothers with their infants. He finds that through attunement mothers let their infants know they have a sense of what the infant is feeling. A baby squeals with delight, for example, and the mother affirms that delight by giving the baby a gentle shake, cooing, or matching the pitch of her voice to the baby's squeal. Or a baby shakes his rattle, and she gives him a quick shimmy in response. In such an interaction the affirming message is in the mother more or less matching the baby's level of excitement. Such small attunements give an infant the reassuring feeling of being emotionally connected, a message that Stern finds mothers send about once a minute when they interact with their babies.

Attunement is very different from simple imitation. "If you just imitate a baby," Stern told me, "that only shows you know what he

did, not how he felt. To let him know you sense how he feels, you have to play back his inner feelings in another way. Then the baby knows he is understood.”

Making love is perhaps the closest approximation in adult life to this intimate attunement between infant and mother. Lovemaking, Stern writes, “involves the experience of sensing the other’s subjective state: shared desire, aligned intentions, and mutual states of simultaneously shifting arousal,” with lovers responding to each other in a synchrony that gives the tacit sense of deep rapport.⁸ Lovemaking is, at its best, an act of mutual empathy; at its worst it lacks any such emotional mutuality.

THE COSTS OF MISATTUNEMENT

Stern holds that from repeated attunements an infant begins to develop a sense that other people can and will share in her feelings. This sense seems to emerge at around eight months, when infants begin to realize they are separate from others, and continues to be shaped by intimate relationships throughout life. When parents are misattuned to a child it is deeply upsetting. In one experiment, Stern had mothers deliberately over- or underrespond to their infants, rather than matching them in an attuned way; the infants responded with immediate dismay and distress.

Prolonged absence of attunement between parent and child takes a tremendous emotional toll on the child. When a parent consistently fails to show any empathy with a particular range of emotion in the child—joys, tears, needing to cuddle—the child begins to avoid expressing, and perhaps even feeling, those same emotions. In this way, presumably, entire ranges of emotion can begin to be obliterated from the repertoire for intimate relations, especially if through childhood those feelings continue to be covertly or overtly discouraged.

By the same token, children can come to favor an unfortunate range of emotion, depending on which moods are reciprocated. Even infants “catch” moods: Three-month-old babies of depressed mothers, for example, mirrored their mothers’ moods while playing with them, displaying more feelings of anger and sadness, and much less spontaneous curiosity and interest, compared to infants whose mothers were not depressed.⁹

One mother in Stern's study consistently underreacted to her baby's level of activity; eventually her baby learned to be passive. "An infant treated that way learns, when I get excited I can't get my mother to be equally excited, so I may as well not try at all," Stern contends. But there is hope in "reparative" relationships: "Relationships throughout life—with friends or relatives, for example, or in psychotherapy—continually reshape your working model of relationships. An imbalance at one point can be corrected later; it's an ongoing, lifelong process."

Indeed, several theories of psychoanalysis see the therapeutic relationship as providing just such an emotional corrective, a reparative experience of attunement. *Mirroring* is the term used by some psychoanalytic thinkers for the therapist's reflecting back to the client an understanding of his inner state, just as an attuned mother does with her infant. The emotional synchrony is unstated and outside conscious awareness, though a patient may bask in the sense of being deeply acknowledged and understood.

The lifetime emotional costs of lack of attunement in childhood can be great—and not just for the child. A study of criminals who committed the cruelest and most violent crimes found that the one characteristic of their early lives that set them apart from other criminals was that they had been shuttled from foster home to foster home, or raised in orphanages—life histories that suggest emotional neglect and little opportunity for attunement.¹⁰

While emotional neglect seems to dull empathy, there is a paradoxical result from intense, sustained emotional abuse, including cruel, sadistic threats, humiliations, and plain meanness. Children who endure such abuse can become hyperalert to the emotions of those around them, in what amounts to a post-traumatic vigilance to cues that have signaled threat. Such an obsessive preoccupation with the feelings of others is typical of psychologically abused children who in adulthood suffer the mercurial, intense emotional ups and downs that are sometimes diagnosed as "borderline personality disorder." Many such people are gifted at sensing what others around them are feeling, and it is quite common for them to report having suffered emotional abuse in childhood.¹¹

THE NEUROLOGY OF EMPATHY

As is so often the case in neurology, reports of quirky and bizarre cases were among the early clues to the brain basis of empathy. A 1975 report, for instance, reviewed several cases in which patients with certain lesions in the right area of the frontal lobes had a curious deficit: they were unable to understand the emotional message in people's tone of voice, though they were perfectly able to understand their words. A sarcastic "Thanks," a grateful "Thanks," and an angry "Thanks" all had the same neutral meaning for them. By contrast, a 1979 report spoke of patients with injuries in other parts of the right hemisphere who had a very different gap in their emotional perception. These patients were unable to express their own emotions through their tone of voice or by gesture. They knew what they felt, but they simply could not convey it. All these cortical brain regions, the various authors noted, had strong connections to the limbic system.

These studies were reviewed as background to a seminal paper by Leslie Brothers, a psychiatrist at the California Institute of Technology, on the biology of empathy.¹² Reviewing both neurological findings and comparative studies with animals, Brothers points to the amygdala and its connections to the association area of the visual cortex as part of the key brain circuitry underlying empathy.

Much of the relevant neurological research is from work with animals, especially nonhuman primates. That such primates display empathy—or "emotional communication," as Brothers prefers to say—is clear not just from anecdotal accounts, but also from studies such as the following: Rhesus monkeys were trained first to fear a certain tone by hearing it while they received an electric shock. Then they learned to avoid the electric shock by pushing a lever whenever they heard the tone. Next, pairs of these monkeys were put in separate cages, their only communication being through closed-circuit TV, which allowed them to see pictures of the face of the other monkey. The first monkey, but not the second, then heard the dreaded tone sound, which brought a look of fear to its face. At that moment, the second monkey, seeing fear on the face of the first, pushed the lever that prevented the shock—an act of empathy, if not of altruism.

Having established that nonhuman primates do indeed read emotions from the faces of their peers, researchers gently inserted long, fine-tipped electrodes into the brains of monkeys. These electrodes allowed the recording of activity in a single neuron.

Electrodes tapping neurons in the visual cortex and in the amygdala showed that when one monkey saw the face of another, that information led to a neuron firing first in the visual cortex, then in the amygdala. This pathway, of course, is a standard route for information that is emotionally arousing. But what is surprising about results from such studies is that they have also identified neurons in the visual cortex that seem to fire *only* in response to specific facial expressions or gestures, such as a threatening opening of the mouth, a fearful grimace, or a docile crouch. These neurons are distinct from others in the same region that recognize familiar faces. This would seem to mean that the brain is designed from the beginning to respond to specific emotional expressions—that is, empathy is a given of biology.

Another line of evidence for the key role of the amygdala-cortical pathway in reading and responding to emotions, Brothers suggests, is research in which monkeys in the wild had the connections to and from the amygdala and cortex severed. When they were released back to their troops, these monkeys were able to contend with ordinary tasks such as feeding themselves and climbing trees. But the unfortunate monkeys had lost all sense of how to respond emotionally to other monkeys in their band. Even when one made a friendly approach, they would run away, and eventually lived as isolates, shunning contact with their own troop.

The very regions of the cortex where the emotion-specific neurons concentrate are also, Brothers notes, those with the heaviest connection to the amygdala; reading emotion involves the amygdala-cortical circuitry, which has a key role in orchestrating the appropriate responses. “The survival value of such a system is obvious” for nonhuman primates, notes Brothers. “The perception of another individual’s approach should give rise to a specific pattern of [physiological response]—and very quickly—tailored to whether the intent is to bite, to have a quiet grooming session, or to copulate.”¹³

A similar physiological basis for empathy in us humans is suggested in research by Robert Levenson, a University of California at Berkeley psychologist who has studied married couples trying to guess what their partner is feeling during a heated discussion.¹⁴ His method is simple: the couple is videotaped and their physiological responses measured while talking over some troubling issue in their marriage—how to discipline the kids, spending habits, and the like. Each partner reviews the tape and narrates what he or she was feeling from moment to moment. Then the partner reviews the tape a second time,

now trying to read the *other's* feelings.

The most empathic accuracy occurred in those husbands and wives *whose own physiology tracked that of the spouse* they were watching. That is, when their partner had an elevated sweat response, so did they; when their partner had a drop in heart rate, their heart slowed. In short, their body mimicked the subtle, moment-to-moment physical reactions of their spouse. If the viewer's physiological patterns simply repeated their own during the original interaction, they were very poor at surmising what their partner was feeling. Only when their bodies were in synch was there empathy.

This suggests that when the emotional brain is driving the body with a strong reaction—the heat of anger, say—there can be little or no empathy. Empathy requires enough calm and receptivity so that the subtle signals of feeling from another person can be received and mimicked by one's own emotional brain.

EMPATHY AND ETHICS: THE ROOTS OF ALTRUISM

“Never send to know for whom the bell tolls; it tolls for thee” is one of the most famous lines in English literature. John Donne's sentiment speaks to the heart of the link between empathy and caring: another's pain is one's own. To feel with another is to care. In this sense, the opposite of *empathy* is *antipathy*. The empathic attitude is engaged again and again in moral judgments, for moral dilemmas involve potential victims: Should you lie to keep from hurting a friend's feelings? Should you keep a promise to visit a sick friend or accept a last-minute invitation to a dinner party instead? When should a life-support system be kept going for someone who would otherwise die?

These moral questions are posed by the empathy researcher Martin Hoffman, who argues that the roots of morality are to be found in empathy, since it is empathizing with the potential victims—someone in pain, danger, or deprivation, say—and so sharing their distress that moves people to act to help them.¹⁵ Beyond this immediate link between empathy and altruism in personal encounters, Hoffman proposes that the same capacity for empathic affect, for putting oneself in another's place, leads people to follow certain moral principles.

Hoffman sees a natural progression in empathy from infancy onward. As we have seen, at one year of age a child feels in distress

herself when she sees another fall and start to cry; her rapport is so strong and immediate that she puts her thumb in her mouth and buries her head in her mother's lap, as if she herself were hurt. After the first year, when infants become more aware that they are distinct from others, they actively try to soothe another crying infant, offering them their teddy bears, for example. As early as the age of two, children begin to realize that someone else's feelings differ from their own, and so they become more sensitive to cues revealing what another actually feels; at this point they might, for example, recognize that another child's pride might mean that the best way to help them deal with their tears is not to call undue attention to them.

By late childhood the most advanced level of empathy emerges, as children are able to understand distress beyond the immediate situation, and to see that someone's condition or station in life may be a source of chronic distress. At this point they can feel for the plight of an entire group, such as the poor, the oppressed, the outcast. That understanding, in adolescence, can buttress moral convictions centered on wanting to alleviate misfortune and injustice.

Empathy underlies many facets of moral judgment and action. One is "empathic anger," which John Stuart Mill described as "the natural feeling of retaliation ... rendered by intellect and sympathy applicable to ... those hurts which wound us through wounding others"; Mill dubbed this the "guardian of justice." Another instance in which empathy leads to moral action is when a bystander is moved to intervene on behalf of a victim; the research shows that the more empathy a bystander feels for the victim, the more likely it is that she will intervene. There is some evidence that the level of empathy people feel shades their moral judgments as well. For example, studies in Germany and the United States found that the more empathic people are, the more they favor the moral principle that resources should be allocated according to people's need.¹⁶

LIFE WITHOUT EMPATHY: THE MIND OF THE MOLESTER, THE MORALS OF THE SOCIOPATH

Eric Eckardt was involved in an infamous crime: the bodyguard of skater Tonya Harding, Eckardt had arranged to have thugs attack Nancy Kerrigan, Harding's archrival for the 1994 women's Olympic figure skating gold medal. In the attack, Kerrigan's knee was battered,

sidelining her during crucial training months. But when Eckardt saw the image of a sobbing Kerrigan on television, he had a sudden rush of remorse, and sought out a friend to bare his secret, beginning the sequence that led to the arrest of the attackers. Such is the power of empathy.

But it is typically, and tragically, lacking in those who commit the most mean-spirited of crimes. A psychological fault line is common to rapists, child molesters, and many perpetrators of family violence alike: they are incapable of empathy. This inability to feel their victims' pain allows them to tell themselves lies that encourage their crime. For rapists, the lies include "Women really want to be raped" or "If she resists, she's just playing hard to get"; for molesters, "I'm not hurting the child, just showing love" or "This is just another form of affection"; for physically abusive parents, "This is just good discipline." These self-justifications are all collected from what people being treated for these problems say they have told themselves as they were brutalizing their victims, or preparing to do so.

The blotting out of empathy as these people inflict damage on victims is almost always part of an emotional cycle that precipitates their cruel acts. Witness the emotional sequence that typically leads to a sex crime such as child molestation.¹⁷ The cycle begins with the molester feeling upset: angry, depressed, lonely. These sentiments might be triggered by, say, watching happy couples on TV, and then feeling depressed about being alone. The molester then seeks solace in a favored fantasy, typically about a warm friendship with a child; the fantasy becomes sexual and ends in masturbation. Afterward, the molester feels a temporary relief from the sadness, but the relief is short-lived; the depression and loneliness return even more strongly. The molester begins to think about acting out the fantasy, telling himself justifications like "I'm not doing any real harm if the child is not physically hurt" and "If a child really didn't want to have sex with me, she could stop it."

At this point the molester is seeing the child through the lens of the perverted fantasy, not with empathy for what a real child would feel in the situation. That emotional detachment characterizes everything that follows, from the ensuing plan to get a child alone, to the careful rehearsal of what will happen, and then the execution of the plan. All of it is pursued as though the child involved had no feelings of her own; instead the molester projects on her the cooperative attitude of the child in his fantasy. Her feelings—revulsion, fear, disgust—do not